Seminole Electric
COOPERATIVE, INC.
IN PARTNERSHIP WITH THOSE WE SERVE

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

RECEIVED
APR 18 2006
BUREAU OF AIR REGULATION

April 14, 2006

Mr. Michael P. Halpin, P.E.
Florida Department of Environmental Protection
Division of Air Resource Management
North Permitting Section
2600 Blair Stone Rd.
Tallahassee, FL 32399-2400

Re: Request for Additional Information
Pollution Controls Upgrade Project
Seminole Generating Station, Unit 1 and 2
DEP File 1070025-004-AC

Dear Mr. Halpin:

Seminole Electric Cooperative, Inc. (SECI) is in receipt of your letter dated March 1, 2006, which offers comments and requests additional information on the air permit application submitted for the above-referenced project. Specifically, the air application addresses several pollution control upgrades planned for Units 1 and 2 at the Seminole Generating Station (SGS) in Palatka, Florida. The Department's comments and questions are addressed below.

Department's Comment

1. The Department notes that on Table B-4 entitled "PSD Netting Analysis", one PSD Pollutant (CO) is expected to cause a BACT Review and every other PSD pollutant shows an increase. Please address the following issues relative to Table B-4:

    A. It is unclear which part of the project is responsible for the increase in CO emissions. Please provide specific information on where this increase originates. For example, if the applicant has deemed that the replacement burners will generate the additional CO, the Department will require support for this increase in the way of supplying detailed manufacturer burner specifications for the new as well as the existing burners. Upon receipt of such information, the Department will be better positioned to evaluate whether the selected burners meet the Department's BACT Standard for CO emissions.

SECI's Response

The original baseline data for CO contained in the application was based on an average of individual CO test data taken when co-firing petroleum coke with coal. While these tests reflect the operating conditions at the time, establishing an emissions limit for CO is problematic due to

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the inherent hour-to-hour variability of CO emissions. Indeed, CO emissions are influenced by many factors including fuel moisture content, excess air, pulverizer operation and fuel grindability, to name only a few.

The Department's recent adoption of Rule 62-210.370 Emissions Computation and Reporting, prescribes the approach for determining annual emissions through a hierarchy of technical methods. In summary, the presumptive hierarchy in Rule 62-210.370 is:

- continuous emission monitoring systems (CEMS) including continuous parameter monitoring systems (CPMS) and predictive emissions monitoring systems (PEMS),
- mass-balance, and
- emission factors (e.g., developed based on stack tests).

In 2001, CO monitors were added for operational purposes due to the NOx emissions requirements of the EPA acid rain program. These CO monitors were used to evaluate the combustion process and not specifically required for compliance or any other applicable requirement. The CO monitors are TECO Model 48C, which would meet the technical requirements for the instrument in 40 CFR Part 60 Appendix B, Performance Specification 4. Specification sheets regarding the instruments are included as Attachment 1 to this letter. The CO monitors were connected to existing probes and umbilicals for each unit. The calibration gases used are a dual-blend certified calibration gas for both SO_2 and CO, as supplied by Scott Specialty Gases.

In light of the known variability in individual CO stack test data and based on the provisions of Rule 62-210.370 F.A.C., the use of the existing continuous CO monitors for reporting historical emissions would be the most appropriate method for estimating baseline actual emissions for each unit.

The available CO CEMs data was recorded and is available as daily averages. In order to calculate the estimated annual CO emission rates in lb/MMBtu, data on generation (MWs), heat rate and gas flow were used. The gas flow data was used to determine the mass emissions of CO, while the generation and heat rate data were used to calculate heat input. The estimated CO emission rates in lb/MMBtu were then validated by comparing the data taken during the days stack testing was done to the daily averages from the estimated CO emission rates. The comparison of this data is summarized in the following table.

Comparison of Calculated CO Emission Rates

Date	Stack Test Average (lb/MMBtu)	CO CEMS Average (lb/MMBtu)
	Unit #1	
25-Jul-01	0.064	0.053
27-Jul-01	0.023	0.023
16-Jul-02	0.077	0.129

18-Jul-02	0.069	0.225
	Unit #2	
26-Jul-01	0.039	0.054
28-Jul-01	0.027	0.063
15-Jul-02	0.030	0.051
17-Jul-02	0.030	0.032

The stack test data obtained for 3 hourly test runs compares favorably with the CO CEMs data obtained over a 24-hour period and estimated using the procedure outlined above. Differences between the data are likely a result in differences in averaging times (3-hour runs compared to 24-hours) and calculation procedures (F-factor versus unit operating parameters). Accordingly, this comparison further supports the accuracy of the CEMs data.

The estimated baseline CO emission rates using CEMs data is summarized in the following table. The data availability is shown since for some certain periods of each year data was not available from the records.

	Unit 1			
Year	**Data (%)**	**Min (lb/MMBtu)**	**Max (lb/MMBtu)**	**Average (lb/MMBtu)**
2001	45.4	0.002	0.764	**0.189**
2002	70.5	0.002	1.060	**0.250**
2003	78.4	0.033	0.955	**0.408**
2004	78.1	0.012	1.006	**0.402**
2005	17.2	0.052	0.709	**0.350**
	Unit 2			
2001	49.5	0.004	0.798	**0.105**
2002	76.0	0.002	0.438	**0.116**
2003	79.0	0.006	0.712	**0.193**
2004	71.3	0.013	0.898	**0.199**
2005	83.1	0.002	0.767	**0.296**

The data availability is not related to monitor accuracy or operation. The gaps are simply due to the retrieval of the data. As the monitors were not installed for compliance, the data was not compiled in a typical data acquisition and handling system (DAHS) and was filed on PCs and discs. Seminole also recently upgraded the boiler controls for both units to a new DCS system and that has compounded the problem of retrieving old data. The Unit 1 upgrade occurred in 2005 and is one reason the recovery of data for that year was 17 percent. The monitors were operating properly; the problem was with the retrieval of all data records.

Calibrations are performed weekly, as opposed to daily for NOx and SO_2 compliance monitors. QA/QC is performed using the requirements of 40 CFR Part 75 on the probes, umbilicals, and calibration gas lines/connections. No major problems have ever existed with the monitors and

calibrations are always minor. Seminole's onsite technicians did not keep calibration records, however they said that they did not recall ever having a major calibration issue, only minor adjustments. They indicated that the most frequent CEMS problems are with probe pluggage and problems with umbilical connections.

Relative accuracy tests audits (RATAs) have not been performed on the CO monitors and monitor operation has not consistently met the precise technical requirements of 40 CFR Part 60. The CO monitors were also not integrated into the compliance CEMs database where data collected from the CO CEMs could be used with data from the NOx CEMs (i.e., using O_2 concentrations and F-factors to calculate lb/MMBtu emission rates). However, since the CO CEMS are connected to the plant's existing compliance probes and umbilicals, this component of the system is operated according to EPA QA/QC requirements. The fact that RATAs are conducted on compliance monitors connected to these same lines confirms the integrity of this portion of the system.

The table above shows the minimum, maximum and average daily CO emission rates in lb/MMBtu. At your request, the calculation spreadsheet, containing the raw data, was sent to your attention via e-mail on April 11, 2006. The data support the highly variable nature of the CO emissions during operation. For the proposed upgrades Project, SECI is proposing to use the average estimated CO emission rates for 2003 and 2004 to calculate baseline actual emissions. For Units 1 and 2, the average emission rates for 2003-2004 are 0.405 lb/MMBtu and 0.196 lb/MMBtu, respectively. Using the heat input values for the 2003-2004 period (45,523,619 MMBtu/yr and 43,203,374 MMBtu/yr for Units 1 and 2, respectively) results in 9,219 TPY for Unit 1 and 4,229 TPY for Unit 2, or a total of 13,448 TPY for the CO emissions baseline.

Projected emissions after the upgrade Project would be based on a short-term emission rate of 0.2 lb/MMBtu for Units 1 and 2. This would result in an estimated 12,565 TPY, with a 100 percent capacity factor. Even when factoring in the relatively small contribution from the CBO unit of 123 TPY, Seminole should not exceed the baseline CO emission estimates. There is sufficient margin in the difference between the assumed worst-case capacity factor of 100 percent and the anticipated actual capacity factor of 85 percent that, even if short-term emissions were to exceed the anticipated 0.2 lb/MMBtu, emissions would be well below the estimated baseline on an annual basis. Vendor-supplied data indicates that CO emissions will consistently meet 200 ppm, which is roughly equivalent to 0.2 lb/MMBtu. Relevant excerpts from the vendor's response to the Request for Proposal are included as Attachment 2 to this letter. Please note that these data show a balancing of the CO and NOx emissions, and that further reductions of CO would result in a corresponding increase in NOx emissions.

This change in the method of calculating CO emissions requires that the emission tables in Appendix B of the application be updated. Accordingly, attached to this letter are revised Tables B-4 through B-4S (Attachment 3). In addition, the sections of the air application long form, relative to CO emissions, have been revised and attached, including Section H of the form which provides additional information on the CO CEMS (Attachment 4).

In the initial application, SECI had proposed a CO BACT level of 0.15 lb/MMBtu (or 1,076 pounds per hour) for CO emissions from Units 1 and 2, based on previous estimates of these units' CO baseline emissions. The additional CO baseline data discussed above, as well as

projected actual CO emissions data (based on information supplied by the low NOx burner vendor), now lead to the conclusion that CO emissions will not increase as a result of this project and therefore PSD review, including a BACT determination for CO, is no longer necessary.

Future CO emissions will be monitored using the existing CO CEMs, to ensure the accuracy of SECI's projections that future emissions (for 10 years) following the changes do not result in a significant net increase on an annual basis. These CEMs will be integrated into the same database as the NO_x and SO_2 monitors such that emission rates in lb/MMBtu can be calculated using the F-Factor method in 40 CFR Part 60 Appendix A-7, Method 19. The monitor operation will be upgraded to meet the requirements of Appendix B, Performance Specification 4, including applicable RATA requirements.

Department's Comment

B. Contemporaneous Emissions Changes are defined in Rule 62-212.500(l)(e)3 as follows:

3. Contemporaneous Emissions Changes. An increase or decrease in the actual emissions, or in the quantifiable fugitive emissions, of a facility is contemporaneous with a particular modification if it occurs within the period beginning five years prior to the date on which the owner or operator of the facility submits a complete application for a permit to modify the facility, and ending on the date on which the owner or operator of the modified facility projects the new or modified facility to begin operation.

Also, Rule 62-210.200(34) defines Baseline Actual Emissions as follows:

(34) "Baseline Actual Emissions" and "Baseline Actual Emissions for PAL" – The rate of emission, in tons per year, of a PSD pollutant, as follows:
(a) For any existing electric utility steam generating unit, baseline actual emissions means the average rate, in tons per year, at which the unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 5-year period immediately preceding the date a complete permit application is received by the Department. The Department shall allow the use of a different time period upon a determination that it is more representative of normal source operation.

The Department notes that based upon the above definitions, the Baseline Actual Emissions which are allowable for forming the basis of a netting analysis, cannot precede February 13, 2001; however, emissions for calendar year 2000 have been included within your application. The Department requests that the applicant indicate which 24-month period(s) following January 2001 is to be utilized for the baseline emission calculations of the project.

SECI's Response

Calendar year 2000 data were included in the tables for informational purposes, but were not used in the baseline determination for any of the subject pollutants. As indicated in Tables B-4E

through B-4S, SECI selected baseline years for each pollutant as follows (on a calendar-year basis):

Pollutant	***Baseline Years***	***Annual Emissions (TPY)***
SO_2	2004-2005	29,074
NOx	2001-2002	23,289
CO	2003-2004	4,976*
VOC	2002-2003	108
PM	2002-2003	822
PM_{10}	2002-2003	822
SAM	2002-2003	2,129

** Note that, based on the previous response regarding the CO emissions baseline, the above figure (4,976 TPY) has now been revised to 13,448 TPY. The baseline years, however, are unchanged.*

SECI requests that calendar year data be utilized and, for the proposed NOx baseline period of 2001 - 2003, acknowledges that this approach results in two months (i.e., January and February of 2001) falling outside of the 5-year (60 month) contemporaneous window, based on the date of application filing. The Department has the authority to allow the use of this proposed NOx baseline, and it is appropriate to do so in this circumstance. Emissions data are routinely calculated and reported on a calendar-year basis and the calendar years chosen are representative of normal SECI operations. Further, Rule 62-212.300(1) (e) requires that post-project tracking of annual emissions be performed on a calendar-year basis. As further support, using the 24-month period from March 2001 to February 2003 (the 48th – 60th months immediately preceding the application submittal), would result in a NOx baseline of 22,670 TPY, a difference of only 619 TPY from the proposed calendar-year period of 23,289.

Finally, Seminole has further updated Table B-4 with respect to projected actual emissions for NOx, SO_2 and sulfuric acid mist. The initial application had provided projections that included an additional emissions increase in TPY, allowed under the rules while not triggering PSD review. Seminole has maintained that there will be no increase in these pollutants as a result of this project; therefore, this allowable emission increase, albeit small, is no longer included in the projections. In addition, the revised table corrects an inadvertent entry for the NOx projection that was the result of a glitch in the calculation spreadsheet. The revised value is 23,289 TPY, versus the previous estimate of 21,638 TPY.

Department's Comment

C. The following tables compare Departmental AOR records (TPY) of Unit 1 plus Unit 2 emissions to your TPY submittals:

[See Department's Letter for Tabular Summaries]

In summary, after SECI has elected the baseline period(s) from the table above, any TPY values which are shaded, represent areas where the applicant is required to provide further supporting data for the higher than AOR values. If stack test data is

utilized (e.g. CO, PM, or H_2SO_4), the Department requires that certified summaries of all stack tests conducted during the subject calendar years be submitted; where AP-42 emissions factors are utilized, the Department requires calculations along with the supporting data (i.e. annual heat input by fuel type, etc). Where CEMS data is utilized, the Department requires that the applicant provide supporting documentation from EPA's Acid Rain database demonstrating the data matches. For the year 2005, the DARM/BAR is not in receipt of a copy of the AOR; hence no comparison can be made. Should SECI determine that 2004/2005 represents the baseline period, supporting data shall be required for all 2005 TPY emission data.

SECI's Response

As an initial matter, SECI utilized Part 75 CEMs data where available to develop its baseline emissions in accordance with the recently revised Rule 62-210.370, and this is the same data reported in the Acid Rain database.

The baseline data used for SO2 is the average of calendar years 2004 plus 2005. The 2005 AOR was submitted to the Department on February 27, 2006 with SO2 emissions of 31,444 tons which is the same value used in the Units 1 and 2 permit package. We are attaching a copy of SECI's 2005 AOR (Attachment 5) for your convenience.

As explained in the response above, the NOx baseline emissions are the average of calendar years 2001 plus 2002, based on CEMs (as required by Rule 62-210.370) and as reported in the Acid Rain database. The difference in the 2001/2002 AOR value (19,618 tons) and the SECI Application value (23,289 tons) is due to the different approaches, purposes and prescribed methodologies for the two requirements. The Department's AOR rules require annual emissions data to be calculated per fuel type, and this is best performed using fuel analysis data for the heat input and the CEMs annual emission rate in lb/MMBtu. The Acid Rain program, and the Department's baseline-emissions-calculation rules, are only looking for a facility-wide annual emission value in tons per year, and require the use of CEMs data for both the emission rate and heat input. The primary difference in the values used in the AOR and those reported in the application are related to the calculation of heat input, based on fuel weight/rate/heating value measurements and based on CEMS reported heat input, respectively.

The baseline data used for CO is the average of calendar years 2003 plus 2004. The difference in the AOR value (3230 tons) and the SECI Application value (4976 tons) is due to the same difference described above for NOx. The emission rates in lb/mmBtu were taken from stack test data submitted to the Department's Northeast District. However, as described earlier, Seminole's revised CO emissions estimates will now be based on the use of CEMS.

The baseline data used for VOC is the average of calendar years 2002 plus 2003. The values were based on fuel use quantities and the AP-42 emission factor of 0.06 lbs/ton of coal. The difference between the AOR value (107 tons) and the SECI Application value (108 tons) appears to be due to rounding.

Department's Comment

2. Please confirm the Department's understanding of the permit limits you are seeking for Units 1 & 2. The Department notes that in order to "carve out" emission reductions so as to make room for Unit 3, federally enforceable permit limits will need to be established for those pollutants where netting is desired.

Pollutant	Current Limit	Proposed Limit
SO_2	1.20 lb/MMBtu – 30 day rolling	0.67 lb/MMBtu – 30 day rolling
NOx	0.60 lb/MMBtu – 30 day rolling	0.46 lb/MMBtu – 30 day rolling
PM/PM_{10}	0.30 lb/MMBtu stack test	Same
CO	NA	0.146 lb/MMBtu
VOC	NA	0.06 lb/ton coal
SAM	NA	0.096 lb/MMBtu

SECI's Response

The Department's understanding of SECI's proposed emission limits for SO_2, NOx and PM/PM_{10}, as summarized in the above table, is correct. However, SECI had proposed a BACT level of 0.15 lb/MMBtu (or 1,076 pounds per hour) for CO emissions from Units 1 and 2, based on previous estimates of these units' CO baseline emissions. Additional data regarding the baseline estimates, as well as projected actual emissions data supplied by the low NOx burner vendor, now lead to the conclusion that PSD review, as well as a BACT determination, are no longer necessary. Finally, no limits were proposed for emissions of VOC and SAM. SECI does not anticipate short-term emissions of these two pollutants, as well as CO, to increase as a result of this project and, in accordance with Rule 62-212.300(1) (e), propose to track and submit to the Department, on an calendar-year basis for a period of ten years from the date the project is completed, information demonstrating that the modification did not result in significant emissions increases of these pollutants. The emissions computation and reporting will be based on the requirements of Rule 62-210.370 F.A.C. The basis for evaluating an emission increase is on a tons-per-calendar-year basis.

Department's Comment

Please note that EPA and NPS have been copied on your application, and should FDEP receive questions or comments from them, we will forward you a copy.

SECI's Response

SECI notes the Department's comment.

Department's Comment

Rule 62-4.050(3), F.A.C. requires that all applications for a Department permit must be certified by a professional engineer registered in the state of Florida. This requirement also applies to responses to Department requests for additional information of an engineering nature. Please note that per Rule 62-4.055(1): "The applicant shall have ninety days after the Department mails a timely request for additional information to submit that information to the Department..... Failure of an applicant to provide the timely requested information by the applicable date shall result in denial of the application."

SECI's Response

As some of the above responses to the Department's request for additional information are of an engineering nature, Seminole has provided for both professional engineering and Responsible Official certifications that accompany this response package.

If you have any questions regarding any of the above responses, please don't hesitate to contact me at (813) 739-1213.

Sincerely,

James R. Frauen
Manager of Environmental Affairs

Hamilton Oven, DEP-SCO
Chris Kirts, DEP-NED
Scott Osbourn, P.E., Golder Associates Inc.

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APPLICATION INFORMATION

Owner/Authorized Representative Statement

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

1. Owner/Authorized Representative Name :
   Michael P. Opalinski
2. Owner/Authorized Representative Mailing Address...
   Organization/Firm: **Seminole Electric Cooperative, Inc.**
   Street Address: **16313 North Dale Mabry Highway**
   City: **Tampa** State: **FL** Zip Code: **33618**
3. Owner/Authorized Representative Telephone Numbers...
   Telephone: **(813) 963-994** ext. Fax: **(813) 264-7906**
4. Owner/Authorized Representative Email Address: **MOpalinski@seminole-electric.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.

   W. P. Opalinski — Signature

   4/14/06 — Date

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: **Scott H. Osbourn**
   Registration Number: **57557**
2. Professional Engineer Mailing Address...
   Organization/Firm: **Golder Associates Inc.****
   Street Address: **5100 West Lemon St., Suite 114**
   City: **Tampa** State: **FL** Zip Code: **33609**
3. Professional Engineer Telephone Numbers...
   Telephone: **(813) 287-1717** ext.**211** Fax: **(813) 287-1716**
4. Professional Engineer Email Address: **sosbourn@golder.com**
5. Professional Engineer Statement:

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

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

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

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

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

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

Signature

4/14/06
Date

(seal)

SCOTT OSBOURN LICENSE NO. 57557 STATE OF FLORIDA PROFESSIONAL ENGINEER

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

ATTACHMENT 1

CO CEMS SPEC SHEET

Product Specifications

Gas Filter Correlation analyzer for ambient air monitoring and source emissions monitoring

For High Sensitivity Air Monitoring

The Model 48C Gas Filter Correlation (GFC) CO Analyzer measure low CO concentrations. It combines proven detection technology, easy-to-use menu-driven software and advanced diagnostics to offer unsurpassed flexibility and reliability.

The Model 48C is based on the principle that carbon monoxide (CO) absorbs infrared radiation at a wavelength of 4.6 microns. Because infrared absorption is a nonlinear measurement technique, it is necessary for the instrument electronics to transform the basic analyzer signal into a linear output. The Model 48C uses an exact calibration curve to accurately linearize the instrument output over any range up to a concentration of 10,000ppm.

The sample is drawn into the analyzer through the SAMPLE bulkhead. The sample flows through the optical bench. Radiation from an infrared source is chopped and then passed through a gas filter alternating between CO and N_2. The radiation then passes through a narrow bandpass interference and enters the optical bench where absorption by the sample gas occurs. The infrared radiation then exits the optical bench and falls on an infrared detector.

Key Features

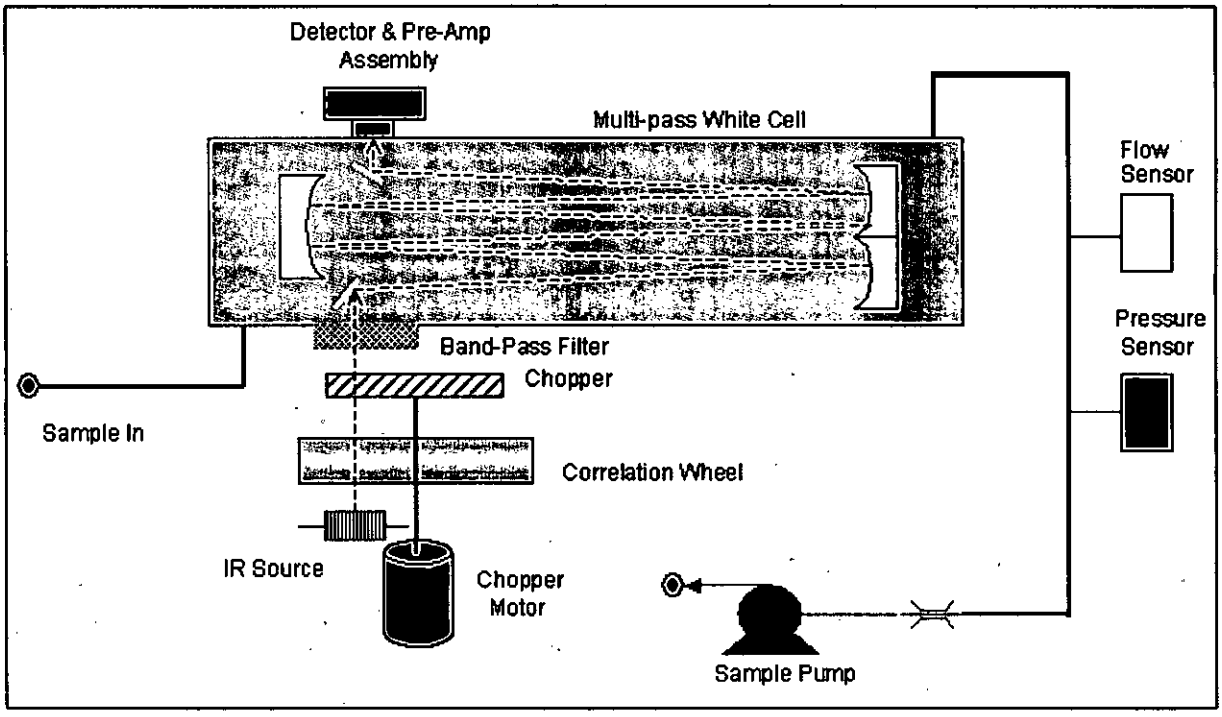
- U.S. EPA Designated Method (RFCA-0981-054)
- Gas filter correlation selectivity
- Highly specific to CO
- Electronic diagnostic transducers
- Multi-line alpha numeric display
- Dedicated communications processor
- Remote performance diagnostics
- Self aligning optics

Preset Ranges	0-1, 2, 5, 10, 20, 50, 100, 200, 500, 1000, 2000, 5000 and 10000 ppm 0-1, 2, 5, 10, 20, 50, 100, 200, 500, 1000, 2000, 5000 and 10000mg/m^3
Custom Ranges	0-1 to 10000 ppm 0-1 to 10000 mg/m^3
Zero Noise	0.02 ppm RMS (30 second time setting)
Lower Detectable Limit	0.04 ppm
Zero Drift (24 hour)	<0.1 ppm
Span Drift (24 hour)	+/-1% full scale
Response Time	60 seconds (30 second time setting)
Precision	+/-0.1 ppm
Linearity	+/-1% full scale ≤ 1000 ppm +/-2.5% full scale > 1000 ppm
Sample Flow Rate	0.5-2 liters/min.
Operating Temperature	20°C - 30°C
Power Requirements	105-125 VAC @ 50/60Hz 220-240 VAC @ 50/60Hz 100 Watts
Size and Weight	16.75" (W) x 8.62' (H) x 23" (D), 45 lbs.
Outputs	Selectable voltages and RS-232 (standard) 4-20 mA isolated current RS-485 (optional)

Comprehensive Service Solutions

To maintain optimal product performance, you need immediate access to experts worldwide, as well as priority status when your air quality equipment needs repair or replacement. Thermo Electron offers comprehensive, flexible support solutions for all phases of the product lifecycle. Through predictable, fixed-cost pricing, Thermo services help protect the return on investment (ROI) and total cost of ownership of your Thermo Electron air quality products.

Model 48C Flow Diagram



The CO gas filter acts to produce a reference beam which cannot be further attenuated by CO in the sample cell. The N_2 side of the filter wheel transparent to the infrared radiation and therefore produces a measure beam which can be absorbed by CO in the cell.

The chopped detector signal is modulated by the alternation between the two gas filters with an amplitude related to the concentration of CO in the sample cell. Other gases do not cause modulated by the detector signal since they absorb the reference and measure beams equally. Thus the GFC system responds specifically to CO.

ISO 9001

Lit_48CEID_8/05

Thermo ELECTRON CORPORATION

Environmental Instruments 27 Forge Parkway Franklin, MA 02038 (866) 282-0430 (508) 520-0430 (508) 520-1460 fax www.thermo.com/air
Air Quality Instruments

ATTACHMENT 2

LOW NOX BURNER VENDOR DATA

2A.6.0.2.3. Burner to Burner Coal Flow Differential Control Capability

Foster Wheeler guarantees that coal flow distribution control can be demonstrated to be controlled within <u>+/- 15%</u> from average on an individual mill basis based on the calibrated ECT system relative coal flow reading over a one (1) hour demonstration test, when firing the specified blend fuel at a maintained rate at a turbine inlet steam flow of 4,706,000 lbs/hr.

The predicted performance shall be furnished across the full operating range.

<u>ITEM</u>	<u>VALUE</u>
Main Steam Capacity	***4,706,621*** lb/hr at ***1000° F, see Note 2.***
NO_x, lb/MBtu (at economizer outlet, ***corrected to 3% O2)***	0.35
CO, ppmvd ***(corrected to 3% O2) by volume dry basis*** (at economizer outlet)	200
Fly Ash LOI	As indicated in Contract Section IV – Price, 1.1.
Combustion air pressure drop	As indicated in Contract Section IV – Price, 1.1.
Coal fineness	97.55% passing 50 mesh, 87.55% passing 100 mesh, 67.4% passing 200 mesh
Burner to burner air flow differential	No burner greater than 5% from average
Sec. Air front/rear windbox differential	Less than 5%
Burner to burner coal flow differential	No burner greater than 10% from average

The Contractor shall modify the system or pay the specified Liquidated Damages in accordance with Section I, Provision 49 until all Guarantees are met simultaneously at no less than 2.5% excess O2 (dry volume basis) as measured at economizer exit.

<u>NOTE 1</u>: Failure to meet the Guarantees at the stated excess air level following Combustion System Modifications shall result in liquidated damages and/ or draw upon the Letter of Credit to the extent of Contractor's inability to pay said liquidated damages per Section I – General Terms and Conditions

<u>NOTE 2</u>: The guaranteed steam capacity shall be determined by reading the 1st stage shell pressure. A 1st stage shell pressure of 2045 psi (top heater o/s), corresponds to a steam capacity (at the turbine) of 4,706,621 lb/hr.

<u>2A.6.0.3</u> Performance Condition Requirements during Performance Testing

To ensure a technically proper evaluation of the Combustion System Modifications performance, it is necessary to have normal, non-transient unit and system operating conditions. The following requirements are the basis for the Performance Test.

4 DESCRIPTION OF PROPOSED COMBUSTION SYSTEM MODIFICATIONS

Based on SECI's requirements and Foster Wheeler's evaluation of the current unit operation, Foster Wheeler is proposing a NOx reduction system consisting of the following components.

Base Scope:

- Foster Wheeler Vortex Series Low NOx Burners
- Vortex Series OFA Registers (Omitted in Approach 2)
- System of "Jumper Ducts" to supplement OFA Air (Omitted in Approach 2)
- CFD Modeling of Air Flow and Combustion Process
- Redesigned Secondary Air and Hot Primary Flow Measurement Systems
- ~~*Fuel Injection* System, consisting of Electric Charge Transfer Coal Flow Measurement System (ECT) and Register Air Distribution Measurement (RADM)~~
- Coal Distribution Aids (three way coal distributors, Omitted if Optional RC Style Dymanic Classifiers are selected)
- Installation of All Above

Optional Scope:

- ~~Foster Wheeler RC Style Dynamic Classifiers~~
- ~~Plugging of the existing OFA ports with straight tube panels (Provided for Approach 2)~~
- Coal Piping Support Study
- ~~Supply New Forney Type IV/IR Inflame Flame Scanners for Main and Igniter service.~~
- ~~Installation of Selected Options Above~~

The new Foster Wheeler Low NOx burners, Overfire Air, and Fuel Injection Systems are described and shown in the following section. .The proposed modifications to Seminole Units 1 and 2 OFA System are described here, and also shown on Foster Wheeler proposal drawings presented in Appendix E. For the complete scope of supply, please refer to Section 5.0

4.1. Foster Wheeler Low NOx Burners

Foster Wheeler proposes installation of our latest burner design, the Vortex Series/Split Flame (VS/SF) burner. The changes described in this section are primarily for performance reasons but have the added benefit of improved burner adjustability and maintenance, as well as flow measurement capabilities. Figure 4-1 shows a sketch of the proposed Foster Wheeler VS/SF burner. Design details of the VS/SF burner are discussed in subsequent sections. The register will include new electric motor drives for

the sleeve dampers. The burner cone damper and swirlers will be operated by manual screw drives, and only need to be set once during unit optimization.

Burner performance is closely related to the throat geometry and the velocities of air and coal. Under Approach 1 in which the new and improved OFA System will be provided, we have investigated the relationship of the existing burner throat size of 44" diameter with the proposed OFA System, and have determined that the existing tube panels do not need to be resized. All 36 burners per unit will be provided with new seal refurbishment, and will feature a ~~Nitride Silicon Carbide replacement~~ refractory design.

In the current modularized Foster Wheeler burner design, a rigid truss-like structure distributes the burner weight between the watertube wall and the front panel of the windbox.

The new burners will be designed with an elbow inlet, a more cost-effective approach, and current standard for Foster Wheeler. This modification eliminates coal layout problems common to scrolls, reduces future maintenance costs, and significantly reduces burner deck crowding. In addition, the elbow design results in lower primary air pressure drop, allowing for additional primary air flow margin.

Further, coal roping is essentially eliminated by design as compared with the scroll inlet, with added precautions provided in the form of a rope breaker bar. Finally, the internals of the coal elbow are coated with a high hardness refractory surfacing to minimize the effects of coal particle erosion.

The elbow inlet conversion necessitates some changes of the coal pipe immediately upstream of the burners to accommodate the simpler axial burner inlet. The current coal pipes approach the burner axes tangentially from a location close to the windbox. Typically, an elbow burner retrofit makes coal pipe changes necessary to meet the burner inlet that is away from the windbox and on the burner axis.

Foster Wheeler has developed a modification to the windbox to accommodate an axial elbow that minimizes the coal pipe changes and eliminates interference with platforms and steel. This greatly reduces retrofit costs. Our innovative design only requires changing the angle in the final bend of the coal pipes towards the burners. The fuel injector will use the Split Flame Tip fuel nozzle with inner adjustable tip to allow easy changes to the primary air exit velocity for optimized combustion. A schematic view of the proposed recessed Type VS/SF burner appears in Figure 4-1.

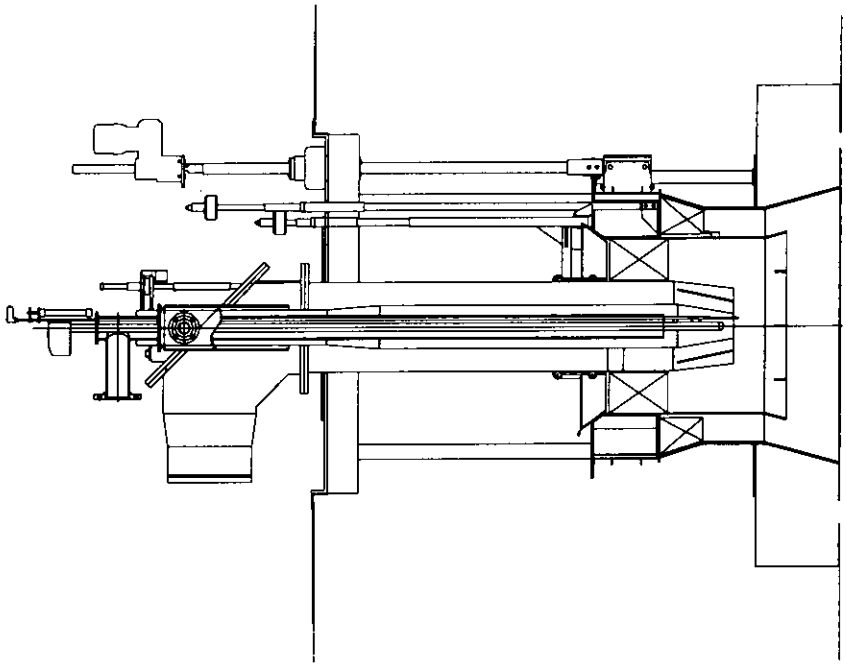


Figure 4-1: Vortex Series Burner

4.2 Vortex Register Description.

In 1971 Foster Wheeler began development of Low NOx burners for coal-fired boilers with the introduction of new NOx emission legislation in the US. The first generation Controlled Flow (CF) design burner was demonstrated in 1976. Three (3) years later, the second generation Controlled Flow/Split Flame Burner (CF/SF) was commercially operational. The latest burner design, the Vortex Series Low NOx Burner, is a result of a rigorous design review of the CF/SF design. The burner was radically simplified and the performance improved. The design goals for this burner were defined as follows:

- Combustion air flow and swirl must be independently controllable.
- Primary air/coal velocity must be adjustable to control staging between primary and secondary air streams.
- Primary and secondary air pressure drop must be within the range for existing burners, eliminating the need for additional fan head capacity.
- The design must have plug-in retrofitability, i.e., minimal pressure part changes, conduit rearrangement or major windbox modifications.
- The design must have the capability to fire a wide range of coals under high efficiency combustion AND low NOx conditions.
- The design must have low maintenance qualities including superior oxidation and wear resistance.

- The design must have reliable individual air flow measurement capability

Much of the above was achieved with the design of the now standard register, the Vortex Series Register. This unique register minimizes retrofit costs and provides exceptional performance with low maintenance. A sketch of a typical Vortex Series Burner shown in a split view is presented in Figure 4-2.

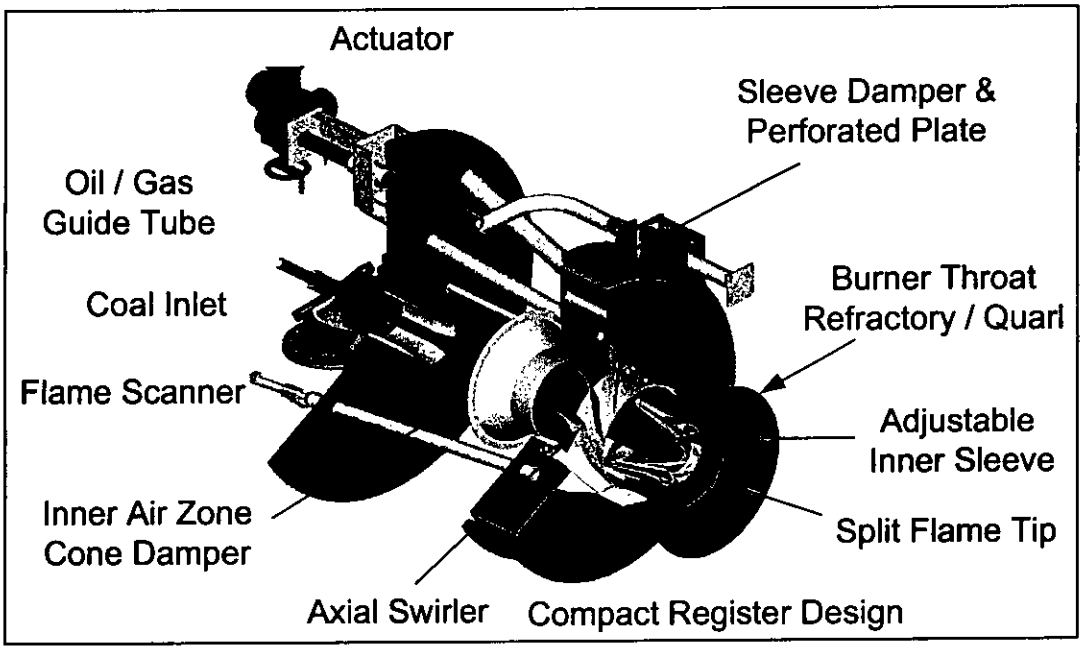


Figure 4-2: Vortex Series Burner Split View

The existing burner register generates swirl with a set of moving blades installed in the burner air paths. The radial blades are attached to linkages for synchronous movement. However, the multiple linkages and blades have the tendency to bind and break which results in deteriorating flame stability and NOx performance. The Vortex Series Register uses an axially movable swirl generator to produce air and fuel mixing. This ensures superior combustion, emission control, as well as reliable operation and flame stability over the entire boiler load range. All register components exposed to furnace radiation are fabricated from stainless steel to provide years of reliable longevity.

The Vortex Series Register has only three moving parts:

- The Vortex Series design eliminates the complexities associated with most burner air registers. Swirl is generated by a set of aerodynamically shaped fixed vanes that are mounted on a hub. The outer periphery of the swirler is conical and fits

into a conical section of the register housing. When the swirler is inserted fully into the cone full swirl capability is achieved. By retracting the swirler partly, unswirled air bypasses the swirler and mixes downstream with the swirled air. The movable swirler results in a high degree of swirl adjustability, which provides significant flame-shape control. A high nickel-chrome alloy assures superior durability under all operating conditions. Once its position is established, no further adjustment should be necessary unless dictated by major fuel changes. The photographs below show the adjustment of the swirl generation with just one moving part; please refer to Figure 4-3.

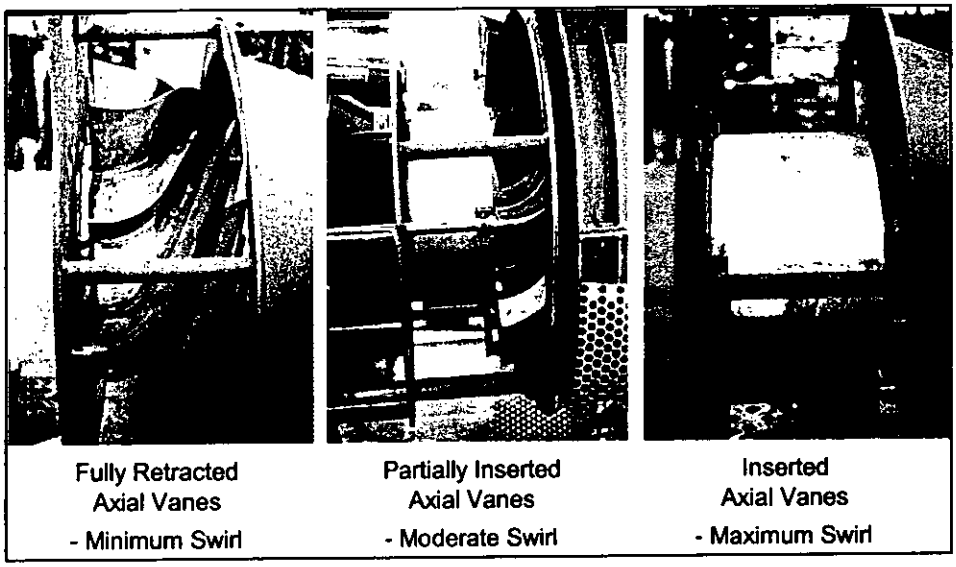


Figure 4-3: Vortex Series Register Principle

- Within the inner air register, a conical damper regulates the flow of secondary air around the perimeter of the coal jet to optimize combustion efficiency and flame position. The damper is moving in the axial direction.

- The sliding sleeve damper provides the air flow control to each burner. This circular sleeve damper also serves as the means to provide burner to burner balancing and the necessary cooling when burners are out of service. An electric drive is used for sleeve damper control.

4.2.1. Split Flame Nozzle and Fuel Injector

Foster Wheeler burners have a coal nozzle that uses the *split flame nozzle* technology. The Split Flame Coal Nozzle has for many years been a central component of Foster Wheeler's burner technology. This design segregates the coal into multiple concentrated streams producing a fuel staging effect, which inhibits NOx formation throughout the combustion process in a furnace, while at the same time promoting complete combustion of the fuel. The nozzle tip design forces the finer coal particles to devolatize early and ignites the fuel under oxygen-lean conditions reducing fuel nitrogen conversion. The unique configuration also causes controlled mixing of coal with secondary air further from the burner as the coal jets begin to dissipate into the secondary air, ensuring high combustion efficiency with the added benefit of NOx emissions reduction. Each nozzle tip is designed specifically for each application. The material used is a high nickel chromium alloy casting which has demonstrated over the years to provide superior oxidation and erosion resistance. Figure 4-4 shows the current generation of fuel staged four port split flame nozzle tip design.

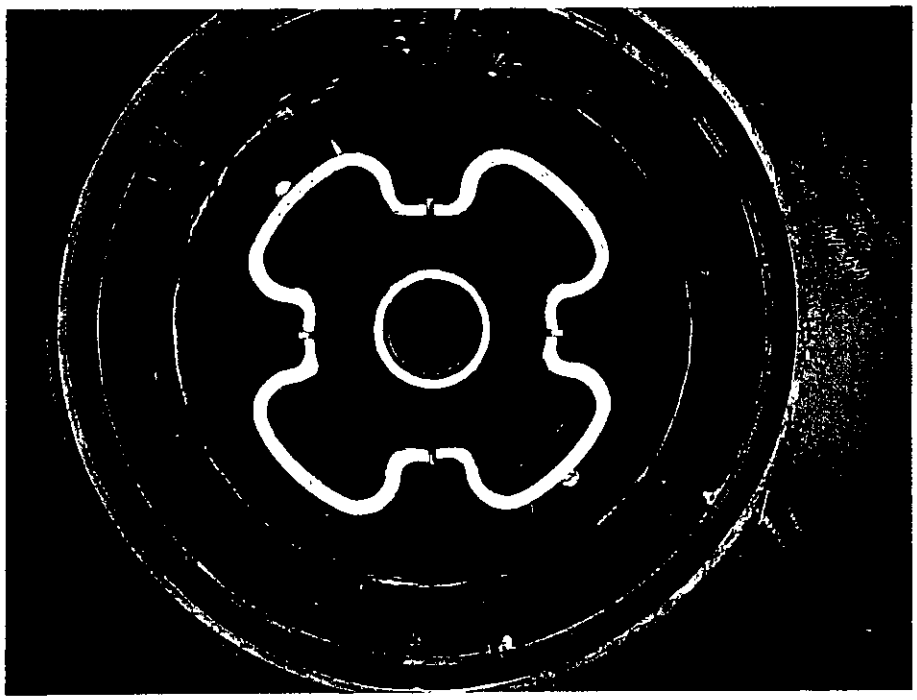


Figure 4-4: Split Flame Coal Nozzle Tip

The design features of the split flame tip are intended for coal with high slagging potentials, as are high sulfur, high iron containing coals such as Patiki, and petroleum coke in general.

One of the other unique features of the split flame coal nozzle is the ability to change the exit velocity of the primary air and coal jet. It should be noted that no other burner design offers this degree of flexibility. This adjustability is key for achieving optimized emissions; low NOx, low CO, and low LOI. It provides the flexibility to optimize individual burner exit velocities based their associated primary air flow differences. As a result, this feature also allows for firing a wider range of coals with a single burner design. The simple design of the adjustable tip allows for optimization of the primary air/coal velocity without changing primary air flow. The proper relationship between primary and secondary air is important for both NOx control and fly ash LOI management. Foster Wheeler's experience has shown that there is a NOx performance relationship between coal jet velocity and fly ash LOI.

Foster Wheeler includes special burner thermocouples for temperature monitoring. In current designs, three thermocouples are installed on the nozzle tip and inner barrel.

~~4.2.2. Foster Wheeler's Individual Burner Register Air Flow Measurement~~

~~The registers were designed to be equipped with a non-pitot tube based measurement of the secondary air flow. The system uses the pressure drop generated by the axial swirler to measure the air flow. We have applied for a patent for this novel approach. This system was developed in our air flow laboratory using full size registers. An example of a test set up is shown in Figure 4-5, in which are seen the various pressure tap and temporary sensing lines used to calibrate the system in preparation for installation at a jobsite.~~

4.3 Improved OFA System – Approach 1

The proposed OFA (Overfire Air System) system under Approach 1 will achieve lowest consistent NOx reductions as well as lowest CO and fly ash LOI, beyond the capabilities of the current design. Foster Wheeler will add two additional OFA registers to the front wall, and two to the rear wall for better overfire air flow distribution in the furnace. The new OFA registers will be located over the outer burner columns, in order to complement the Vortex Series Low NOx burner operation by providing more optimum penetration of overfire air above the entire burner zone. The existing original OFA registers will be replaced with Vortex Series OFA Registers. Additional OFA air will be supplied to the existing OFA windboxes from the tops of their respective main windboxes by means of six supplemental OFA Air *jumper ducts*. These ducts are shown in Figure 4-7 in green.

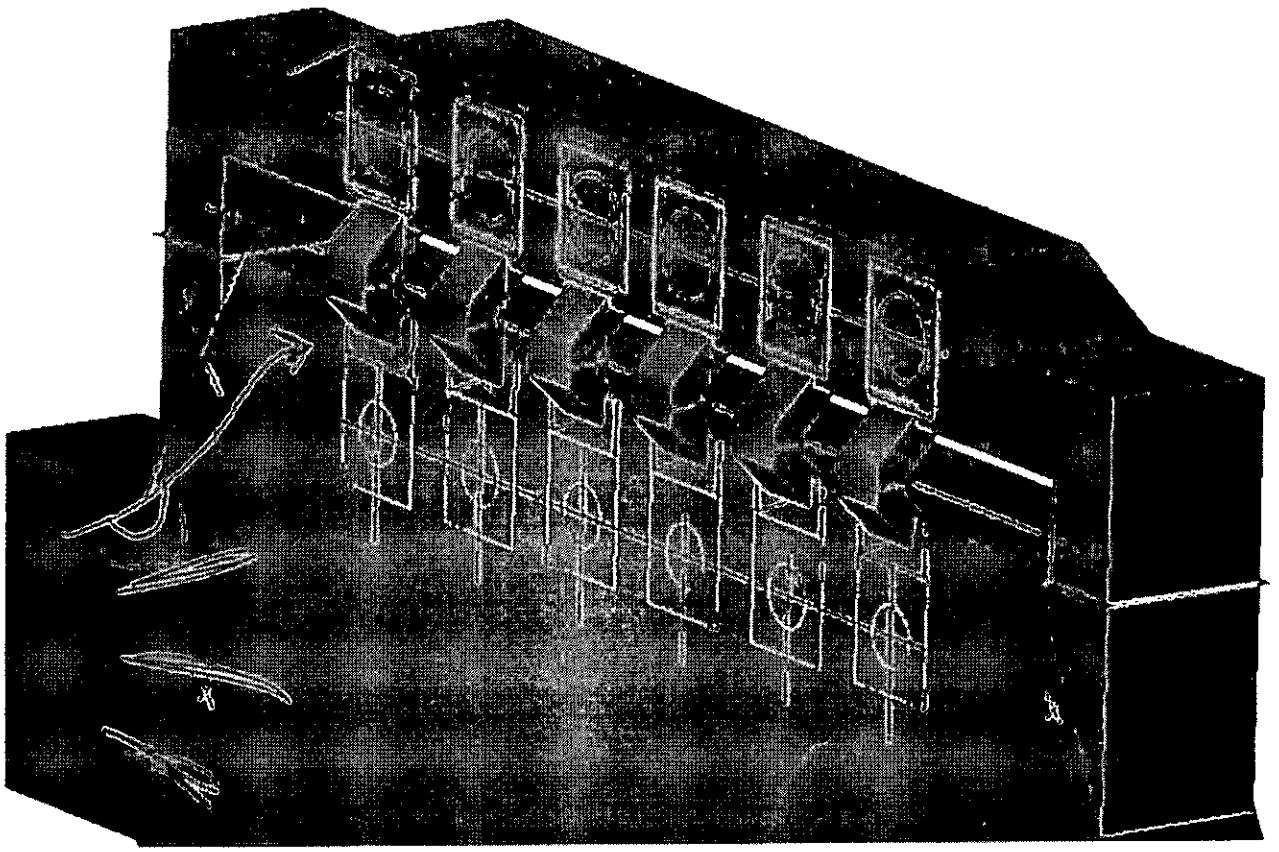


Figure 4-7: Concept Isometric View of OFA Jumper Ducts used to Supplement OFA from top of Main Windbox

Based on Foster Wheeler's review of the alternative flow-enhancement improvements described in the referenced EPRI CFD study, the level of improvements are not adequate to provide the additional OFA air required to achieve the low NOx levels target of 0.35 lb/M Btu, thus more flow area is required. The sizing and location of the OFA jumper ducts will be such that the additional OFA air required to achieve the lower target NOx is provided to the OFA registers.

Careful consideration for potential air starving of the top elevation of burners will be given in the CFD modeling, and appropriate deflection baffles will be incorporated into the design to mitigate these effects. Foster Wheeler has taken a similar approach on a very successful recent OFA project, where deflector baffles were introduced to *protect* the top outer burners in a conceptually similar OFA air duct extraction project.

The Vortex Series OFA registers are based on the same air flow principles as is the Vortex Series burner. An example of a Vortex Series OFA register is shown in Figure 4-8.

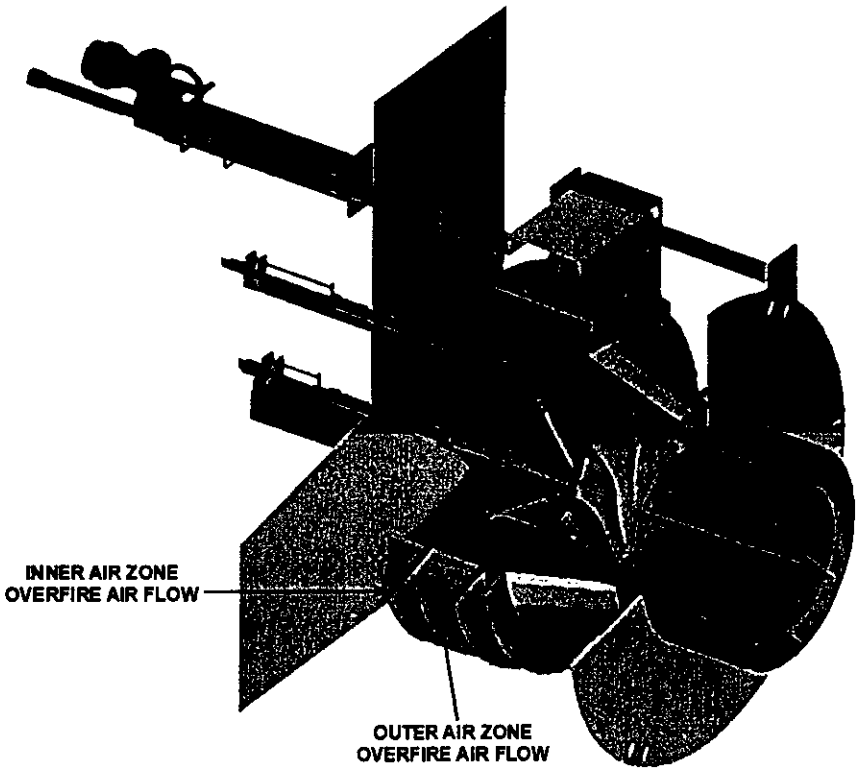


Figure 4-8: Vortex Series OFA Register Split View

The Vortex Series OFA Register also consists of a dual zone opening. The outer annulus can be swirled to increase mixing in the vicinity of the OFA register. By retracting the movable swirler from the conical housing, the degree of swirl can be reduced to produce a jet with high momentum and penetration. The inner zone can be closed with a conical damper to force more air through the outer zone. The swirler and the inner cone settings are manual adjustments that are set during optimization. The airflow through the register is modulated with the sleeve damper around the circumference of the register. This sleeve damper is motor operated to allow OFA bias across the boiler width and as well as reduce airflow at low load points.

With all of these features, the Foster Wheeler OFA System Vortex Register provides a high degree of adjustability creating effective mixing of air and flue gas at the right location within the furnace.

Included in each OFA Register will be a set of static pressure taps and sensor tubing leading to pressure taps at the front of the windbox. The purpose of these taps is to provide relative flow readings to assist in balancing the OFA flows during operation. As with the burner registers, this flow-measurement feature forms the basis of the RADM (Register Air Distribution Monitoring) System, which along with the coal flow measurement (ECT) system forms the "Fuel Injection" air/fuel balancing system.

The complete set of proposal drawings appears in Appendix E.

4.4 Computational Fluid Dynamics (CFD) Study – Air Flow Model

Foster Wheeler will either begin with the existing EPRI model, or develop its own CFD model to examine the flow distribution throughout the combustion air system from the air heater outlet through the furnace exit. The model will be used to confirm the suitability of the ductwork and damper control modifications proposed as part of the project. The final detailed design of the OFA duct system improvements will be configured based on our experience in conjunction with the air flow CFD analysis to ensure that each OFA register receives the necessary amount of air, without negatively effecting the top elevation of burners. We propose some means of guide vanes as a means to help isolate these top burners, as well as provide appropriate *channels* for the additional OFA air to flow through. A complete report will be prepared and submitted for SECI review.

A sample of a previous duct air flow modeling study slide is presented in Figure 4-9.

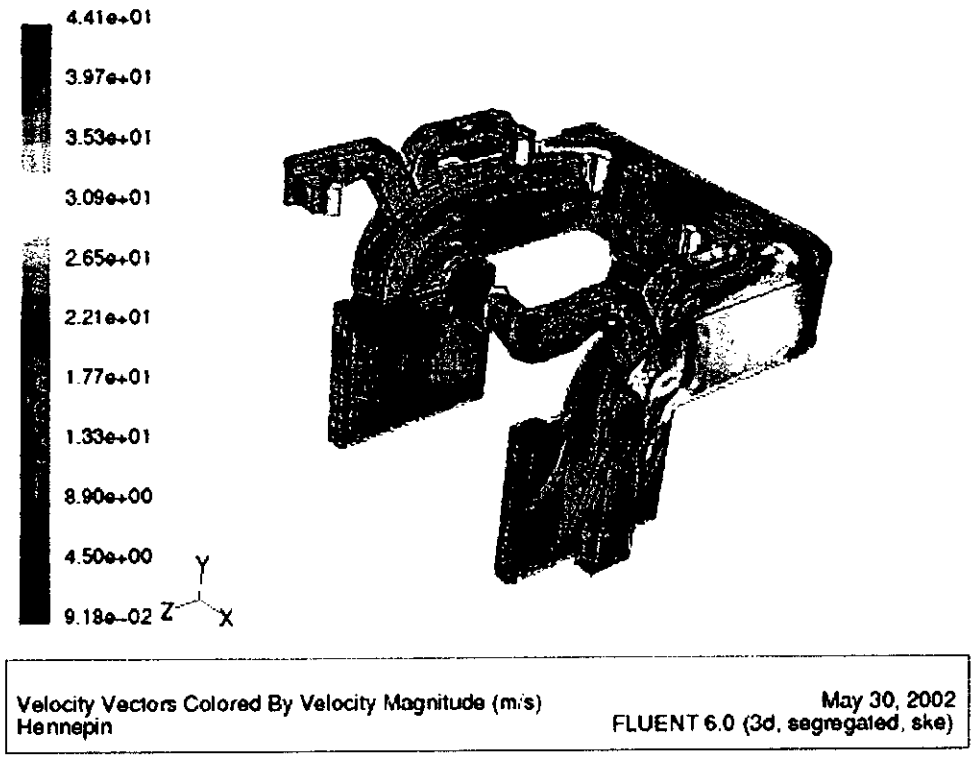


Figure 4-9: Sample CFD Modeling result for Air Flow in Secondary Air Ducts

4.5 Computational Fluid Dynamics (CFD) Study – Combustion Model

As requested, Foster Wheeler is offering a Computational Fluid Dynamics only (CFD) study of the furnace using the proposed Approach 1 OFA arrangement. The Combustion CFD model will extend from the burner fronts up through the leading edge of the first bank of the finishing superheater. Experienced engineers at Foster Wheeler Development Corporation will perform this work.

Vital to any OFA design is the penetration of the air jets into the furnace flue gas to promote mixing with the bulk of the rising flue gases. This is accomplished by choosing appropriate nozzle velocities and sizes. Foster Wheeler studied the jet penetration

through physical modeling and with CFD analysis as part of our engineering standard development. This work yielded that our arrangement of OFA nozzles is in fact achieving a very good lateral air distribution and that empirical correlations for jet penetration depth are describing the model results very well.

A three-dimensional computational fluid dynamics model representing both of Seminole Units 1 & 2 furnaces will be set-up using the Foster Wheeler computer code, FW-FIRE. FW-FIRE contains comprehensive CFD furnace modeling capability that has been well validated for several furnace types including front wall-fired, opposed-wall fired, and tangentially fired units.

Two models will be constructed: 1) existing (present burners and OFA arrangement) and 2) proposed Approach 1 configuration (with FW VS/SF Burners and new "optimized" OFA). Output from the program will predict three-dimensional distributions of O2, CO, NOx, temperature, heat flux distribution and identify potential corrosion areas of the furnace walls flue gas temperature, mixing, and velocity. The second CFD model will also address different modes of the burner register settings which vary the burner's and OFA port's inner/outer air zones.

The number of "runs" will also address Approach 1 configuration at low, medium, and full loads.

Figure 4-10: Sample CFD Model of an opposed wall fired unit with OFA System

Baseline operating boundary conditions will be applied to the FW-FIRE model of the existing furnace. Burner outlet conditions such as temperatures, velocities and air/coal loading will be input as boundary conditions at the furnace wall. The effects of the over-fired air (OFA) system will be identified by modifying the existing furnace model to include the OFA ports. A set of boundary conditions will be applied to simulate the OFA operation. The effective surface emissivity will be kept at the same value as that determined for the existing baseline case. The program output will be post-processed to determine the OFA penetration and mixing by analyzing the three dimensional distributions of O2, velocity, and char oxidation. FW-FIRE can also predict the effect of the OFA system on FEGT, surface heat absorption, and unburned carbon (UBC).

A report will be issued which will summarize the model boundary conditions and results for the existing configuration and the proposed Approach 1 OFA cases.

ATTACHMENT 3

UPDATED APPENDIX B EMISSION TABLES

Table B-4 PSD Netting Analysis

Pollutant	Units 1 and 2 Baseline Actual Emissions (tpy)	Projected Actual Emissions with Project (tpy)	Net Emissions Increase with Project (tpy)	Significant Emission Rates (tpy)	PSD Review Required?
SO_2	29,074	29,074	0.0	40	No
NOx	23,289	23,289	0.0	40	No
PM	822	846	24.4	25	No
PM_{10}	822	836	14.4	15	No
H_2SO_4	2,129	2,129	0.0	7	No
VOC	108	147	39.0	40	No
CO	13,448	12,565	0.0	100	No
Hg	0.065	0.065	<0.1	<0.1	No

* Units 1 and 2 baseline actual emissions are based on Tables B-4E through B-4S, as well as a Supplemental Submittal, dated April 14, 2006.

Table B-4A CBO Project - Fluidized Bed Emission Estimates

Pollutant	Emission Rate (lb/MMBtu)	CBO Emission Rate (lb/hr)	CBO Emission Rate (TPY) to Units 1 and 2	Material Handling Emissions (TPY)	Net Emissions Increase with Units 1 and 2 (TPY)	PSD Significant Emission Rates (TPY)	PSD Review Required?
SO_2	5.200	596.3	2,611.8		0*	40	No
NO_x	0.782	89.7	392.9		0*	40	No
CO	0.244	28.0	122.6		0*	100	No
VOCs	0.018	2.1	9.0		9.0	40	No
PM	0.024	2.8	12.1**	5.8	6.4**	25	No
PM_{10}	0.024	2.8	12.1**	5.8	6.4**	15	No

* See Table B-4. Projected actual emissions will be limited to baseline actual emissions.

** CBO emissions before Units 1 and 2 ESPs. Based on a conservative 95% removal, PM/PM10 emissions from the CBO FBC will be 0.6 TPY.

Table B-4B CBO Material Handling Emissions

Emission Source	Control Device	Exhaust Flow Rate (dscfm)	PM Emission Rate (gr/dscf)	PM Emission Rate (lb/hr)	PM Emission Rate (TPY)
Feed Fly Ash Silo	Baghouse	3,000	0.01	0.3	1.1
Product Fly Ash Storage Dome	Baghouse	6,000	0.01	0.5	2.3
Product Fly Ash Loadout Silo & Truck Loading	Baghouse	6,000	0.01	0.5	2.3
Fly Ash Fugitives (Truck Traffic)	Paved Roads; Watering	NA		0.1	0.2
Totals				1.4	5.8

Table B-4E Unit 1 Actual 2000 Emissions Rates

Average 2000 Data:		
Heat Input	49,418,601	MMBtu/yr (HHV)
Operating Hours	8,007	hr/yr
Coal Sulfur Content	2.90	weight percent S
Petcoke Sulfur Content	6.19	weight percent S
Coal Consumption	1,758,963	tpy
Petcoke Consumption	28,953	tpy
Coal Consumption	98.38	blend weight percent
Petcoke Consumption	1.62	blend weight percent

Pollutant	Emissions Rate		
	lb/MMBtu	lb/hr	tpy
SO_2*	0.603	3,721.5	14,899
NO_x*	0.449	2,834.5	11,094
CO†	0.144	594.2	3,557
VOCs‡	0.002	13.5	54
PM†	0.024	133.3	589
PM_{10}**	0.024	133.3	589
H_2SO_4 mist†	0.020	111.8	494

*CEMS Data.
†Stack test data.
‡AP-42 emission factor.
**PM_{10} assumed equal to PM.

Sources: AOR, 2000
Golder, 2005

Table B-4F Unit 1 Actual 2001 Emissions Rates

Average 2001 Data:		
Heat Input	49,668,948	MMBtu/yr (HHV)
Operating Hours	7,704	hr/yr
Coal Sulfur Content	2.95	weight percent S
Petcoke Sulfur Content	5.88	weight percent S
Coal Consumption	1,665,401	tpy
Petcoke Consumption	66,037	tpy
Coal Consumption	96.19	blend weight percent
Petcoke Consumption	3.81	blend weight percent

Pollutant	Emissions Rate		
	lb/MMBtu	lb/hr	tpy
SO_2*	0.522	3,364.5	12,960
NO_x*	0.459	2,959.2	11,399
CO*	0.189	1,218.5	4,694
VOCs‡	0.002	13.6	52
PM†	0.012	75.3	290
PM_{10}**	0.012	75.3	290
H_2SO_4 mist†	0.029	187.7	723

*CEMS Data.
†Stack test data.
‡AP-42 emission factor.
**PM_{10} assumed equal to PM.

Sources: AOR, 2001
Golder, 2005

Table B-4G Unit 1 Actual 2002 Emissions Rates

Average 2002 Data:		
Heat Input	48,594,869	MMBtu/yr (HHV)
Operating Hours	7,517	hr/yr
Coal Sulfur Content	3.01	weight percent S
Petcoke Sulfur Content	6.23	weight percent S
Coal Consumption	1,462,320	tpy
Petcoke Consumption	175,428	tpy
Coal Consumption	89.29	blend weight percent
Petcoke Consumption	10.71	blend weight percent

Pollutant	Emissions Rate		
	lb/MMBtu	lb/hr	tpy
SO_2*	0.457	2,952.8	11,098
NO_x*	0.444	2,870.3	10,788
CO*	0.250	1,616.2	6,074
VOCs‡	0.002	13.1	49
PM†	0.012	75.1	282
PM_{10}**	0.012	75.1	282
H_2SO_4 mist†	0.051	332.5	1,250

*CEMS Data.
†Stack test data.
‡AP-42 emission factor.
**PM_{10} assumed equal to PM.

Sources: AOR, 2002
Golder, 2005

Table B-4H Unit 1 Actual 2003 Emissions Rates

Average 2003 Data:		
Heat Input	45,734,834	MMBtu/yr (HHV)
Operating Hours	8,011	hr/yr
Coal Sulfur Content	3.03	weight percent S
Petcoke Sulfur Content	5.97	weight percent S
Coal Consumption	1,620,199	blend weight percent
Petcoke Consumption	271,815	blend weight percent
Coal Consumption	85.63	blend weight percent
Petcoke Consumption	14.37	blend weight percent

Pollutant	Emissions Rate		
	lb/MMBtu	lb/hr	tpy
SO_2*	0.592	3,382.1	13,547
NO_x*	0.478	2,728.9	10,931
CO*	0.408	2,329.3	9,330
VOCs‡	0.002	14.3	57
PM†	0.020	111.5	446
PM_{10}**	0.020	111.5	446
H_2SO_4 mist†	0.044	251.0	1,005

*CEMS Data.
†Stack test data.
‡AP-42 emission factor.
**PM_{10} assumed equal to PM.

Sources: AOR, 2003
Golder, 2005

Table B-4I Unit 1 Actual 2004 Emissions Rates

Average 2004 Data:		
Heat Input	45,312,403	MMBtu/yr (HHV)
Operating Hours	8,162	hr/yr
Coal Sulfur Content	3.07	weight percent S
Petcoke Sulfur Content	5.19	weight percent S
Coal Consumption	1,338,145	tpy
Petcoke Consumption	399,916	tpy
Coal Consumption	76.99	blend weight percent
Petcoke Consumption	23.01	blend weight percent

Pollutant	Emissions Rate		
	lb/MMBtu	lb/hr	tpy
SO_2*	0.630	3,499.1	14,280
NO_x*	0.476	2,642.6	10,784
CO*	0.402	2,231.8	9,108
VOCs‡	0.002	12.8	52
PM†	0.015	82.3	336
PM_{10}**	0.015	82.3	336
H_2SO_4 mist†	0.045	247.4	1,010

*CEMS Data.
†Stack test data.
‡AP-42 emission factor.
**PM_{10} assumed equal to PM.

Sources: AOR, 2004
Golder, 2005

Table B-4J Unit 1 Actual 2005 Emissions Rates

Average 2000 Data:		
Heat Input	47,228,429	MMBtu/yr (HHV)
Operating Hours	8,000	hr/yr
Coal Sulfur Content	3.07	weight percent S
Petcoke Sulfur Content	5.19	weight percent S
Coal Consumption	1,338,145	tpy
Petcoke Consumption	399,916	tpy
Coal Consumption	76.99	blend weight percent
Petcoke Consumption	23.01	blend weight percent

Pollutant	Emissions Rate		
	lb/MMBtu	lb/hr	tpy
SO_2*	0.646	3,816.0	15,264
NO_x*	0.474	2,798.3	11,193
CO*	0.350	2,066.2	8,265
VOCs‡	0.002	12.8	52
PM†	0.015	87.5	350
PM_{10}**	0.015	87.5	350
H_2SO_4 mist†	0.045	263.1	1,052

*CEMS Data.
†Stack test data.
‡AP-42 emission factor.
**PM_{10} assumed equal to PM.

Sources: AOR, 2000
Golder, 2005

Table B-4K Unit 2 Actual 2000 Emissions Rates

Average 2000 Data:		
Heat Input	51,954,131	MMBtu/yr (HHV)
Operating Hours	7,878	hr/yr
Coal Sulfur Content	2.90	weight percent S
Petcoke Sulfur Content	6.19	weight percent S
Coal Consumption	1,679,618	tpy
Petcoke Consumption	74,443	tpy
Coal Consumption	95.76	blend weight percent
Petcoke Consumption	4.24	blend weight percent

Pollutant	Emissions Rate		
	lb/MMBtu	lb/hr	tpy
SO_2*	0.688	4,536.7	17,870
NO_x*	0.390	2,627.1	10,131
CO†	0.432	1,122.9	11,223
VOCs‡	0.002	13.5	53
PM†	0.009	51.6	236
PM_{10}**	0.009	51.6	236
H_2SO_4 mist†	0.018	104.2	474

*CEMS Data.
†Stack test data.
‡AP-42 emission factor.
**PM_{10} assumed equal to PM.

Sources: AOR, 2000
Golder, 2005

Table B-4L Unit 2 Actual 2001 Emissions Rates

Average 2001 Data:		
Heat Input	55,355,534	MMBtu/yr (HHV)
Operating Hours	8,244	hr/yr
Coal Sulfur Content	2.95	weight percent S
Petcoke Sulfur Content	5.88	weight percent S
Coal Consumption	1,762,839	tpy
Petcoke Consumption	107,738	tpy
Coal Consumption	94.24	blend weight percent
Petcoke Consumption	5.76	blend weight percent

Pollutant	Emissions Rate		
	lb/MMBtu	lb/hr	tpy
SO_2*	0.610	4,093.2	16,872
NO_x*	0.470	3,155.9	13,009
CO*	0.105	705.0	2,906
VOCs‡	0.002	13.7	56
PM†	0.008	50.5	208
PM_{10}**	0.008	50.5	208
H_2SO_4 mist†	0.018	123.3	508

*CEMS Data.
†Stack test data.
‡AP-42 emission factor.
**PM_{10} assumed equal to PM.

Sources: AOR, 2001
Golder, 2005

Table B-4M Unit 2 Actual 2002 Emissions Rates

Average 2002 Data:		
Heat Input	49,488,475	MMBtu/yr (HHV)
Operating Hours	8,033	hr/yr
Coal Sulfur Content	3.01	weight percent S
Petcoke Sulfur Content	6.23	weight percent S
Coal Consumption	1,514,054	tpy
Petcoke Consumption	169,260	tpy
Coal Consumption	89.94	blend weight percent
Petcoke Consumption	10.06	blend weight percent

Pollutant	Emissions Rate		
	lb/MMBtu	lb/hr	tpy
SO_2*	0.525	3,234.7	12,992
NO_x*	0.460	2,896.6	11,382
CO*	0.116	714.6	2,870
VOCs‡	0.002	12.6	50
PM†	0.018	109.2	439
PM_{10}**	0.018	109.2	439
H_2SO_4 mist†	0.052	318.5	1,279

*CEMS Data.
†Stack test data.
‡AP-42 emission factor.
**PM_{10} assumed equal to PM.

Sources: AOR, 2002
Golder, 2005

Table B-4N Unit 2 Actual 2003 Emissions Rates

Average 2003 Data:		
Heat Input	46,823,323	MMBtu/yr (HHV)
Operating Hours	8,243	hr/yr
Coal Sulfur Content	3.03	weight percent S
Petcoke Sulfur Content	5.97	weight percent S
Coal Consumption	1,628,641	tpy
Petcoke Consumption	311,406	tpy
Coal Consumption	83.95	blend weight percent
Petcoke Consumption	16.05	blend weight percent

Pollutant	Emissions Rate		
	lb/MMBtu	lb/hr	tpy
SO_2*	0.590	3,351.4	13,813
NO_x*	0.454	2,578.9	10,629
CO*	0.193	1,096.3	4,518
VOCs‡	0.003	14.2	59
PM†	0.020	115.5	476
PM_{10}**	0.020	115.5	476
H_2SO_4 mist†	0.031	175.5	723

*CEMS Data.
†Stack test data.
‡AP-42 emission factor.
**PM_{10} assumed equal to PM.

Sources: AOR, 2003
Golder, 2005

Table B-4O Unit 2 Actual 2004 Emissions Rates

Average 2004 Data:		
Heat Input	39,583,424	MMBtu/yr (HHV)
Operating Hours	7,033	hr/yr
Coal Sulfur Content	3.07	weight percent S
Petcoke Sulfur Content	5.19	weight percent S
Coal Consumption	1,128,531	tpy
Petcoke Consumption	324,146	tpy
Coal Consumption	77.69	blend weight percent
Petcoke Consumption	22.31	blend weight percent

Pollutant	Emissions Rate		
	lb/MMBtu	lb/hr	tpy
SO_2*	0.628	3,533.1	12,424
NO_x*	0.464	2,611.5	9,183
CO*	0.199	1,120.0	3,939
VOCs‡	0.002	12.5	44
PM†	0.013	74.6	262
PM_{10}**	0.013	74.6	262
H_2SO_4 mist†	0.031	175.9	618

*CEMS Data.
†Stack test data.
‡AP-42 emission factor.
**PM_{10} assumed equal to PM.

Sources: AOR, 2004
Golder, 2005

Table B-4P Unit 2 Actual 2005 Emissions Rates

Average 2004 Data:		
Heat Input	50,573,650	MMBtu/yr (HHV)
Operating Hours	7,033	hr/yr
Coal Sulfur Content	3.07	weight percent S
Petcoke Sulfur Content	5.19	weight percent S
Coal Consumption	1,128,531	tpy
Petcoke Consumption	324,146	tpy
Coal Consumption	77.69	blend weight percent
Petcoke Consumption	22.31	blend weight percent

Pollutant	Emissions Rate		
	lb/MMBtu	lb/hr	tpy
SO_2*	0.640	4,601.2	16,180
NO_x*	0.476	3,422.9	12,037
CO*	0.296	2,128.5	7,485
VOCs‡	0.002	12.5	44
PM†	0.013	95.3	335
PM_{10}**	0.013	95.3	335
H_2SO_4 mist†	0.031	224.7	790

*CEMS Data.
†Stack test data.
‡AP-42 emission factor.
**PM_{10} assumed equal to PM.

Sources: AOR, 2004
Golder, 2005

Table B-4Q Unit 1 Highest 2 Year Average

Pollutant	2000-2001 (tpy)	2001-2002 (tpy)	2002-2003 (tpy)	2003-2004 (tpy)	2004-2005 (tpy)	Highest 2 Year Average
SO_2	13,930	12,029	12,323	13,914	14,772	14,772
NO_x	11,247	11,094	10,859	10,857	10,989	11,247
CO	4,125	5,384	7,702	9,219	8,686	9,219
VOCs	53	51	53	55	52	55
PM	439	286	364	391	343	439
PM_{10}	439	286	364	391	343	439
H_2SO_4 mist	609	987	1,128	1,007	1,031	1,128
Heat Input	49,543,775	49,131,909	47,164,852	45,523,619	46,270,416	49,543,775

Table B-4R Unit 2 Highest 2 Year Average

Pollutant	2000-2001 (tpy)	2001-2002 (tpy)	2002-2003 (tpy)	2003-2004 (tpy)	2003-2004 (tpy)	Highest 2 Year Average
SO_2	17,371	14,932	13,403	13,119	14,302	17,371
NO_x	11,570	12,195	11,006	9,906	10,610	12,195
CO	7,065	2,888	3,694	4,229	5,712	7,065
VOCs	55	53	55	51	44	55
PM	222	323	457	369	299	457
PM_{10}	222	323	457	369	299	457
H_2SO_4 mist	491	894	1,001	671	704	1,001
Heat Input	53,654,833	52,422,005	48,155,899	43,203,374	45,078,537	53,654,833

Table B-4S Highest Baseline 2-Year Average

Pollutant	2000-2001 (tpy)	2001-2002 (tpy)	2002-2003 (tpy)	2003-2004 (tpy)	2004-2005 (tpy)	Highest 2 Year Average
SO_2	31,301	26,961	25,725	27,032	29,074	31,301
NO_x	22,817	23,289	21,865	20,764	21,599	23,289
CO	11,190	8,272	11,397	13,447	14,398	14,398
VOCs	108	104	108	106	96	108
PM	661	610	822	760	642	822
PM_{10}	661	610	822	760	642	822
H_2SO_4 mist	1,100	1,880	2,129	1,678	1,735	2,129
Heat Input	103,198,607	101,553,913	95,320,751	88,726,992	91,348,953	103,198,607

ATTACHMENT 4

AIR APPLICATION LONG FORM- REVISED PAGES

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: **2,904.7** lb/hour **9,219** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.405 lb/MMBtu** Reference: **CEMS Data**	7. Emissions Method Code:

8. Calculation of Emissions:
See Supplemental Submittal, dated April 14, 2006, and Appendix B-4

The emission factor (0.405 lb/MMBtu) is based on 2003-2004 data. The TPY value is based on an annual heat input value of 45,523,619 MMBtu/yr (2003-2004 two-year average). Total baseline emissions from Units 1 and 2 combined are 13,448 TPY.

9. Pollutant Potential/Estimated Fugitive Emissions Comment:
There is no allowable CO emissions limitation.

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:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **12,565** tons/yr	4. Equivalent Allowable Emissions: lb/hour **12,565** tons/year
5. Method of Compliance: **See Supplemental Submittal, dated April 14, 2006 and Appendix B-4.**	
6. Allowable Emissions Comment (Description of Operating Method): **The TPY estimate reflects an assumed short-term rate of 0.2 lb/MMBtu for Units 1 and 2 and a 100 percent capacity factor for both units (i.e., 7,172 MMBtu/hr from each unit; 8,760 hr/yr).**	

Allowable Emissions Allowable Emissions _____ of _____

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

Allowable Emissions Allowable Emissions _____ of _____

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

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: **SO2**	2. Pollutant(s): **SO2**
3. CMS Requirement: ☒ Rule ☐ Other	
4. Monitor Information... Manufacturer: **Thermo-Environmental Instruments, inc.** Model Number: **43B** Serial Number: **43B-46935-277**	
5. Installation Date: **05/31/1994**	6. Performance Specification Test Date: **10/19/1994**
7. Continuous Monitor Comment: **40 CFR 60, Subpart Da and 40 CFR Part 75.**	

Continuous Monitoring System: Continuous Monitor 2 of 5

1. Parameter Code: **NOX**	2. Pollutant(s): **NOX**
3. CMS Requirement: ☒ Rule ☐ Other	
4. Monitor Information... Manufacturer: **Thermo-Environmental, Inc.** Model Number: **42D** Serial Number: **42D-46961-277**	
5. Installation Date: **05/31/1994**	6. Performance Specification Test Date: **10/19/1994**
7. Continuous Monitor Comment: **40 CFR 60, Subpart Da and 40 CFR Part 75.**	

H. CONTINUOUS MONITOR INFORMATION

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

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

1. Parameter Code: **VE**	2. Pollutant(s): **VE**
3. CMS Requirement: ☒ Rule ☐ Other	
4. Monitor Information... Manufacturer: **KVB/MIP** Model Number: **LM3086EPA3** Serial Number: **730097**	
5. Installation Date: **05/31/1994**	6. Performance Specification Test Date: **11/07/1995**
7. Continuous Monitor Comment: **40 CFR 60, Subpart Da and 40 CFR Part 75.**	

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

1. Parameter Code:	2. Pollutant(s): **CO2**
3. CMS Requirement: ☒ Rule ☐ Other	
4. Monitor Information... Manufacturer: **Thermo-Environmental Instruments, Inc.** Model Number: **41H** Serial Number: **41H-42927-268**	
5. Installation Date: **05/31/1994**	6. Performance Specification Test Date: **10/19/1994**
7. Continuous Monitor Comment: **40 CFR Part 75.**	

H. CONTINUOUS MONITOR INFORMATION

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. Pollutant(s): **CO**
3. CMS Requirement:	☐ Rule ☒ Other
4. Monitor Information... Manufacturer: **Thermo Electron Corp** Model Number: **48C**	Serial Number: **48C-67478-356**
5. Installation Date: **01/01/2001**	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Installed for diagnostic purposes. Future operation will be in accordance with 40 CFR Part 60.**	

Continuous Monitoring System: Continuous Monitor of

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

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: **1,405.7** lb/hour **4,229** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.196 lb/MMBtu** Reference: **CEMS Data**	7. Emissions Method Code:

8. Calculation of Emissions:
See Supplemental Submittal, dated April 14, 2006, and Appendix B-4

The emission factor (0.196 lb/MMBtu) is based on 2003-2004 data. The TPY value is based on an annual heat input value of 43,203,374 MMBtu/yr (2003-2004 two-year average). Total baseline emissions from Units 1 and 2 combined are 13,448 TPY.

9. Pollutant Potential/Estimated Fugitive Emissions Comment:
There is no allowable CO emissions limitation.

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:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **12,565** tons/yr	4. Equivalent Allowable Emissions: lb/hour **12,565** tons/year
5. Method of Compliance: **See Supplemental Submittal, dated April 14, 2006 and Appendix B-4.**	
6. Allowable Emissions Comment (Description of Operating Method): **The TPY estimate reflects an assumed short-term rate of 0.2 lb/MMBtu for Units 1 and 2 and a 100 percent capacity factor for both units (i.e., 7,172 MMBtu/hr from each unit; 8,760 hr/yr).**	

Allowable Emissions Allowable Emissions _____ of _____

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

Allowable Emissions Allowable Emissions _____ of _____

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

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: **SO2**	2. Pollutant(s): **SO2**
3. CMS Requirement: ☒ Rule ☐ Other	
4. Monitor Information... Manufacturer: **Thermo-Environmental Instruments, inc.** Model Number: **43B** Serial Number: **43B-46935-277**	
5. Installation Date: **05/31/1994**	6. Performance Specification Test Date: **10/19/1994**
7. Continuous Monitor Comment: **40 CFR 60, Subpart Da and 40 CFR Part 75.**	

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

1. Parameter Code: **NOX**	2. Pollutant(s): **NOX**
3. CMS Requirement: ☒ Rule ☐ Other	
4. Monitor Information... Manufacturer: **Thermo-Environmental, Inc.** Model Number: **42D** Serial Number: **42D-46961-277**	
5. Installation Date: **05/31/1994**	6. Performance Specification Test Date: **10/19/1994**
7. Continuous Monitor Comment: **40 CFR 60, Subpart Da and 40 CFR Part 75.**	

H. CONTINUOUS MONITOR INFORMATION

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

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

1. Parameter Code: **VE**	2. Pollutant(s): **VE**
3. CMS Requirement: ☒ Rule ☐ Other	
4. Monitor Information... Manufacturer: **KVB/MIP** Model Number: **LM3086EPA3** Serial Number: **730097**	
5. Installation Date: **05/31/1994**	6. Performance Specification Test Date: **11/07/1995**
7. Continuous Monitor Comment: **40 CFR 60, Subpart Da and 40 CFR Part 75.**	

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

1. Parameter Code:	2. Pollutant(s): **CO2**
3. CMS Requirement: ☒ Rule ☐ Other	
4. Monitor Information... Manufacturer: **Thermo-Environmental Instruments, Inc.** Model Number: **41H** Serial Number: **41H-42927-268**	
5. Installation Date: **05/31/1994**	6. Performance Specification Test Date: **10/19/1994**
7. Continuous Monitor Comment: **40 CFR Part 75.**	

H. CONTINUOUS MONITOR INFORMATION

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. Pollutant(s): **CO**
3. CMS Requirement:	☐ Rule ☒ Other
4. Monitor Information... Manufacturer: **Thermo Electron Corp** Model Number: **48C**	Serial Number: **48C-67477-356**
5. Installation Date: **01/01/2001**	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Installed for diagnostic purposes. Future operation will be in accordance with 40 CFR Part 60.**	

Continuous Monitoring System: Continuous Monitor of

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

ATTACHMENT 5

SEMINOLE 2005 AOR

Seminole Electric
COOPERATIVE, INC.
IN PARTNERSHIP WITH THOSE WE SERVE

February 27, 2006

SENT BY OVERNIGHT MAIL

Florida Department of Environmental Protection
Division of Air Resources Management, MS5500
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: Seminole Electric Cooperative, Inc.
Seminole Generating Station - Facility ID 1070025
Payne Creek Generating Station - Facility ID 0490340
2005 Annual Operating Report Forms

Dear Sir or Madam:

Pursuant to the requirements of Chapter 62-210.370(3), Florida Administrative Code (F.A.C.) and in accordance with Department guidance regarding submittal of the 2005 Annual Operating Report (AOR), please find enclosed the first two pages of the 2005 AOR Forms for the Seminole Electric Cooperative, Inc. (SECI) Seminole Generating Station (Facility ID No. 1070025) and the Payne Creek Generating Station (Facility ID No. 0490340). The second page of each report has been signed and dated by the owner or authorized representative. The Electronic AOR files have been transferred electronically to the Department via the Internet.

Please contact me at (813) 739-1224 if there are any questions regarding the SECI 2005 AORs.

Sincerely,

Mike Roddy
Senior Environmental Engineer

Enclosures

16313 North Dale Mabry Highway P.O. Box 272000 Tampa, Florida 33688-2000
Telephone 813.963.0994 Fax 813.264.7906 www.seminole-electric.com

Department of Environmental Protection

Division of Air Resources Management

ANNUAL OPERATING REPORT FOR AIR POLLUTANT EMITTING FACILITY

See Instructions for Form No. 62-210.900(5).

I. FACILITY REPORT

A. REPORT INFORMATION

1. Year of Report	2005	2. Number of Emissions Units in Report	8

B. FACILITY INFORMATION

1. Facility ID	2. Facility Status	3. Date of Permanent Facility Shutdown
1070025	ACTIVE	
4. Facility Owner/Company Name: SEMINOLE ELECTRIC COOPERATIVE, INC.		
5. Site Name: SEMINOLE GENERATING STATION		
6. Facility Location: Street Address or Other Locator: 890 NORTH U.S. HIGHWAY 17 City: PALATKA County: PUTNAM Zip Code: 32177-8647		
7. Facility Compliance Tracking Code: A	8. Governmental Facility Code: 0	9. Facility SIC(s): 4911
10. Facility Comment: TITLE V (MAJOR & NSPS)		

C. FACILITY HISTORY INFORMATION

1. Change in Facility Owner/ Company Name During Year?	Previous Name	2. Date of Change

Facility ID : 1070025

D. OWNER/CONTACT INFORMATION

1. Owner or Authorized Representative			
Name and Title **MICHAEL P. OPALINSKI** **VICE PRESIDENT OF TECHNICAL SERVICES**			
Mailing Address Organization/Firm: **SEMINOLE ELECTRIC COOPERATIVE, INC.** Street Address: **POST OFFICE BOX 272000** City: **TAMPA** State: **FL** Zip Code: **33688-2000**			
Telephone: **(813) 963-0994**	**1233**	Fax: **(813) 264-7906**	
2. Facility Contact			
Name and Title **BRENDA SHIVER** **ENVIRONMENTAL COMPLIANCE SPECIALIST**			
Mailing Address Organization/Firm: **SEMINOLE ELECTRIC COOPERATIVE, INC.** Street Address: **890 NORTH U.S. HIGHWAY 17** City: **PALATKA** State: **FL** Zip Code: **32177-8647**			
Telephone: **(386) 328-9255**	**2174**	Fax: **(386) 328-5571**	

E. OWNER OR AUTHORIZED REPRESENTATIVE STATEMENT

I hereby certify that the information given in this report is correct to the best of my knowledge.

M.P. Opalinski — 2/27/06

Signature Date

Department of Environmental Protection

Division of Air Resources Management

ANNUAL OPERATING REPORT FOR AIR POLLUTANT EMITTING FACILITY

See Instructions for Form No. 62-210.900(5).

I. FACILITY REPORT

A. REPORT INFORMATION

1. Year of Report	2005	2. Number of Emissions Units in Report	8

B. FACILITY INFORMATION

1. Facility ID **1070025**	2. Facility Status **ACTIVE**	3. Date of Permanent Facility Shutdown
4. Facility Owner/Company Name **SEMINOLE ELECTRIC COOPERATIVE, INC.**		
5. Site Name **SEMINOLE GENERATING STATION**		
6. Facility Location Street Address or Other Locator: **890 NORTH U.S. HIGHWAY 17** City: **PALATKA** County: **PUTNAM** Zip Code: **32177-8647**		
7. Facility Compliance Tracking Code **A**	8. Governmental Facility Code **0**	9. Facility SIC(s) **4911**
10. Facility Comment **TITLE V (MAJOR & NSPS)**		

C. FACILITY HISTORY INFORMATION

1. Change in Facility Owner/ Company Name During Year?	Previous Name	2. Date of Change

Facility ID : 1070025

D. OWNER/CONTACT INFORMATION

1. Owner or Authorized Representative

Name and Title

MICHAEL P. OPALINSKI
VICE PRESIDENT OF TECHNICAL SERVICES

Mailing Address

Organization/Firm: **SEMINOLE ELECTRIC COOPERATIVE, INC.**
Street Address: **POST OFFICE BOX 272000**
City: **TAMPA**
State: **FL** Zip Code: **33688-2000**

Telephone: **(813) 963-0994** **1233** Fax: **(813) 264-7906**

2. Facility Contact

Name and Title

BRENDA SHIVER
ENVIRONMENTAL COMPLIANCE SPECIALIST

Mailing Address

Organization/Firm: **SEMINOLE ELECTRIC COOPERATIVE, INC.**
Street Address: **890 NORTH HIGHWAY 17**
City: **PALATKA**
State: **FL** Zip Code: **32177-8647**

Telephone: **(386) 328-9255** **2174** Fax: **(386) 328-5571**

E. OWNER OR AUTHORIZED REPRESENTATIVE STATEMENT

I hereby certify that the information given in this report is correct to the best of my knowledge.

Signature Date

II. EMISSIONS UNIT REPORT

A. EMISSIONS UNIT INFORMATION

1. Emissions Unit Description **Steam Electric Generator No. 1**		
2. Emissions Unit ID **001**	3. Emissions Unit Classification **Regulated Emissions Unit**	4. Operated During Year? **Y**
5. DEP Permit or PPS Number **1070025002AV** **PPS PA7810**	6. Emissions Unit Status **ACTIVE**	7. Ozone SIP Base Year Emissions Unit?
8. Emissions Unit Startup Date **01-Jan-1985**	9. Long-term Reserve Shutdown Date	10. Permanent Shutdown Date

B. EMISSION POINT/CONTROL INFORMATION

1. Emissions Point Type **SINGLE POINT SERVING A SINGLE EMISSIONS UNIT**
2a. Description of Control Equipment 'a' **ELECTROSTATIC PRECIPITATOR HIGH EFFICIENCY (95.0-99.9%)**
2b. Description of Control Equipment 'b' **MODIFIED FURNACE/BURNER DESIGN**

C. EMISSIONS UNIT OPERATING SCHEDULE INFORMATION

1. Average Annual Operation hours/day **21** days/week **7**	2. Total Operation During Year (hours/year) **7648**
3. Percent Hours of Operation by Season DJF : **25** MAM : **25** JJA : **25** SON : **25**	
4. Average Ozone Season Operation (June 1 to August 31) hours/day days/week	5. Total Operation During Ozone Season (days/season)

D. EMISSIONS UNIT COMMENT

E. EMISSIONS INFORMATION BY PROCESS/FUEL

(1) PROCESS/FUEL INFORMATION

1. SCC **1-01-002-02**	2. Description of Process or Type of Fuel **External Combustion Boilers Electric Generation** **Bituminous/Subbituminous Coal Pulverized Coal: Dry Bottom (Bit**	
3. Annual Process or Fuel Usage Rate **1390374**	4. Ozone Season Daily Process or Fuel Usage Rate	5. SCC Unit **Tons Bituminous Coal Burned**
6. Fuel Average % Sulfur **3**	7. Fuel Average % Ash **7.67**	8. Fuel Heat Content (mmBtu/SCC Unit) **24**

(2) EMISSIONS INFORMATION

1. Pollutant **CO** **Carbon Monoxide**	CAS No. **630-08-0**	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **457.686272**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **1**
5. Emissions Calculation (Show separately both annual and daily emissions calculations) **Annual Emissions (Ton/Year) 457.686272 = 1998-2002 Average CO Test Results, 100% Coal (lb/mmBtu) 0.0958 * 100% Coal Annual Heat Input (mmBtu/year) 9555037 * (1 / 2000)**		

1. Pollutant **H015** **Arsenic Compounds (inorganic including arsine)**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 001** **SCC : 1-01-002-02**

1. Pollutant **H027** **Cadmium Compounds**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **H046** **Chromium Compounds**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **H106** **Hydrogen chloride (Hydrochloric acid)**	CAS No. **7647-01-0**	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **79.251318**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **5**

5. Emissions Calculation (Show separately both annual and daily emissions calculations)

Annual Emissions (Ton/Year) 79.251318 = HCl Emission Factor (lb/ton) 1.9 * Annual Process or Fuel Usage Rate (Tons Bituminous Coal Burned) 1390374 * (1 - (FGD HCl Removal Efficiency (%) 94 / 100)) * (1 / 2000)

HCl emission factor from Table 3-10, EPCRA Section 313 Industry Guidance, Electricity Generating Facilities, February 2000.

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 001** **SCC : 1-01-002-02**

1. Pollutant **H107** **Hydrogen fluoride (Hydrofluoric acid)**	CAS No. **7664-39-3**	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **105.529387**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **5**

5. Emissions Calculation (Show separately both annual and daily emissions calculations)

Annual Emissions (Ton/Year) 105.529387 = HF Emission Factor (lb/ton) 0.23 * Annual Process or Fuel Usage Rate (Tons Bituminous Coal Burned) 1390374 * (1 - (FGD HF Removal Efficiency (%) 34 / 100)) * (1 / 2000)

HF emission factor from Table 3-10, EPCRA Section 313 Industry Guidance, Electricity Generating Facilities, February 2000.

1. Pollutant **H150** **Polychlorinated biphenyls (Aroclors)**	CAS No. **1336-36-3**	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code

5. Emissions Calculation (Show separately both annual and daily emissions calculations)

1. Pollutant *** NOX** **Nitrogen Oxides**	CAS No. **10102-44-0**	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **8063.738955**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **1**

5. Emissions Calculation (Show separately both annual and daily emissions calculations)

Annual Emissions (Ton/Year) 8063.738955 = Total Coal Heat Input (mmBtu/yr) 34024215 * NOx CEMS Emission Factor for All Fuels (lbs/mmBtu) 0.474 * (1 / 2000)

*: Pollutant subject to emissions limiting standard or emissions cap

1. Pollutant **PB** **Lead - Total (elemental lead and lead compounds)**	CAS No.	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **0.291979**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **3**

5. Emissions Calculation (Show separately both annual and daily emissions calculations)
Annual Emissions (Ton/Year) 0.291979 = Annual Process or Fuel Usage Rate (Tons Bituminous Coal Burned) 1390374 * Emission Factor (Lbs/Tons Bituminous Coal Burned) 0.00042 * (1 / 2000)

1. Pollutant * **PM** **Particulate Matter - Total**	CAS No.	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **95.55037**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **1**

5. Emissions Calculation (Show separately both annual and daily emissions calculations)
Annual Emissions (Ton/Year) 95.55037 = 100% Coal Heat Input (mmBtu/yr) 9555037 * 100% Coal PM Stack Test Results (lbs/mmBtu) 0.02 * (1 / 2000)

1. Pollutant **PM10** **Particulate Matter - PM10**	CAS No.	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **95.55037**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **1**

5. Emissions Calculation (Show separately both annual and daily emissions calculations)
Annual Emissions (Ton/Year) 95.55037 = 100% Coal Heat Input (mmBtu/yr) 9555037 * 100% Coal PM Stack Test Results (lbs/MMBtu) 0.02 * (1 / 2000)

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 001** **SCC : 1-01-002-02**

1. Pollutant * **SO2** **Sulfur Dioxide**	CAS No. **7446-09-5**	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **11250.334827**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **1**
5. Emissions Calculation (Show separately both annual and daily emissions calculations) **Annual Emissions (Ton/Year) 11250.334827 = Total Coal Heat Input (mmBtu/yr) 34024215 * Emission Factor (lbs/MMBtu) 0.661313410284814 * (1 / 2000)**		

1. Pollutant **VOC** **Volatile Organic Compounds**	CAS No.	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **41.71122**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **3**
5. Emissions Calculation (Show separately both annual and daily emissions calculations) **Annual Emissions (Ton/Year) 41.71122 = Annual Process or Fuel Usage Rate (Tons Bituminous Coal Burned) 1390374 * Emission Factor (Lbs/Tons Bituminous Coal Burned) 0.06 * (1 / 2000)**		

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 001** **SCC : 1-01-005-01**

E. EMISSIONS INFORMATION BY PROCESS/FUEL

(1) PROCESS/FUEL INFORMATION

1. SCC **1-01-005-01**	2. Description of Process or Type of Fuel **External Combustion Boilers Distillate Oil** **Electric Generation Grades 1 and 2 Oil**	
3. Annual Process or Fuel Usage Rate **1059**	4. Ozone Season Daily Process or Fuel Usage Rate	5. SCC Unit **1000 Gallons Distillate Oil (No.**
6. Fuel Average % Sulfur **0.34**	7. Fuel Average % Ash **0.1**	8. Fuel Heat Content (mmBtu/SCC Unit) **140**

(2) EMISSIONS INFORMATION

1. Pollutant **CO** **Carbon Monoxide**	CAS No. **630-08-0**	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **H015** **Arsenic Compounds (inorganic including arsine)**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

1. Pollutant **H027** **Cadmium Compounds**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **H046** **Chromium Compounds**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **H106** **Hydrogen chloride (Hydrochloric acid)**	CAS No. **7647-01-0**	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **H107** **Hydrogen fluoride (Hydrofluoric acid)**	CAS No. **7664-39-3**	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 001** **SCC : 1-01-005-01**

1. Pollutant **H150** **Polychlorinated biphenyls (Aroclors)**	CAS No. **1336-36-3**	[**X**] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant *** NOX** **Nitrogen Oxides**	CAS No. **10102-44-0**	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **34.896354**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **1**
5. Emissions Calculation (Show separately both annual and daily emissions calculations) **Annual Emissions (Ton/Year) 34.896354 = NOx CEMS Emission Factor for All Fuels (lbs/MMBtu) 0.474 * (Heat Input From No. 2 Oil (MMBtu/yr) 147242) * (1 / 2000)**		

1. Pollutant **PB** **Lead - Total (elemental lead and lead compounds)**	CAS No.	[**X**] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant *** PM** **Particulate Matter - Total**	CAS No.	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **0.005295**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **3**
5. Emissions Calculation (Show separately both annual and daily emissions calculations) **Annual Emissions (Ton/Year) 0.005295 = Controlled AP-42 Emission Factor (lb/1,000 gal) 0.01 * Annual Process or Fuel Usage Rate (1000 Gallons Distillate Oil (No. 1 & 2) Burned) 1059 * (1 / 2000)**		

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 001** **SCC : 1-01-005-01**

1. Pollutant **PM10** **Particulate Matter - PM10**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **3**
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant * **SO2** **Sulfur Dioxide**	CAS No. **7446-09-5**	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **48.686555**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **1**
5. Emissions Calculation (Show separately both annual and daily emissions calculations) **Annual Emissions (Ton/Year) 48.686555 = Heat Input From No. 2 Oil (MMBtu/yr) 147242 * CEMS SO2 Emission Factor for All Fuels (lbs/MMBtu) 0.661313410284814 * (1 / 2000)**		

1. Pollutant **VOC** **Volatile Organic Compounds**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **3**
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 001** **SCC : 1-01-008-01**

E. EMISSIONS INFORMATION BY PROCESS/FUEL

(1) PROCESS/FUEL INFORMATION

1. SCC **1-01-008-01**	2. Description of Process or Type of Fuel **External Combustion Boilers Coke** **Electric Generation All Boiler Sizes** **Maximum weight of petroleum coke burned shall not exceed 180,000**	
3. Annual Process or Fuel Usage Rate **428188**	4. Ozone Season Daily Process or Fuel Usage Rate	5. SCC Unit **Tons Coke Burned**
6. Fuel Average % Sulfur **5.66**	7. Fuel Average % Ash **0.9**	8. Fuel Heat Content (mmBtu/SCC Unit) **28**

(2) EMISSIONS INFORMATION

1. Pollutant **CO** **Carbon Monoxide**	CAS No. **630-08-0**	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **820.359045**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **1**
5. Emissions Calculation (Show separately both annual and daily emissions calculations) **Annual Emissions (Ton/Year) 820.359045 = 1998 - 2002 Average CO Test Results for 70% Coal / 30% Petcoke Blend (lb/mmBtu) 0.045 * Heat Input for 70% Coal / 30% Petcoke Blend (mmBtu/year) 36460402 * (1 / 2000)**		

1. Pollutant **H015** **Arsenic Compounds (inorganic including arsine)**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 001** **SCC : 1-01-008-01**

1. Pollutant **H027** **Cadmium Compounds**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **H046** **Chromium Compounds**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **H106** **Hydrogen chloride (Hydrochloric acid)**	CAS No. **7647-01-0**	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **24.406716**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **5**

5. Emissions Calculation (Show separately both annual and daily emissions calculations)

Annual Emissions (Ton/Year) 24.406716 = HCl Emission Factor (lb/ton) 1.9 * Annual Process or Fuel Usage Rate (Tons Coke Burned) 428188 * (1 - (FGD HCl Removal Efficiency (%) 94 / 100)) * (1 / 2000)

HCl emission factor from Table 3-10, EPCRA Section 313 Industry Guidance, Electricity Generating Facilities, February 2000.

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 001** **SCC : 1-01-008-01**

1. Pollutant **H107** **Hydrogen fluoride (Hydrofluoric acid)**	CAS No. **7664-39-3**	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **32.499469**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **5**

5. Emissions Calculation (Show separately both annual and daily emissions calculations)

Annual Emissions (Ton/Year) 32.499469 = HF Emission Factor (lb/ton) 0.23 * Annual Process or Fuel Usage Rate (Tons Coke Burned) 428188 * (1 - (FGD HF Removal Efficiency (%) 34 / 100)) * (1 / 2000)

HF emission factor from Table 3-10, EPCRA Section 313 Industry Guidance, Electricity Generating Facilities, February 2000.

1. Pollutant **H150** **Polychlorinated biphenyls (Aroclors)**	CAS No. **1336-36-3**	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code

5. Emissions Calculation (Show separately both annual and daily emissions calculations)

1. Pollutant *** NOX** **Nitrogen Oxides**	CAS No. **10102-44-0**	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **2841.920088**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **1**

5. Emissions Calculation (Show separately both annual and daily emissions calculations)

Annual Emissions (Ton/Year) 2841.920088 = Heat Input From Petcoke (mmBtu/year) 11991224 * NOx CEMS Emission Factor for All Fuels (lbs/mmBtu) 0.474 * (1 / 2000)

*: Pollutant subject to emissions limiting standard or emissions cap

1. Pollutant **PB** **Lead - Total (elemental lead and lead compounds)**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant * **PM** **Particulate Matter - Total**	CAS No.	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **382.834221**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **1**
5. Emissions Calculation (Show separately both annual and daily emissions calculations) **Annual Emissions (Ton/Year) 382.834221 = Heat Input From 70% Coal / 30% Petcoke Blend (mmBtu/yr) 36460402 * PM Test Results for 70% Coal / 30% Petcoke Blend (lb/mmBtu) 0.021 * (1 / 2000)**		

1. Pollutant **PM10** **Particulate Matter - PM10**	CAS No.	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **382.834221**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **1**
5. Emissions Calculation (Show separately both annual and daily emissions calculations) **Annual Emissions (Ton/Year) 382.834221 = Heat Input From 70% Coal / 30% Petcoke Blend (mmBtu/yr) 36460402 * PM Test Results for 70% Coal / 30% Petcoke Blend (lb/mmBtu) 0.021 * (1 / 2000)**		

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 001** **SCC : 1-01-008-01**

1. Pollutant * **SO2** **Sulfur Dioxide**	CAS No. **7446-09-5**	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **3964.978618**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **1**

5. Emissions Calculation (Show separately both annual and daily emissions calculations)
Annual Emissions (Ton/Year) 3964.978618 = Heat Input From Petcoke (mmBtu/yr) 11991224 * CEMS SO2 Emission Factor for All Fuels (lbs/mmBtu) 0.661313410284814 * (1 / 2000)

1. Pollutant **VOC** **Volatile Organic Compounds**	CAS No.	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **12.84564**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **3**

5. Emissions Calculation (Show separately both annual and daily emissions calculations)
Annual Emissions (Ton/Year) 12.84564 = Annual Process or Fuel Usage Rate (Tons Coke Burned) 428188 * Emission Factor (Lbs/Tons Coke Burned) 0.06 * (1 / 2000)

*: Pollutant subject to emissions limiting standard or emissions cap

E. EMISSIONS INFORMATION BY PROCESS/FUEL

(1) PROCESS/FUEL INFORMATION

1. SCC **1-01-013-02**	2. Description of Process or Type of Fuel **External Combustion Boilers Liquid Waste** **Electric Generation Waste Oil** **On-Specification: Arsenic 5ppm, Cadium 2ppm, Chromium 10ppm,**	
3. Annual Process or Fuel Usage Rate **0**	4. Ozone Season Daily Process or Fuel Usage Rate	5. SCC Unit **1000 Gallons Waste Oil Burned**
6. Fuel Average % Sulfur	7. Fuel Average % Ash	8. Fuel Heat Content (mmBtu/SCC Unit)

(2) EMISSIONS INFORMATION

1. Pollutant **CO** **Carbon Monoxide**	CAS No. **630-08-0**	[ ] Below Threshold [X] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **H015** **Arsenic Compounds (inorganic including arsine)**	CAS No.	[ ] Below Threshold [X] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

1. Pollutant **H027** **Cadmium Compounds**	CAS No.	[ ] Below Threshold [X] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **H046** **Chromium Compounds**	CAS No.	[ ] Below Threshold [X] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **H106** **Hydrogen chloride (Hydrochloric acid)**	CAS No. **7647-01-0**	[ ] Below Threshold [X] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **H107** **Hydrogen fluoride (Hydrofluoric acid)**	CAS No. **7664-39-3**	[ ] Below Threshold [X] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 001** **SCC : 1-01-013-02**

1. Pollutant **H150** **Polychlorinated biphenyls (Aroclors)**	CAS No. **1336-36-3**	[ ] Below Threshold [X] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant * **NOX** **Nitrogen Oxides**	CAS No. **10102-44-0**	[ ] Below Threshold [X] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **PB** **Lead - Total (elemental lead and lead compounds)**	CAS No.	[ ] Below Threshold [X] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant * **PM** **Particulate Matter - Total**	CAS No.	[ ] Below Threshold [X] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 001** **SCC : 1-01-013-02**

1. Pollutant **PM10** **Particulate Matter - PM10**	CAS No.	[ ] Below Threshold [X] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant * **SO2** **Sulfur Dioxide**	CAS No. **7446-09-5**	[ ] Below Threshold [X] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **VOC** **Volatile Organic Compounds**	CAS No.	[ ] Below Threshold [X] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 002**

II. EMISSIONS UNIT REPORT

A. EMISSIONS UNIT INFORMATION

1. Emissions Unit Description **Steam Electric Generator No. 2**		
2. Emissions Unit ID **002**	3. Emissions Unit Classification **Regulated Emissions Unit**	4. Operated During Year? **Y**
5. DEP Permit or PPS Number **1070025002AV** **PPS PA7810**	6. Emissions Unit Status **ACTIVE**	7. Ozone SIP Base Year Emissions Unit?
8. Emissions Unit Startup Date **01-Jan-1985**	9. Long-term Reserve Shutdown Date	10. Permanent Shutdown Date

B. EMISSION POINT/CONTROL INFORMATION

1. Emissions Point Type **SINGLE POINT SERVING A SINGLE EMISSIONS UNIT**
2a. Description of Control Equipment 'a' **WET SCRUBBER HIGH EFFICIENCY (95.0-99.9%)**
2b. Description of Control Equipment 'b' **MODIFIED FURNACE/BURNER DESIGN**

C. EMISSIONS UNIT OPERATING SCHEDULE INFORMATION

1. Average Annual Operation hours/day **23** days/week **7**	2. Total Operation During Year (hours/year) **8415**
3. Percent Hours of Operation by Season DJF : **25** MAM : **25** JJA : **25** SON : **25**	
4. Average Ozone Season Operation (June 1 to August 31) hours/day days/week	5. Total Operation During Ozone Season (days/season)

*: Pollutant subject to emissions limiting standard or emissions cap

D. EMISSIONS UNIT COMMENT

*: Pollutant subject to emissions limiting standard or emissions cap

E. EMISSIONS INFORMATION BY PROCESS/FUEL

(1) PROCESS/FUEL INFORMATION

1. SCC **1-01-002-02**	2. Description of Process or Type of Fuel **External Combustion Boilers Bituminous/Subbituminous Coal** **Electric Generation Pulverized Coal: Dry Bottom (Bit**	
3. Annual Process or Fuel Usage Rate **1546131**	4. Ozone Season Daily Process or Fuel Usage Rate	5. SCC Unit **Tons Bituminous Coal Burned**
6. Fuel Average % Sulfur **3**	7. Fuel Average % Ash **7.67**	8. Fuel Heat Content (mmBtu/SCC Unit) **24**

(2) EMISSIONS INFORMATION

1. Pollutant **CO** **Carbon Monoxide**	CAS No. **630-08-0**	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **1039.837019**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **1**
5. Emissions Calculation (Show separately both annual and daily emissions calculations) **Annual Emissions (Ton/Year) 1039.837019 = 1998-2002 Average CO Test Results, 100% Coal (lb/mmBtu) 0.1696 * 100% Coal Annual Heat Input (mmBtu/year) 12262229 * (1 / 2000)**		

1. Pollutant **H015** **Arsenic Compounds (inorganic including arsine)**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

1. Pollutant **H027** **Cadmium Compounds**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **H046** **Chromium Compounds**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **H106** **Hydrogen chloride (Hydrochloric acid)**	CAS No. **7647-01-0**	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **88.129467**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **5**

5. Emissions Calculation (Show separately both annual and daily emissions calculations)

Annual Emissions (Ton/Year) 88.129467 = HCl Emission Factor (lb/ton) 1.9 * Annual Process or Fuel Usage Rate (Tons Bituminous Coal Burned) 1546131 * (1 - (FGD HCl Removal Efficiency (%) 94 / 100)) * (1 / 2000)

HCl emission factor from Table 3-10, EPCRA Section 313 Industry Guidance, Electricity Generating Facilities, February 2000.

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 002** **SCC : 1-01-002-02**

1. Pollutant **H107** **Hydrogen fluoride (Hydrofluoric acid)**	CAS No. **7664-39-3**	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **117.351343**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **5**

5. Emissions Calculation (Show separately both annual and daily emissions calculations)

Annual Emissions (Ton/Year) 117.351343 = HF Emission Factor (lb/ton) 0.23 * Annual Process or Fuel Usage Rate (Tons Bituminous Coal Burned) 1546131 * (1 - (FGD HF Removal Efficiency (%) 34 / 100)) * (1 / 2000)

HF emission factor from Table 3-10, EPCRA Section 313 Industry Guidance, Electricity Generating Facilities, February 2000.

1. Pollutant **H150** **Polychlorinated biphenyls (Aroclors)**	CAS No. **1336-36-3**	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code

5. Emissions Calculation (Show separately both annual and daily emissions calculations)

1. Pollutant *** NOX** **Nitrogen Oxides**	CAS No. **10102-44-0**	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **9014.254284**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **1**

5. Emissions Calculation (Show separately both annual and daily emissions calculations)

Annual Emissions (Ton/Year) 9014.254284 = Total Coal Heat Input (mmBtu/yr) 37875018 * NOx CEMS Emission Factor for All Fuels (lbs/mmBtu) 0.476 * (1 / 2000)

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 002** **SCC : 1-01-002-02**

1. Pollutant **PB** **Lead - Total (elemental lead and lead compounds)**	CAS No.	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **0.324688**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **3**

5. Emissions Calculation (Show separately both annual and daily emissions calculations)
Annual Emissions (Ton/Year) 0.324688 = Emission Factor (Lbs/Tons Bituminous Coal Burned) 0.00042 * Annual Process or Fuel Usage Rate (Tons Bituminous Coal Burned) 1546131 * (1 / 2000)

1. Pollutant * **PM** **Particulate Matter - Total**	CAS No.	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **85.835603**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **1**

5. Emissions Calculation (Show separately both annual and daily emissions calculations)
Annual Emissions (Ton/Year) 85.835603 = 100% Coal Heat Input (mmBtu/yr) 12262229 * 100% Coal PM Stack Test Results (lbs/mmBtu) 0.014 * (1 / 2000)

1. Pollutant **PM10** **Particulate Matter - PM10**	CAS No.	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **85.835603**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **1**

5. Emissions Calculation (Show separately both annual and daily emissions calculations)
Annual Emissions (Ton/Year) 85.835603 = 100% Coal Heat Input (mmBtu/yr) 12262229 * 100% Coal PM Stack Test Results (lbs/MMBtu) 0.014 * (1 / 2000)

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 002** **SCC : 1-01-002-02**

1. Pollutant * **SO2** **Sulfur Dioxide**	CAS No. **7446-09-5**	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **12132.503348**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **1**

5. Emissions Calculation (Show separately both annual and daily emissions calculations)
Annual Emissions (Ton/Year) 12132.503348 = Total Coal Heat Input (mmBtu/yr) 37875018 * Emission Factor (lbs/MMBtu) 0.640659938338263 * (1 / 2000)

1. Pollutant **VOC** **Volatile Organic Compounds**	CAS No.	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **46.38393**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **3**

5. Emissions Calculation (Show separately both annual and daily emissions calculations)
Annual Emissions (Ton/Year) 46.38393 = Annual Process or Fuel Usage Rate (Tons Bituminous Coal Burned) 1546131 * Emission Factor (Lbs/Tons Bituminous Coal Burned) 0.06 * (1 / 2000)

*: Pollutant subject to emissions limiting standard or emissions cap

E. EMISSIONS INFORMATION BY PROCESS/FUEL

(1) PROCESS/FUEL INFORMATION

1. SCC **1-01-005-01**	2. Description of Process or Type of Fuel **External Combustion Boilers Electric Generation** **Distillate Oil Grades 1 and 2 Oil**	
3. Annual Process or Fuel Usage Rate **770**	4. Ozone Season Daily Process or Fuel Usage Rate	5. SCC Unit **1000 Gallons Distillate Oil (No.**
6. Fuel Average % Sulfur **0.34**	7. Fuel Average % Ash **0.1**	8. Fuel Heat Content (mmBtu/SCC Unit) **140**

(2) EMISSIONS INFORMATION

1. Pollutant **CO** **Carbon Monoxide**	CAS No. **630-08-0**	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **H015** **Arsenic Compounds (inorganic including arsine)**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

1. Pollutant **H027** **Cadmium Compounds**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **H046** **Chromium Compounds**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **H106** **Hydrogen chloride (Hydrochloric acid)**	CAS No. **7647-01-0**	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **H107** **Hydrogen fluoride (Hydrofluoric acid)**	CAS No. **7664-39-3**	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 002** **SCC : 1-01-005-01**

1. Pollutant **H150** **Polychlorinated biphenyls (Aroclors)**	CAS No. **1336-36-3**	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant * **NOX** **Nitrogen Oxides**	CAS No. **10102-44-0**	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **25.484564**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **1**
5. Emissions Calculation (Show separately both annual and daily emissions calculations) **Annual Emissions (Ton/Year) 25.484564 = NOx CEMS Emission Factor for All Fuels (lbs/MMBtu) 0.476 * (Heat Input From No. 2 Oil (MMBtu/yr) 107078) * (1 / 2000)**		

1. Pollutant **PB** **Lead - Total (elemental lead and lead compounds)**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant * **PM** **Particulate Matter - Total**	CAS No.	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **0.00385**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **3**
5. Emissions Calculation (Show separately both annual and daily emissions calculations) **Annual Emissions (Ton/Year) 0.00385 = Controlled AP-42 Emission Factor (lb/1,000 gal) 0.01 * Annual Process or Fuel Usage Rate (1000 Gallons Distillate Oil (No. 1 & 2) Burned) 770 * (1 / 2000)**		

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 002** **SCC : 1-01-005-01**

1. Pollutant **PM10** **Particulate Matter - PM10**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **3**
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant * **SO2** **Sulfur Dioxide**	CAS No. **7446-09-5**	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **34.300292**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **1**
5. Emissions Calculation (Show separately both annual and daily emissions calculations) **Annual Emissions (Ton/Year) 34.300292 = Heat Input From No. 2 Oil (MMBtu/yr) 107078 * CEMS SO2 Emission Factor for All Fuels (lbs/MMBtu) 0.640659938338263 * (1 / 2000)**		

1. Pollutant **VOC** **Volatile Organic Compounds**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **3**
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 002** **SCC : 1-01-008-01**

E. EMISSIONS INFORMATION BY PROCESS/FUEL

(1) PROCESS/FUEL INFORMATION

1. SCC **1-01-008-01**	2. Description of Process or Type of Fuel **External Combustion Boilers Coke** **Electric Generation All Boiler Sizes** **Maximun petroleum coke burned shall not exceed 180,000lbs per hou**	
3. Annual Process or Fuel Usage Rate **447431**	4. Ozone Season Daily Process or Fuel Usage Rate	5. SCC Unit **Tons Coke Burned**
6. Fuel Average % Sulfur **5.66**	7. Fuel Average % Ash **0.85**	8. Fuel Heat Content (mmBtu/SCC Unit) **28**

(2) EMISSIONS INFORMATION

1. Pollutant **CO** **Carbon Monoxide**	CAS No. **630-08-0**	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **629.328299**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **1**
5. Emissions Calculation (Show separately both annual and daily emissions calculations) **Annual Emissions (Ton/Year) 629.328299 = 1998 - 2002 Average CO Test Results for 70% Coal / 30% Petcoke Blend (lb/mmBtu) 0.033 * Heat Input for 70% Coal / 30% Petcoke Blend (mmBtu/year) 38141109 * (1 / 2000)**		

1. Pollutant **H015** **Arsenic Compounds (inorganic including arsine)**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 002** **SCC : 1-01-008-01**

1. Pollutant **H027** **Cadmium Compounds**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **H046** **Chromium Compounds**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **H106** **Hydrogen chloride (Hydrochloric acid)**	CAS No. **7647-01-0**	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **25.503567**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **5**

5. Emissions Calculation (Show separately both annual and daily emissions calculations)

Annual Emissions (Ton/Year) 25.503567 = HCl Emission Factor (lb/ton) 1.9 * Annual Process or Fuel Usage Rate (Tons Coke Burned) 447431 * (1 - (FGD HCl Removal Efficiency (%) 94 / 100)) * (1 / 2000)

HCl emission factor from Table 3-10, EPCRA Section 313 Industry Guidance, Electricity Generating Facilities, February 2000.

*: Pollutant subject to emissions limiting standard or emissions cap

1. Pollutant **H107** **Hydrogen fluoride (Hydrofluoric acid)**	CAS No. **7664-39-3**	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **33.960013**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **5**

5. Emissions Calculation (Show separately both annual and daily emissions calculations)

Annual Emissions (Ton/Year) 33.960013 = HF Emission Factor (lb/ton) 0.23 * Annual Process or Fuel Usage Rate (Tons Coke Burned) 447431 * (1 - (FGD HF Removal Efficiency (%) 34 / 100)) * (1 / 2000)

HF emission factor from Table 3-10, EPCRA Section 313 Industry Guidance, Electricity Generating Facilities, February 2000.

1. Pollutant **H150** **Polychlorinated biphenyls (Aroclors)**	CAS No. **1336-36-3**	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code

5. Emissions Calculation (Show separately both annual and daily emissions calculations)

1. Pollutant * **NOX** **Nitrogen Oxides**	CAS No. **10102-44-0**	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **2981.74016**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **1**

5. Emissions Calculation (Show separately both annual and daily emissions calculations)

Annual Emissions (Ton/Year) 2981.74016 = Heat Input From Petcoke (mmBtu/year) 12528320 * NOx CEMS Emission Factor for All Fuels (lbs/mmBtu) 0.476 * (1 / 2000)

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 002** **SCC : 1-01-008-01**

1. Pollutant **PB** **Lead - Total (elemental lead and lead compounds)**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant * **PM** **Particulate Matter - Total**	CAS No.	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **305.128872**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **1**
5. Emissions Calculation (Show separately both annual and daily emissions calculations) **Annual Emissions (Ton/Year) 305.128872 = Heat Input From 70% Coal / 30% Petcoke Blend (mmBtu/yr) 38141109 * PM Test Results for 70% Coal / 30% Petcoke Blend (lb/mmBtu) 0.016 * (1 / 2000)**		

1. Pollutant **PM10** **Particulate Matter - PM10**	CAS No.	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **305.128872**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **1**
5. Emissions Calculation (Show separately both annual and daily emissions calculations) **Annual Emissions (Ton/Year) 305.128872 = Heat Input From 70% Coal / 30% Petcoke Blend (mmBtu/yr) 38141109 * PM Test Results for 70% Coal / 30% Petcoke Blend (lb/mmBtu) 0.016 * (1 / 2000)**		

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 002** **SCC : 1-01-008-01**

1. Pollutant * SO2 **Sulfur Dioxide**	CAS No. **7446-09-5**	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **4013.196359**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **1**
5. Emissions Calculation (Show separately both annual and daily emissions calculations) **Annual Emissions (Ton/Year) 4013.196359 = Heat Input From Petcoke (mmBtu/yr) 12528320 * CEMS SO2 Emission Factor for All Fuels (lbs/mmBtu) 0.640659938338263 * (1 / 2000)**		

1. Pollutant **VOC** **Volatile Organic Compounds**	CAS No.	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **13.42293**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **3**
5. Emissions Calculation (Show separately both annual and daily emissions calculations) **Annual Emissions (Ton/Year) 13.42293 = Annual Process or Fuel Usage Rate (Tons Coke Burned) 447431 * Emission Factor (Lbs/Tons Coke Burned) 0.06 * (1 / 2000)**		

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 002** **SCC : 1-01-013-02**

E. EMISSIONS INFORMATION BY PROCESS/FUEL

(1) PROCESS/FUEL INFORMATION

1. SCC **1-01-013-02**	2. Description of Process or Type of Fuel **External Combustion Boilers Liquid Waste** **Electric Generation Waste Oil** **On-Specification:Arsenic 5ppm, Cadmium 2ppm, Chromium 10ppm**	
3. Annual Process or Fuel Usage Rate **0**	4. Ozone Season Daily Process or Fuel Usage Rate	5. SCC Unit **1000 Gallons Waste Oil Burned**
6. Fuel Average % Sulfur	7. Fuel Average % Ash	8. Fuel Heat Content (mmBtu/SCC Unit)

(2) EMISSIONS INFORMATION

1. Pollutant **CO** **Carbon Monoxide**	CAS No. **630-08-0**	[ ] Below Threshold [**X**] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **H015** **Arsenic Compounds (inorganic including arsine)**	CAS No.	[ ] Below Threshold [**X**] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 002** **SCC : 1-01-013-02**

1. Pollutant **H027** **Cadmium Compounds**	CAS No.	[ ] Below Threshold [X] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **H046** **Chromium Compounds**	CAS No.	[ ] Below Threshold [X] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **H106** **Hydrogen chloride (Hydrochloric acid)**	CAS No. **7647-01-0**	[ ] Below Threshold [X] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **H107** **Hydrogen fluoride (Hydrofluoric acid)**	CAS No. **7664-39-3**	[ ] Below Threshold [X] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 002** **SCC : 1-01-013-02**

1. Pollutant **H150** **Polychlorinated biphenyls (Aroclors)**	CAS No. **1336-36-3**	[ ] Below Threshold [X] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant * **NOX** **Nitrogen Oxides**	CAS No. **10102-44-0**	[ ] Below Threshold [X] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **PB** **Lead - Total (elemental lead and lead compounds)**	CAS No.	[ ] Below Threshold [X] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant * **PM** **Particulate Matter - Total**	CAS No.	[ ] Below Threshold [X] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 002** **SCC : 1-01-013-02**

1. Pollutant **PM10** **Particulate Matter - PM10**	CAS No.	[ ] Below Threshold [X] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant * **SO2** **Sulfur Dioxide**	CAS No. **7446-09-5**	[ ] Below Threshold [X] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **VOC** **Volatile Organic Compounds**	CAS No.	[ ] Below Threshold [X] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 003**

II. EMISSIONS UNIT REPORT

A. EMISSIONS UNIT INFORMATION

1. Emissions Unit Description **Rail Car Maintenance**		
2. Emissions Unit ID **003**	3. Emissions Unit Classification **Regulated Emissions Unit**	4. Operated During Year? **N**
5. DEP Permit or PPS Number **PPS PA7810**	6. Emissions Unit Status **ACTIVE**	7. Ozone SIP Base Year Emissions Unit?
8. Emissions Unit Startup Date	9. Long-term Reserve Shutdown Date	10. Permanent Shutdown Date

B. EMISSION POINT/CONTROL INFORMATION

1. Emissions Point Type **MULTIPLE EMISSION POINTS SERVING 1 EMISSIONS UNIT**
2a. Description of Control Equipment 'a' **PROCESS ENCLOSED**
2b. Description of Control Equipment 'b'

C. EMISSIONS UNIT OPERATING SCHEDULE INFORMATION

1. Average Annual Operation hours/day days/week	2. Total Operation During Year (hours/year)
3. Percent Hours of Operation by Season DJF : MAM : JJA : SON :	
4. Average Ozone Season Operation (June 1 to August 31) hours/day days/week	5. Total Operation During Ozone Season (days/season)

*: Pollutant subject to emissions limiting standard or emissions cap

D. EMISSIONS UNIT COMMENT

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 004**

II. EMISSIONS UNIT REPORT

A. EMISSIONS UNIT INFORMATION

1. Emissions Unit Description **Coal Storage Yard**		
2. Emissions Unit ID **004**	3. Emissions Unit Classification **Regulated Emissions Unit**	4. Operated During Year? **Y**
5. DEP Permit or PPS Number **1070025002AV** **PPS PA7810**	6. Emissions Unit Status **ACTIVE**	7. Ozone SIP Base Year Emissions Unit?
8. Emissions Unit Startup Date **01-Jan-1985**	9. Long-term Reserve Shutdown Date	10. Permanent Shutdown Date

B. EMISSION POINT/CONTROL INFORMATION

1. Emissions Point Type **NO TRUE EMISSION POINT (FUGITIVE EMISSION)**
2a. Description of Control Equipment 'a' **DUST SUPPRESSION BY WATER SPRAYS**
2b. Description of Control Equipment 'b' **PROCESS ENCLOSED**

C. EMISSIONS UNIT OPERATING SCHEDULE INFORMATION

1. Average Annual Operation hours/day **24** days/week **7**	2. Total Operation During Year (hours/year) **8760**
3. Percent Hours of Operation by Season DJF : **25** MAM : **25** JJA : **25** SON : **25**	
4. Average Ozone Season Operation (June 1 to August 31) hours/day days/week	5. Total Operation During Ozone Season (days/season)

*: Pollutant subject to emissions limiting standard or emissions cap

D. EMISSIONS UNIT COMMENT

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 004** **SCC : 3-05-101-03**

E. EMISSIONS INFORMATION BY PROCESS/FUEL

(1) PROCESS/FUEL INFORMATION

1. SCC **3-05-101-03**	2. Description of Process or Type of Fuel **Industrial Processes Bulk Materials Conveyors** **Mineral Products Coal** **Maximum hourly rate based on conveyor belt capacity.**	
3. Annual Process or Fuel Usage Rate **3812124**	4. Ozone Season Daily Process or Fuel Usage Rate	5. SCC Unit **Tons Material Processed**
6. Fuel Average % Sulfur	7. Fuel Average % Ash	8. Fuel Heat Content (mmBtu/SCC Unit)

(2) EMISSIONS INFORMATION

1. Pollutant **PM** **Particulate Matter - Total**	CAS No.	[**X**] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **PM10** **Particulate Matter - PM10**	CAS No.	[**X**] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 004** **SCC : 3-05-103-03**

E. EMISSIONS INFORMATION BY PROCESS/FUEL

(1) PROCESS/FUEL INFORMATION

1. SCC **3-05-103-03**	2. Description of Process or Type of Fuel **Industrial Processes Bulk Materials Open Stockpiles** **Mineral Products Coal**	
3. Annual Process or Fuel Usage Rate **3812124**	4. Ozone Season Daily Process or Fuel Usage Rate	5. SCC Unit **Tons Material Processed**
6. Fuel Average % Sulfur	7. Fuel Average % Ash	8. Fuel Heat Content (mmBtu/SCC Unit)

(2) EMISSIONS INFORMATION

1. Pollutant **PM** **Particulate Matter - Total**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **3**
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **PM10** **Particulate Matter - PM10**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **3**
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 005**

II. EMISSIONS UNIT REPORT

A. EMISSIONS UNIT INFORMATION

1. Emissions Unit Description **Limestone and FGD Sludge Handling and Storage**		
2. Emissions Unit ID **005**	3. Emissions Unit Classification **Regulated Emissions Unit**	4. Operated During Year? **Y**
5. DEP Permit or PPS Number **1070025002AV**	6. Emissions Unit Status **ACTIVE**	7. Ozone SIP Base Year Emissions Unit?
8. Emissions Unit Startup Date	9. Long-term Reserve Shutdown Date	10. Permanent Shutdown Date

B. EMISSION POINT/CONTROL INFORMATION

1. Emissions Point Type **SINGLE POINT SERVING A SINGLE EMISSIONS UNIT**
2a. Description of Control Equipment 'a' **MAT OR PANEL FILTER**
2b. Description of Control Equipment 'b' **PROCESS ENCLOSED**

C. EMISSIONS UNIT OPERATING SCHEDULE INFORMATION

1. Average Annual Operation hours/day **8** days/week **5**	2. Total Operation During Year (hours/year) **2080**
3. Percent Hours of Operation by Season DJF : **25** MAM : **25** JJA : **25** SON : **25**	
4. Average Ozone Season Operation (June 1 to August 31) hours/day days/week	5. Total Operation During Ozone Season (days/season)

*: Pollutant subject to emissions limiting standard or emissions cap

D. EMISSIONS UNIT COMMENT

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 005** **SCC : 3-05-101-05**

E. EMISSIONS INFORMATION BY PROCESS/FUEL

(1) PROCESS/FUEL INFORMATION

1. SCC **3-05-101-05**	2. Description of Process or Type of Fuel **Industrial Processes Bulk Materials Conveyors** **Mineral Products Limestone** **Limestone conveyor.**	
3. Annual Process or Fuel Usage Rate **447831**	4. Ozone Season Daily Process or Fuel Usage Rate	5. SCC Unit **Tons Material Processed**
6. Fuel Average % Sulfur	7. Fuel Average % Ash	8. Fuel Heat Content (mmBtu/SCC Unit)

(2) EMISSIONS INFORMATION

1. Pollutant **PM** **Particulate Matter - Total**	CAS No.	[**X**] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **PM10** **Particulate Matter - PM10**	CAS No.	[**X**] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

E. EMISSIONS INFORMATION BY PROCESS/FUEL

(1) PROCESS/FUEL INFORMATION

1. SCC **3-05-104-05**	2. Description of Process or Type of Fuel **Industrial Processes Bulk Materials Unloading Operat** **Mineral Products Limestone** **Limestone unloading.**	
3. Annual Process or Fuel Usage Rate **447831**	4. Ozone Season Daily Process or Fuel Usage Rate	5. SCC Unit **Tons Material Processed**
6. Fuel Average % Sulfur	7. Fuel Average % Ash	8. Fuel Heat Content (mmBtu/SCC Unit)

(2) EMISSIONS INFORMATION

1. Pollutant **PM** **Particulate Matter - Total**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **PM10** **Particulate Matter - PM10**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

E. EMISSIONS INFORMATION BY PROCESS/FUEL

(1) PROCESS/FUEL INFORMATION

1. SCC **3-05-104-99**	2. Description of Process or Type of Fuel **Industrial Processes Bulk Materials Unloading Operat** **Mineral Products Other Not Classified** **FGD sludge and materials used to stabilize FGD sludge.**	
3. Annual Process or Fuel Usage Rate **632996**	4. Ozone Season Daily Process or Fuel Usage Rate	5. SCC Unit **Tons Material Processed**
6. Fuel Average % Sulfur	7. Fuel Average % Ash	8. Fuel Heat Content (mmBtu/SCC Unit)

(2) EMISSIONS INFORMATION

1. Pollutant **PM** **Particulate Matter - Total**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **PM10** **Particulate Matter - PM10**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

II. EMISSIONS UNIT REPORT

A. EMISSIONS UNIT INFORMATION

1. Emissions Unit Description **One or More Emergency Generators**		
2. Emissions Unit ID **006**	3. Emissions Unit Classification **Unregulated Emissions Unit**	4. Operated During Year? **Y**
5. DEP Permit or PPS Number **1070025002AV**	6. Emissions Unit Status **ACTIVE**	7. Ozone SIP Base Year Emissions Unit?
8. Emissions Unit Startup Date	9. Long-term Reserve Shutdown Date	10. Permanent Shutdown Date

B. EMISSION POINT/CONTROL INFORMATION

1. Emissions Point Type **SINGLE POINT SERVING A SINGLE EMISSIONS UNIT**
2a. Description of Control Equipment 'a' **NO CONTROL EQUIPMENT**
2b. Description of Control Equipment 'b'

C. EMISSIONS UNIT OPERATING SCHEDULE INFORMATION

1. Average Annual Operation hours/day **1** days/week **1**	2. Total Operation During Year (hours/year) **52**
3. Percent Hours of Operation by Season DJF : **25** MAM : **25** JJA : **25** SON : **25**	
4. Average Ozone Season Operation (June 1 to August 31) hours/day days/week	5. Total Operation During Ozone Season (days/season)

*: Pollutant subject to emissions limiting standard or emissions cap

D. EMISSIONS UNIT COMMENT

Emergency generator engine is operated only for testing purposes.

*: Pollutant subject to emissions limiting standard or emissions cap

E. EMISSIONS INFORMATION BY PROCESS/FUEL

(1) PROCESS/FUEL INFORMATION

1. SCC **2-02-001-02**	2. Description of Process or Type of Fuel **Internal Combustion Engines Distillate Oil (Diesel)** **Industrial Reciprocating**	
3. Annual Process or Fuel Usage Rate **3.5**	4. Ozone Season Daily Process or Fuel Usage Rate	5. SCC Unit **1000 Gallons Distillate Oil (Die**
6. Fuel Average % Sulfur **0.34**	7. Fuel Average % Ash **0.1**	8. Fuel Heat Content (mmBtu/SCC Unit) **140**

(2) EMISSIONS INFORMATION

1. Pollutant **CO** **Carbon Monoxide**	CAS No. **630-08-0**	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **NOX** **Nitrogen Oxides**	CAS No. **10102-44-0**	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 006** **SCC : 2-02-001-02**

1. Pollutant **PM** **Particulate Matter - Total**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **PM10** **Particulate Matter - PM10**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **SO2** **Sulfur Dioxide**	CAS No. **7446-09-5**	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **VOC** **Volatile Organic Compounds**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

II. EMISSIONS UNIT REPORT

A. EMISSIONS UNIT INFORMATION

1. Emissions Unit Description **One or More Heating Units and General Purpose Engines**		
2. Emissions Unit ID **007**	3. Emissions Unit Classification **Unregulated Emissions Unit**	4. Operated During Year? **Y**
5. DEP Permit or PPS Number **1070025002AV**	6. Emissions Unit Status **ACTIVE**	7. Ozone SIP Base Year Emissions Unit?
8. Emissions Unit Startup Date	9. Long-term Reserve Shutdown Date	10. Permanent Shutdown Date

B. EMISSION POINT/CONTROL INFORMATION

1. Emissions Point Type **SINGLE POINT SERVING A SINGLE EMISSIONS UNIT**
2a. Description of Control Equipment 'a' **NO CONTROL EQUIPMENT**
2b. Description of Control Equipment 'b'

C. EMISSIONS UNIT OPERATING SCHEDULE INFORMATION

1. Average Annual Operation hours/day **1** days/week **1**	2. Total Operation During Year (hours/year) **52**
3. Percent Hours of Operation by Season DJF : **25** MAM : **25** JJA : **25** SON : **25**	
4. Average Ozone Season Operation (June 1 to August 31) hours/day days/week	5. Total Operation During Ozone Season (days/season)

*: Pollutant subject to emissions limiting standard or emissions cap

D. EMISSIONS UNIT COMMENT

Fire water pump engine only operates for testing purposes.

*: Pollutant subject to emissions limiting standard or emissions cap

E. EMISSIONS INFORMATION BY PROCESS/FUEL

(1) PROCESS/FUEL INFORMATION

1. SCC **2-02-001-02**	2. Description of Process or Type of Fuel **Internal Combustion Engines Distillate Oil (Diesel)** **Industrial Reciprocating**	
3. Annual Process or Fuel Usage Rate **0.17**	4. Ozone Season Daily Process or Fuel Usage Rate	5. SCC Unit **1000 Gallons Distillate Oil (Die**
6. Fuel Average % Sulfur	7. Fuel Average % Ash	8. Fuel Heat Content (mmBtu/SCC Unit)

(2) EMISSIONS INFORMATION

1. Pollutant **CO** **Carbon Monoxide**	CAS No. **630-08-0**	[**X**] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **NOX** **Nitrogen Oxides**	CAS No. **10102-44-0**	[**X**] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 007** **SCC : 2-02-001-02**

1. Pollutant **PM** **Particulate Matter - Total**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **PM10** **Particulate Matter - PM10**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **SO2** **Sulfur Dioxide**	CAS No. **7446-09-5**	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **VOC** **Volatile Organic Compounds**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

II. EMISSIONS UNIT REPORT

A. EMISSIONS UNIT INFORMATION

1. Emissions Unit Description **General Plant Fugitives Emissions**		
2. Emissions Unit ID **008**	3. Emissions Unit Classification **Unregulated Emissions Unit**	4. Operated During Year? **Y**
5. DEP Permit or PPS Number **1070025002AV**	6. Emissions Unit Status **ACTIVE**	7. Ozone SIP Base Year Emissions Unit?
8. Emissions Unit Startup Date	9. Long-term Reserve Shutdown Date	10. Permanent Shutdown Date

B. EMISSION POINT/CONTROL INFORMATION

1. Emissions Point Type **NO TRUE EMISSION POINT (FUGITIVE EMISSION)**
2a. Description of Control Equipment 'a' **NO CONTROL EQUIPMENT**
2b. Description of Control Equipment 'b'

C. EMISSIONS UNIT OPERATING SCHEDULE INFORMATION

1. Average Annual Operation hours/day **8** days/week **5**	2. Total Operation During Year (hours/year) **2080**
3. Percent Hours of Operation by Season DJF : **25** MAM : **25** JJA : **25** SON : **25**	
4. Average Ozone Season Operation (June 1 to August 31) hours/day days/week	5. Total Operation During Ozone Season (days/season)

*: Pollutant subject to emissions limiting standard or emissions cap

D. EMISSIONS UNIT COMMENT

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 008** **SCC : 3-05-320-09**

E. EMISSIONS INFORMATION BY PROCESS/FUEL

(1) PROCESS/FUEL INFORMATION

1. SCC **3-05-320-09**	2. Description of Process or Type of Fuel **Industrial Processes Stone Quarrying - Processing (See Mineral Products Blasting: General Abrasive blasting and abrasive blast material bin.**	
3. Annual Process or Fuel Usage Rate **0.09**	4. Ozone Season Daily Process or Fuel Usage Rate	5. SCC Unit **1000 Tons Raw Material Proces**
6. Fuel Average % Sulfur	7. Fuel Average % Ash	8. Fuel Heat Content (mmBtu/SCC Unit)

(2) EMISSIONS INFORMATION

1. Pollutant **PM** **Particulate Matter - Total**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **PM10** **Particulate Matter - PM10**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 008** **SCC : 3-05-320-09**

1. Pollutant **VOC** **Volatile Organic Compounds**	CAS No.	[ ] Below Threshold [X] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

E. EMISSIONS INFORMATION BY PROCESS/FUEL

(1) PROCESS/FUEL INFORMATION

1. SCC **4-02-001-10**	2. Description of Process or Type of Fuel **Petroleum and Solvent Evaporati Surface Coating Application - Ge Surface Coating Operations Paint: Solvent-base**	
3. Annual Process or Fuel Usage Rate **2036**	4. Ozone Season Daily Process or Fuel Usage Rate	5. SCC Unit **Gallons Coating Processed**
6. Fuel Average % Sulfur	7. Fuel Average % Ash	8. Fuel Heat Content (mmBtu/SCC Unit)

(2) EMISSIONS INFORMATION

1. Pollutant **PM** **Particulate Matter - Total**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **PM10** **Particulate Matter - PM10**	CAS No.	[X] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 008** **SCC : 4-02-001-10**

1. Pollutant **VOC** **Volatile Organic Compounds**	CAS No.	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **4.731664**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **2**

5. Emissions Calculation (Show separately both annual and daily emissions calculations)

Annual Emissions (Ton/Year) 4.731664 = Average coating density (lb/gal) 8.3 * (Average coating VOC content (weight %) 56 / 100) * Annual Process or Fuel Usage Rate (Gallons Coating Processed) 2036 * (1 / 2000)

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 008** **SCC : 4-02-999-95**

E. EMISSIONS INFORMATION BY PROCESS/FUEL

(1) PROCESS/FUEL INFORMATION

1. SCC **4-02-999-95**	2. Description of Process or Type of Fuel **Petroleum and Solvent Evaporati Miscellaneous** **Surface Coating Operations Specify in Comments Field** **Painting operations.**	
3. Annual Process or Fuel Usage Rate **4.7**	4. Ozone Season Daily Process or Fuel Usage Rate	5. SCC Unit **Tons Solvent in Coating Used**
6. Fuel Average % Sulfur	7. Fuel Average % Ash	8. Fuel Heat Content (mmBtu/SCC Unit)

(2) EMISSIONS INFORMATION

1. Pollutant **PM** **Particulate Matter - Total**	CAS No.	[**X**] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant **PM10** **Particulate Matter - PM10**	CAS No.	[**X**] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 1070025 **Emissions Unit ID : 008** **SCC : 4-02-999-95**

1. Pollutant **VOC** **Volatile Organic Compounds**	CAS No.	[ ] Below Threshold [ ] Not Emitted
2. Annual Emissions (ton/year) **0**	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code **2**
5. Emissions Calculation (Show separately both annual and daily emissions calculations) **Annual Emissions (Ton/Year) 0.0** **VOC emissions included in SCC 4-02-001-10.**		

*: Pollutant subject to emissions limiting standard or emissions cap