FLORIDA

Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

November 1, 1999

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. R. Douglas Neeley, Chief
Air, Radiation Technology Branch
US EPA Region IV
61 Forsyth Street
Atlanta, GA 30303

Re: PSD Review and Custom Fuel Monitoring Schedule
Gulf Power Lansing Smith Unit 3
PSD-FL-269

Dear Mr. Neeley:

Enclosed is a copy of the draft permit to construct (the Department's Intent to Issue package was already mailed to Mr. Greg Worley) the Gulf Power Smith Unit 3 in Bay County. It will be a natural gas fired combined cycle unit consisting of two nominal 170-megawatt (MW) combustion turbines, two duct-fired HRSGs and nominal 200 MW steam turbine.

The project is subject to the Florida's Power Plant Siting procedure.

Please send your written comments on or approval of the applicant's proposed custom fuel monitoring schedule. The plan is based on the letter dated January 16, 1996 from Region V to Dayton Power and Light. The Subpart GG limit on SO_2 emissions is 150 ppmvd @ 15% O_2 or a fuel sulfur limit of 0.8% sulfur. Neither of these limits could conceivably be violated by the exclusive use of pipeline quality natural gas, which has a maximum SO_2 emission rate of 0.0006 lb/MMBtu (40 CFR 75 Appendix D Section 2.3.1.4). The sulfur content of pipeline quality natural gas in Florida has been estimated at a maximum of 0.003 % sulfur. The requirements have been incorporated into the enclosed draft permit as Specific Condition 44 and reads as follows:

44. Natural Gas Monitoring Schedule: A custom fuel monitoring schedule pursuant to 40 CFR 75 Appendix D for natural gas may be used in lieu of the daily sampling requirements of 40 CFR 60.334 (b)(2) provided the following requirements are met:

- The permittee shall apply for an Acid Rain permit within the deadlines specified in 40 CFR 72.30.
- The permittee shall submit a monitoring plan, certified by signature of the Designated Representative, that commits to using a primary fuel of pipeline supplied natural gas (sulfur content less than 20 gr/100 scf pursuant to 40 CFR 75.11(d)(2)).

- Each unit shall be monitored for SO_2 emissions using methods consistent with the requirements of 40 CFR 75 and certified by the USEPA.
- This custom fuel monitoring schedule will only be valid when pipeline natural gas is used as a primary fuel. If the primary fuel for these units is changed to a higher sulfur fuel, SO_2 emissions must be accounted for as required pursuant to 40 CFR 75.11(d).
- Gulf shall notify DEP of any change in natural gas supply for reexamination of this monitoring schedule. A substantial change in natural gas quality (i.e., sulfur content variation of greater than 1 grain per 100 cubic foot of natural gas) shall be considered as a change in the natural gas supply. Sulfur content of the natural gas will be monitored weekly by the natural gas supplier during the interim period when this monitoring schedule is being reexamined.

Please comment on Specific Conditions 30 and 41, which allow the use of the acid rain NO_X CEMS for demonstrating compliance as well as reporting excess emissions. Typically NO_X emissions will be less than 11 ppmvd @15% O_2 (natural gas) which is less than one-tenth of the applicable Subpart GG limit based on the efficiency of the unit. A CEMS requirement is stricter and more accurate than any Subpart GG requirement for determining excess emissions.

The Department recommends your approval of the custom fuel monitoring schedule and these NO_X monitoring provisions. We also request your comments on the Intent to Issue. If you have any questions on these matters please contact Michael P. Halpin, P.E. at 850/921-9530.

Sincerely,

A. A. Linero, P.E., Administrator
New Source Review Section

AAL/mph

Enclosures

Z 031 391 997

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Mr. Doug Neeley, Section Chief
Air, Radiation Technology Branch
Preconstruction/HAP Section
U.S. EPA - Region IV
61 Forsyth Street
Atlanta, GA 30303

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ECT

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October 15, 1999

ECT No. 990151-0700-1100

Mr. Michael P. Halpin, P.E.
Professional Engineer
Florida Department of Environmental Protection
Division of Air Resources Management
2600 Blair Stone Road, MS #5505
Tallahassee, FL 32399-2400

Re: Gulf Power – Smith Unit 3
PP 99-40/PSD-FL-269
Responses to Sufficiency Questions

Dear Mr. Halpin:

Responses to your sufficiency questions dated September 23, 1999 are attached. These responses were previously sent to you by e-mail on October 6, 1999 and by fax on October 15, 1999.

Please contact Dwain Waters at (850) 444-6527 or the undersigned at (352) 332-6230, Ext.351 if there are any questions regarding the attached material.

Sincerely,

ENVIRONMENTAL CONSULTING & TECHNOLOGY, INC.

Thomas W. Davis

Thomas W. Davis, P.E.
Principal Engineer

Attachment

cc: Mr. Dwain Waters, Gulf Power

cc: File
EPA
NPS
NWD
B. Oven
C. Holladay

3701 Northwest 98TH Street
Gainesville, FL 32606
(352) 332-0444
FAX (352) 332-6722

Gulf Power Response to PP 99-40/PSD-FL-269
Additional Sufficiency Review Questions Outlined in
Memo From Mike Halpin to Buck Oven Dated 09/23/99

October 6, 1999

1.	*The Department requests that a NO_X emission limit be proposed for Unit 1 which provides reasonable assurance that the Unit 1 low NO_X burners are performing as designed. Additionally, the Department is interested in the applicant's proposal for an "acceptance test" or similar method which demonstrates that not only is the lower NO_X emission being achieved, but that other regulated pollutants have not increased.*

Response

Gulf Power has requested a multiunit annual nitrogen oxides (NO_x) emissions limit for all three units at Plant Smith to ensure the installation of a new Unit 3 at Plant Smith results in no increased annual NO_x emission levels. While Gulf Power suggested in the air permit application that the multiunit limit would be achievable due to the installation of low-NO_x burners at Unit 1 along with an improved burner management system, Gulf Power is not seeking as part of this application a short-term NO_x limit on Unit 1 nor approval of low-NO_x burner installation on Unit 1. Compliance with the multiunit annual NO_x limit, which now includes Units 1, 2, and 3 at Plant Smith, is proposed to be demonstrated using continuous emissions monitoring systems (CEMSs) on each of the three units with documented heat input, and totaling the annual emissions from each unit.

Short-term limits on Unit 1 are not necessary to provide reasonable assurance that the multiunit annual NO_x limit can be achieved. A number of options are available to Gulf Power to meet the multiunit limit in addition to or in lieu of a lower short-term emission rate on Unit 1, including reduced utilization of any or all of the three units, thus the recent agreement to bring Smith Unit 2 into the offset. While lower short-term levels of NO_x emissions on Unit 1 would allow Gulf Power to maintain Unit 1's recent utilization rates, other options for meeting the annual limit are also available and acceptable. Because the multiunit limit could be met by simply reducing operating rates or hours of operation without the use of low-NO_x burners on Unit 1, a short-term NO_x limit on Unit 1 is inappropriate and unnecessary.

The multiunit annual limit is sufficient to ensure emissions will not be increased and, through the use of the CEMS and documented heat input, is practicably enforceable. Federal guidance indicates that a facility's potential to emit can be limited through an emissions limit (as opposed to a limit on hours of operation or material usage) if continuous monitoring of some type is used. Generally, U.S. Environmental Protection Agency (EPA) guidance provides that limits are practicably enforceable when the recordkeeping, reporting, and monitoring requirements are sufficient to demonstrate compliance with a limit. EPA has found that the use of a CEMS is sufficient to make this demonstration and provides for practicable enforceability (memorandum from Director, Stationary Source Compliance Division, EPA's Office of Air Quality Planning and Standards, to Director, Air and Radiation Division, Region V, dated March 13, 1992; memorandum from Director, EPA's Stationary Source Compliance Division, to Director, Air and Radiation Division, dated July 14, 1992).

EPA's acceptance of multiunit limits for netting under New Source Review was noted in these two EPA guidance memoranda and has most recently been expressed as part of the New Source Review Reform rulemaking. The Clean Air Act allows sources to net on a plantwide basis and last year proposed to allow facilities to establish multi-unit annual limits for determining New Source Review applicability in the future. While Gulf Power is not suggesting a multiunit limit to avoid New Source Review in the future, Gulf Power has proposed a multiunit limit to ensure there will be no increase in emissions due to the addition of Unit 3. The Department has recently accepted multiunit or facilitywide annual emission limits in at least three permits to ensure no increase in actual emissions, indicating such limits can be practicably enforceable (without corresponding short-term limits) (City of Tallahassee, Purdom Unit 8, PSD-FL-239 [May 29, 1998]; JEA Northside Units 1 and 2, PSD-FL-265 [July 14, 1999]; and Florida Power & Light Sanford Plant, PSD-FL-270 [September 14, 1999]).

For these reasons and based on recent Florida Department of Environmental Protection (FDEP) precedent within the State, Gulf Power does not believe it would be necessary to establish a short-term NO_x limit for Unit 1. Moreover, as indicated in our letter to the Department dated September 7, 1999, installation of the low-NO_x burner system on Unit 1 should be considered a pollution control project and exempt from new source review under Rule 62-212.400(2)(a)2, F.A.C As stated in the application and again in our September 7, 1999, letter, NO_x emissions are expected to be reduced, and collateral emissions are not expected to increase as a result of the installation of the low-NO_x burner system. The low-NO_x burner project, therefore, is exempt from permitting and need not be addressed in the permit for Unit 3.

2. *The BACT analysis provided, indicated a cost effectiveness of oxidation catalyst for CO emissions at $1567 per ton of CO removed. Although the Department has no "bright line" figure for cost effectiveness, this value is not outside of what may be considered a reasonable control cost. Other recent permitting actions for these GE CT's have resulted in lower CO limits with (typically) annual compliance demonstrations. Additionally, data provided to the Department by FPL indicates that CO emissions can routinely be achieved at less than 6 ppm during full load (steady state) conditions. Please reconsider the proposed limits for each mode of operation and whether there are any extenuating circumstances, which the Department should be made aware of.*

Response

The best available control technology (BACT) analysis for carbon monoxide (CO) was based on base case emissions of 701.3 tons per year (tpy). This annual rate assumes combustion turbine (CT) operation for 7,760 hours at 100-percent load, 65 degrees Fahrenheit (°F) ambient temperature with duct burner firing (Case 6) and 1,000 hours per year at 100-percent load, 95°F ambient temperature with steam augmentation and duct burner firing (Case 11).

The CO exhaust concentration for the CT at 100-percent load, 65°F ambient temperature *without* duct burner firing and steam augmentation (Case 5) is 15 parts per million dry volume (ppmvd) (12 ppmvd corrected to 15-percent oxygen [O_2]). These concentrations are consistent with recent FDEP CT BACT determinations for CO (e.g., City of Tallahassee Purdom Unit No. 8 [BACT CO concentration of 25 ppmvd], Lakeland Electric and Water Utilities Unit No. 5 [BACT CO concentration of 25 ppmvd], and Florida Power & Light Fort Myers [BACT CO concentration of 12 ppmvd at 15-percent O_2]).

The cost effectiveness for a CO oxidation catalyst system based on 8,760 hours per operation under Case 5 operating conditions is calculated to be $2,376 per ton of CO oxidized. This level of CO control cost effectiveness is considered to be economically unreasonable. Accordingly, the Department's concern with the CO BACT, cost effectiveness is essentially due to the limited Case 11 CT operations with steam augmentation and duct burner firing (i.e., no more than 1,000 hours per year). The difference in annual CO emissions for both CTs between Case 5 at 8,760 hours per year (462.5 tpy) and Case 5 and Case 11 at 7,760 and 1,000 hours per year, respectively, (526.3 tpy) is 63.8 tpy. At an annualized cost of $879,012 for two CO oxidation catalyst systems, the incremental cost effectiveness between Cases 5 and 11 is calculated to be $13,778 per ton. This result demonstrates that the installation of a CO oxidation catalyst system to control emissions during the limited (i.e., 1,000 hours per year) of duct burner firing and steam augmentation (Case 11) will not be cost effective.

In addition, as noted in Section 5.4.2 of the Prevention of Significant Deterioration (PSD) permit application, installation of a CO oxidation catalyst for Smith Unit 3 will provide no air quality benefits. The CO catalyst does not remove or destroy CO but rather simply accelerates the natural atmospheric oxidation of CO to carbon dioxide (CO_2). Dispersion modeling of CO emissions, under worst-case operating conditions, indicates maximum CO air quality impacts, without the use of an oxidation catalyst system, will be insignificant. Ambient CO levels are well within established air quality standards. Because maximum CO air quality impacts without an oxidation catalyst control system are already insignificant, requiring expensive controls to further reduce CO emissions seems to serve no environmental purpose.

3. *Please show by EPA and FDEP approved modeling techniques, that there are no predicted significant impacts due to SO2 and CO emissions from the project at on-property receptors for which public access cannot be precluded (i.e., areas which are state-owned waters). If significant impacts are predicted, then Gulf Power should perform any applicable multi-source AAQS or PSD increment analyses.*

Response

Additional dispersion modeling of project sulfur dioxide (SO_2) and CO emissions, using the same EPA- and FDEP-approved modeling procedures that were employed in the original June 1999 Ambient Impact Analysis, was conducted with an additional set of on-property receptors (i.e., areas that include State-owned waters). Model results for maximum annual, 3-, and 24-hour SO_2 impacts are shown on Tables 1 through 3, respectively. Model results for maximum 1- and 8-hour CO impacts are shown on Tables 4 and 5, respectively.

The model results, including impacts for the additional on-property receptors, are comparable to those shown in the original June 1999 Ambient Impact Analysis and demonstrate that all SO_2 and CO impacts are well below applicable PSD significant impact levels.

4.	*For PM10, please expand the previously submitted AAQS and PSD analyses to include the on-property receptors identified above, to show that there are no predicted AAQS or PSD increment violations at their receptors.*

Response

Additional dispersion modeling of project particulate matter nominally 10 microns or less (PM_{10}) emissions, together with other PM_{10} sources located within 54 kilometers (km) of the project site, was conducted using the same EPA- and FDEP-approved modeling procedures that were employed in the original June 1999 Ambient Impact Analysis, with an additional set of on-property receptors (i.e., areas that include State-owned waters).

Model results, including impacts for the additional on-property receptors, for maximum annual and 24-hour PM_{10} National Ambient Air Quality Standard (NAAQS) impacts are shown on Tables 6 and 7, respectively. These tables demonstrate that Smith Unit 3 emission source impacts, together with all other off-property PM_{10} emission sources and including background, are well below the annual and 24-hour average PM_{10} NAAQS.

Model results, including impacts for the additional on-property receptors, for maximum annual and 24-hour PM_{10} PSD Class II increment impacts are shown on Tables 8 and 9, respectively. These tables demonstrate that Smith Unit 3 emission source impacts, together with all other off-property PSD PM_{10} increment consuming emission sources, are well below the annual and 24-hour average PM_{10} PSD Class II increments.

5.	*Additional Sufficiency Question pursuant to conversation with Mike Halpin on 10/05/99 by Dwain Waters.*

Response

The new combined cycle unit (Unit 3) going into operation at Plant Smith will require a natural gas fired heater for preheating of the fuel prior to reducing the pressure from line pressure down to plant pressure. This heater will be a source of emissions. Originally it was thought the gas pipeline company would be responsible for maintaining the temperature of the gas upstream of the possession point. However, we now know this heating will be accomplished by equipment that will be located on the Plant Smith site and possibly operated by plant personnel. Given the question of ownership and the perception of the source being small it was not accounted for in the original air permit application for Plant Smith Unit 3. The heater qualifies as an insignificant activity under Title V regulations and is exempt under Section 210.300(3)(a) 21, Florida Administrative Code (F.A.C.). However, preliminary discussions with FDEP indicate the Department requests emissions from the pipeline heater be included in the ambient air modeling analysis for the project. The design capacity for the Plant Smith Unit 3 pipeline heater is 6 million British thermal units per hour (MMBtu/hr). The estimated potential emissions for the pipeline heater is less than 3 NO_x, 0.5 CO ,and 0.2 volatile organic compound (VOC) tpy. A revised ambient air modeling analysis will be performed, and any significant changes in the analysis will be presented to the Department. However, because the emissions from the pipeline heater are small, no impact is expected on ambient air quality analysis previously submitted.

Table 1. ISCST3 Model Results - Maximum Annual Average SO_2 Impacts, Additional On-Property Receptors

Maximum Annual Impacts	1986	1987	1988	1989	**1990**
Unadjusted ISCST3 Impact ($\mu g/m^3$)[1]	0.37	0.38	0.41	0.37	**0.58**
Emission Rate Scaling Factor[2]	0.1566	0.1566	0.1566	0.1566	**0.1566**
Adjusted ISCST3 Impact ($\mu g/m^3$)[3]	0.06	0.06	0.06	0.09	**0.00**
PSD Significant Impact ($\mu g/m^3$)	1.0	1.0	1.0	1.0	**1.0**
Exceed PSD Significant Impact (Y/N)	N	N	N	N	**N**
Percent of PSD Significant Impact (%)	5.9	6.3	5.9	9.1	**0.0**
Receptor UTM Easting (m)	625,548.4	625,635.3	622,920.9	623,420.5	**622,920.9**
Receptor UTM Northing (m)	3,346,084.8	3,345,592.5	3,350,807.0	3,350,954.3	**3,350,807.0**
Distance From Unit 12 Stack (m)	3,000	3,500	2,750	2,500	**2,750**
Direction From Unit 12 Stack (Vector °)	170	170	310	320	**310**

[1] Based on modeled emission rate of 10.0 g/s per CT/HRSG unit.

Table 2. ISCST3 Model Results - Maximum 3-Hour Average SO_2 Impacts, Additional On-Property Receptors

Maximum 3-Hour Impacts	**1986**	1987	1988	1989	1990
Unadjusted ISCST3 Impact ($\mu g/m^3$)[1]	**55.17**	46.45	16.76	16.58	27.92
Emission Rate Scaling Factor[2]	**0.1566**	0.1566	0.1566	0.1566	0.1566
Adjusted ISCST3 Impact ($\mu g/m^3$)[3]	**8.64**	7.27	2.62	2.60	4.37
PSD Significant Impact ($\mu g/m^3$)	**25.0**	25.0	25.0	25.0	25.0
Exceed PSD Significant Impact (Y/N)	**N**	N	N	N	N
Percent of PSD Significant Impact (%)	**34.6**	29.1	10.5	10.4	17.5
Receptor UTM Easting (m)	**625,027.5**	624,566.5	623,304.1	624,636.8	624,478.6
Receptor UTM Northing (m)	**3,350,136.3**	3,349,837.8	3,349,343.3	3,351,255.0	3,349,693.5
Distance From Unit 12 Stack (m)	**1,097**	922	1,750	2,250	854
Direction From Unit 12 Stack (Vector °)	**0**	330	280	350	320
Date of Maximum Impact	**3/13/86**	3/24/87	8/13/88	3/29/89	2/5/90
Julian Date of Maximum Impact	**72**	83	226	88	36
Ending Hour of Maximum Impact	**0300**	0300	1200	1200	2400

[1] Based on modeled emission rate of 10.0 g/s per CT/HRSG unit.

[2] Ratio of maximum emission rate (g/s) per CT/HRSG unit to modeled 10.0 g/s emission rate.

[3] Unadjusted ISCST3 impact times emission rate factor.

Source: ECT, 1999.

Table 3. ISCST3 Model Results - Maximum 24-Hour Average SO_2 Impacts, Additional On-Property Receptors

Maximum 24-Hour Impacts	1986	**1987**	1988	1989	1990
Unadjusted ISCST3 Impact ($\mu g/m^3$)[1]	8.99	**10.78**	4.08	4.38	6.45
Emission Rate Scaling Factor[2]	0.1566	**0.1566**	0.1566	0.1566	0.1566
Adjusted ISCST3 Impact ($\mu g/m^3$)[3]	1.41	**1.69**	0.64	0.69	1.01
PSD Significant Impact ($\mu g/m^3$)	5.0	**5.0**	5.0	5.0	5.0
Exceed PSD Significant Impact (Y/N)	N	**N**	N	N	N
Percent of PSD Significant Impact (%)	28.2	**33.8**	12.8	13.7	20.2
PSD *de minimis* Ambient Impact Threshold ($\mu g/m^3$)	13.0	**13.0**	13.0	13.0	13.0
Exceed PSD *de minimis* Ambient Impact (Y/N)	N	**N**	N	N	N
Percent of PSD *de minimis* Ambient Impact (%)	10.8	**13.0**	4.9	5.3	7.8
Receptor UTM Easting (m)	625,661.0	**624,566.5**	623,652.5	623,148.1	623,112.4
Receptor UTM Northing (m)	3,350,136.5	**3,349,837.8**	3,351,420.8	3,349,723.3	3,350,646.3
Distance From Unit 12 Stack (m)	3,408,059	**3,407,565**	3,408,953	3,407,192	3,408,093
Direction From Unit 12 Stack (Vector °)	11	**11**	11	11	11
Date of Maximum Impact	2/26/86	**3/17/87**	5/8/88	5/18/89	5/26/90
Julian Date of Maximum Impact	57	**76**	129	138	146

[1] Based on modeled emission rate of 10.0 g/s per CT/HRSG unit.
[2] Ratio of maximum emission rate (g/s) per CT/HRSG unit to modeled 10.0 g/s emission rate.
[3] Unadjusted ISCST3 impact times emission rate factor.

Source: ECT, 1999.

Table 4. ISCST3 Model Results - Maximum 1-Hour Average CO Impacts, Additional On-Property Receptors

Maximum 1-Hour Impacts	**1986**	1987	1988	1989	1990
Unadjusted ISCST3 Impact ($\mu g/m^3$)[1]	**87.31**	75.20	32.82	37.79	83.75
Emission Rate Scaling Factor[2]	**1.47**	1.47	1.47	1.47	1.47
Adjusted ISCST3 Impact ($\mu g/m^3$)[3]	**128.27**	110.48	48.22	55.52	123.04
PSD Significant Impact ($\mu g/m^3$)	**2,000.0**	2,000.0	2,000.0	2,000.0	2,000.0
Exceed PSD Significant Impact (Y/N)	**N**	N	N	N	N
Percent of PSD Significant Impact (%)	**6.4**	5.5	2.4	2.8	6.2
Receptor UTM Easting (m)	**625,027.5**	625,426.6	625,831.0	624,427.7	624,478.6
Receptor UTM Northing (m)	**3,350,136.3**	3,350,135.8	3,348,081.8	3,349,542.5	3,349,693.5
Distance From Unit 12 Stack (m)	**1,097**	1,167	1,250	783	854
Direction From Unit 12 Stack (Vector °)	**0**	20	140	310	320
Date of Maximum Impact	**3/13/86**	2/2/87	7/2/88	5/18/89	2/5/90
Julian Date of Maximum Impact	**72**	33	184	138	36
Ending Hour of Maximum Impact	**0300**	0500	2200	2400	2400

[1] Based on modeled emission rate of 10.0 g/s per CT/HRSG unit.

[2] Ratio of maximum emission rate (g/s) per CT/HRSG unit to modeled 10.0 g/s emission rate.

[3] Unadjusted ISCST3 impact times emission rate factor.

Source: ECT, 1999.

Table 5. ISCST3 Model Results - Maximum 8-Hour Average CO Impacts, Additional On-Property Receptors

Maximum 8-Hour Impacts	1986	**1987**	1988	1989	1990
Unadjusted ISCST3 Impact (μg/m^3)[1]	20.82	**26.44**	10.08	9.12	14.01
Emission Rate Scaling Factor[2]	1.47	**1.47**	1.47	1.47	1.47
Adjusted ISCST3 Impact (μg/m^3)[3]	30.59	**38.84**	14.81	13.40	20.58
PSD Significant Impact (μg/m^3)	500.0	**500.0**	500.0	500.0	500.0
Exceed PSD Significant Impact (Y/N)	N	**N**	N	N	N
Percent of PSD Significant Impact (%)	6.1	**7.8**	3.0	2.7	4.1
PSD *de minimis* Ambient Impact Threshold (μg/m^3)	575.0	**575.0**	575.0	575.0	575.0
Exceed PSD *de minimis* Ambient Impact (Y/N)	N	**N**	N	N	N
Percent of PSD *de minimis* Ambient Impact (%)	5.3	**6.8**	2.6	2.3	3.6
Receptor UTM Easting (m)	625,027.5	**624,566.5**	628,966.8	624,152.5	624,478.6
Receptor UTM Northing (m)	3,350,136.3	**3,349,837.8**	3,348,344.8	3,350,554.8	3,349,693.5
Distance From Unit 12 Stack (m)	3,407,943	**3,407,565**	3,406,906	3,408,194	3,407,407
Direction From Unit 12 Stack (Vector °)	11	**11**	11	11	11
Date of Maximum Impact	3/13/86	**3/17/87**	11/5/88	6/1/89	2/5/90
Julian Date of Maximum Impact	72	**76**	310	153	36
Ending Hour of Maximum Impact	0800	**1600**	1600	1600	2400

[1] Based on modeled emission rate of 10.0 g/s per CT/HRSG unit.

[2] Ratio of maximum emission rate (g/s) per CT/HRSG unit to modeled 10.0 g/s emission rate.

[3] Unadjusted ISCST3 impact times emission rate factor.

Source: ECT, 1999.

Table 6. ISCST3 Model Results - Maximum Annual Average PM_{10} Impacts, Additional On-Property Receptors, NAAQS Analysis

Maximum Annual Impacts	1986	1987	1988	1989	**1990**
ISCST3 Impact ($\mu g/m^3$)	1.06	1.00	1.09	1.22	**1.27**
Background (μg/m3)	28.0	28.0	28.0	28.0	**28.0**
Total Impact (μg/m3)	29.1	29.0	29.1	29.2	**29.3**
NAAQS ($\mu g/m^3$)	50.0	50.0	50.0	50.0	**50.0**
Exceed NAAQS (Y/N)	N	N	N	N	**N**
Percent of NAAQS (%)	58.1	58.0	58.2	58.4	**58.5**
Receptor UTM Easting (m)	625,722.1	625,722.1	625,027.5	626,395.6	**623,741.9**
Receptor UTM Northing (m)	3,345,100.0	3,345,100.0	3,345,039.3	3,345,280.5	**3,350,571.3**
Distance From Unit 12 Stack (m)	4,000	4,000	4,000	4,000	**2,000**
Direction From Unit 12 Stack (Vector ^{o})	170	170	180	160	**320**

Table 7. ISCST3 Model Results - Highest, Second Highest Average PM_{10} Impacts, Additional On-Property Receptors, NAAQS Analysis

Maximum Annual Impacts	1986	1987	1988	**1989**	1990
ISCST3 Impact ($\mu g/m^3$)	6.96	9.53	8.90	**10.82**	8.41
Background (μg/m3)	73.0	73.0	73.0	**73.0**	73.0
Total Impact (μg/m3)	80.0	82.5	81.9	**83.8**	81.4
NAAQS ($\mu g/m^3$)	150.0	150.0	150.0	**150.0**	150.0
Exceed NAAQS (Y/N)	N	N	N	**N**	N
Percent of NAAQS (%)	53.3	55.0	54.6	**55.9**	54.3
Receptor UTM Easting (m)	624,086.9	625,027.5	627,027.5	**625,027.5**	627,027.5
Receptor UTM Northing (m)	3,351,623.5	3,345,039.3	3,345,575.3	**3,345,539.3**	3,345,575.3
Distance From Unit 12 Stack (m)	3,409,232	3,402,932	3,403,827	**3,403,424**	3,403,827
Direction From Unit 12 Stack (Vector ^{o})	11	11	11	**11**	11
Date of Maximum Impact	5/15/86	12/26/87	8/6/88	**11/7/89**	1/24/90
Julian Date of Maximum Impact	135	360	219	**311**	24

Source: ECT, 1999.

Table 8. ISCST3 Model Results - Maximum Annual Average PM_{10} Impacts, Additional On-Property Receptors, PSD Class II Increment Analysis

Maximum Annual Impacts	1986	1987	1988	1989	**1990**
ISCST3 Impact ($\mu g/m^3$)	1.06	1.00	1.09	1.22	**1.27**
PSD Class II Increment ($\mu g/m^3$)	17.0	17.0	17.0	17.0	**17.0**
Exceed PSD Class II Increment (Y/N)	N	N	N	N	**N**
Percent of PSD Class II Increment (%)	6.3	5.9	6.4	7.2	**7.4**
Receptor UTM Easting (m)	625,722.1	625,722.1	625,027.5	626,395.6	**623,741.9**
Receptor UTM Northing (m)	3,345,100.0	3,345,100.0	3,345,039.3	3,345,280.5	**3,350,571.3**
Distance From Unit 12 Stack (m)	4,000	4,000	4,000	4,000	**2,000**
Direction From Unit 12 Stack (Vector °)	170	170	180	160	**320**

Table 9. ISCST3 Model Results - Highest, Second Highest Average PM_{10} Impacts, Additional On-Property Receptors, PSD Class II Increment Analysis

Maximum Annual Impacts	1986	1987	1988	**1989**	1990
ISCST3 Impact ($\mu g/m^3$)	6.96	9.53	8.90	**10.82**	8.41
PSD Class II Increment ($\mu g/m^3$)	30.0	30.0	30.0	**30.0**	30.0
Exceed PSD Class II Increment (Y/N)	N	N	N	**N**	N
Percent of PSD Class II Increment (%)	23.2	31.8	29.7	**36.1**	28.0
Receptor UTM Easting (m)	624,086.9	625,027.5	627,027.5	**625,027.5**	627,027.5
Receptor UTM Northing (m)	3,351,623.5	3,345,039.3	3,345,575.3	**3,345,539.3**	3,345,575.3
Distance From Unit 12 Stack (m)	3,409,232	3,402,932	3,403,827	**3,403,424**	3,403,827
Direction From Unit 12 Stack (Vector °)	11	11	11	**11**	11
Date of Maximum Impact	5/15/86	12/26/87	8/6/88	**11/7/89**	1/24/90
Julian Date of Maximum Impact	135	360	219	**311**	24

Source: ECT, 1999.

ECT
Environmental Consulting & Technology, Inc.

Environmental Consulting & Technology, Inc. - ECT

3701 Northwest 98th Street
Gainesville, Florida 32606
352/332-0444

TELECOPY COVERSHEET

TO: **Mike Halpin - FDEP**
TELECOPY NUMBER: **(850) 922-6979**
FROM: **Tom Davis**
DATE: **10/15/99** CHARGE NO.: ______

WE ARE TRANSMITTING **16** PAGES, INCLUDING COVERSHEET. IF THE TRANSMISSION WAS NOT COMPLETE OR IF THE MESSAGE WAS NOT LEGIBLE, PLEASE CALL US IMMEDIATELY.

352/332-0444--SWITCHBOARD
352/332-6722--FACSIMILE MACHINE
352/332-6733--FACSIMILE MACHINE (Accounting)
tdavis@ectinc.com--E-MAIL
COMMENTS:
Mike, copy of second set of sufficiency responses that were previously sent to you via e-mail. I believe that Cleve has all the modeling files he requested.

The original of the transmitted document will be sent by:

(X) Regular mail ( ) Overnight Mail (X) E-Mail

( ) This fax is the *ONLY* form of delivery

Memorandum

Florida Department of Environmental Protection

TO: Buck Oven, PPSO

THRU: Clair Fancy, Chief, BAR

THRU: Al Linero, Administrator, NSR Section, BAR

FROM: Mike Halpin, Review Engineer

DATE: September 23, 1999

SUBJECT: Gulf Power Smith Unit 3; Additional Sufficiency Review Questions
PA 99-40 and PSD-FL-269

Enclosed are additional questions and comments. Please include them as part of any additional Sufficiency package to Gulf Power. We are also sending this directly to the applicant via electronic mail so as to provide as much time as possible for the applicant to respond.

1. The Department requests that a NO_X emission limit be proposed for Unit 1 which provides reasonable assurance that the Unit 1 low NO_X burners are performing as designed. Additionally, the Department is interested in the applicant's proposal for an "acceptance test" or similar method which demonstrates that not only is the lower NO_X emission being achieved, but that other regulated pollutants have not increased.

2. The BACT analysis provided, indicated a cost effectiveness of oxidation catalyst for CO emissions at $1567 per ton of CO removed. Although the Department has no "bright line" figure for cost effectiveness, this value is not outside of what may be considered a reasonable control cost. Other recent permitting actions for these GE CT's have resulted in lower CO limits with (typically) annual compliance demonstrations. Additionally, data provided to the Department by FPL indicates that CO emissions can routinely be achieved at less than 6 ppm during full load (steady state) conditions. Please reconsider the proposed limits for each mode of operation and whether there are any extenuating circumstances, which the Department should be made aware of.

3. Please show by EPA and FDEP approved modeling techniques, that there are no predicted significant impacts due to SO_2 and CO emissions from the project at on-property receptors for which public access cannot be precluded (i.e., areas which are state-owned waters). If significant impacts are predicted, then Gulf Power should perform any applicable multi-source AAQS or PSD increment analyses.

4. For PM_{10}, please expand the previously submitted AAQS and PSD analyses to include the on-property receptors identified above, to show that there are no predicted AAQS or PSD increment violations at their receptors.

We are still awaiting Park Service and EPA comments and will provide them as soon as they are available. Please advise Gulf that they may contact me (Mike Halpin) at 850/921-9530 regarding the above questions.

GULF POWER COMPANY
SMITH UNIT 3
SUFFICIENCY RESPONSES

AIR

FDEP AIR #1

Confirm that potential NO_x emissions are highest at 95°F with duct burners, evaporative cooling and steam augmentation when compared to other temperature values (but the identical operating mode) analyzed in this application. If this is not the case, indicate the lowest permit temperature at which applicant seeks to utilize all three operational enhancements simultaneously. Also, please confirm that steam power augmentation along with duct burner firing (without evaporative cooling) is not an operating mode applicant seeks to be permitted. (This was not one of the listed operating scenarios.)

RESPONSE

The highest potential nitrogen oxide (NO_x) emissions scenario is operations at 95 degrees Fahrenheit (°F) with duct burners, evaporative cooling and steam augmentation compared to other temperature ranges. Steam power augmentation along with duct burner firing (without evaporative cooling) is not an operating mode to be permitted. The absolute minimum temperature at which steam augmentation can be implemented is approximately 60 to 65°F. This temperature and operational mode, however, is not a realistic likelihood from a Gulf Power dispatch scenario because normal operation with steam augmentation will always be preceded by maximum duct burner capacity and higher ambient temperatures. Gulf Power believes steam augmentation will take place at temperatures greater than 80°F 95 percent of its operational time. Gulf Power estimates that, at lower temperatures, there will be no emissions greater than those outlined at the 95°F operating scenario (i.e., NO_x emissions at 113.3 pounds per hour [lb/hr]).

FDEP AIR #2

Review and complete the chart (below) in order to clarify the Department's understanding of the selected pollutant emission rates at 100% output (2 CT/HRSG) and 95°F. Provide the same information on separate charts for 0°F, 65°F and the temperature value identified in the previous question. Emissions are shown as "ppmvd/ lbs per hr" except for SO2 which is lbs/hr only and based upon 2 grains S/100CF.

Operating Mode	*Hrs/yr*	*NO_x*	*CO*	*VOC*	*SO_2*	*PM_{10}*
Standard at 95°F		*9/*	*13/116.6*	*3/14*		
Standard plus Duct Burners (95°F)		*10.1/*	*16/157.4*	*4/20*		
Standard plus D.B. and Evaporative	*8760*	*10.6/*	*16/157.4*	*4/20*		*/41.8*

Operating Mode	*Hrs/yr*	*NO_x*	*CO*	*VOC*	*SO_2*	*PM_{10}*
Cooling (95°F)						
Standard plus D.B. Evaporative Cooling and Steam Aug. (95°F)	*1000*	*13.6/226.6*	*23/233.2*	*5.8/33.7*	*24.8*	*/42.9*

RESPONSE

Operating Scenarios at 95°F:

Operating Mode	Hrs/yr (maximum)	NO_x (ppmvd/lb/hr)	CO (ppmvd/lb/hr)	VOC (ppmvd/lb/hr)	SO_2 (lb/hr)	PM_{10} (lb/hr)
Standard* at 95°F	8,760	9/61/6	11.9/49/5	2.4/5.7	10.1	19.8
Standard* plus duct burners (95°F)	8,760	10.6/80.6	15.8/73.3	3.6/9.6	11.9	21.0
Standard plus steam augmentation (95°F)	1,000	9.0/86.9	11.2/49.5	2.53/5.0	10.6	19.8
Standard plus duct burners and steam augmentation (95°F)	1,000	13.6/113.3	22.9/116.6	5.8/16.8	12.4	21.5

*For the purposes of the table at 95°F, *standard* is defined as 100-percent load with evaporative cooling. (All parts per million dry volume [ppmvd] concentrations are corrected to 15 percent oxygen; sulfur dioxide [SO_2] and particulate matter nominally 10 microns or less [PM_{10}] are lb/hr only.)

Operating Scenarios at 65°F:

Operating Mode	Hrs/yr (maximum)	NO_x (ppmvd/lb/hr)	CO (ppmvd/lb/hr)	VOC (ppmvd/lb/hr)	SO_2 (lb/hr)	PM_{10} (lb/hr)
Standard† at 65°F	8,760	9/64.9	11.9/52.8	2.5/6.2	10.6	19.8
Standard† plus duct burners (65°F)	8,760	10.4/82.9	15.5/75.4	3.5/9.8	11.9	20.9
Standard plus steam augmentation (65°F)		NA	NA	NA	NA	NA
Standard plus duct burners and steam augmentation (65°F)		NA	NA	NA	NA	NA

†For the purposes of the table at 65°F, *standard* is defined as 100-percent load with evaporative cooling. (All ppmvd concentrations are corrected to 15 percent oxygen; SO_2 and PM_{10} are lb/hr only.)

Operating Scenarios at 0°F:

Operating Mode	Hrs/yr (maximum)	NO_x (ppmvd/lb/hr)	CO (ppmvd/lb/hr)	VOC (ppmvd/lb/hr)	SO_2 (lb/hr)	PM_{10} (lb/hr)
Standard† at 0°F	8,760	9/70.4	12.1/58.3	2.5/6.6	11.6	19.8
Standard† plus duct burners (0°F)	8,760	10.1/78.7	15.0/78.7	3.4/10.2	12.7	20.8
Standard plus steam augmentation (0°F)		NA	NA	NA	NA	NA
Standard plus duct burners and steam augmentation (0°F)		NA	NA	NA	NA	NA

†For the purposes of the table at 0°F, *standard* is defined as 100-percent load with *no* evaporative cooling. (All ppmvd concentrations are corrected to 15 percent oxygen; SO_2 and PM_{10} are lb/hr only.)

Additional operating scenarios at various loads and temperatures can be found in Attachment A (i.e., Table C-1, C-2). This information is also located in the Site Certification Application (SCA) in Appendix 10.2.7 (Volume 4).

FDEP AIR #3

Confirm that Gulf Power is seeking a permit to allow for the simultaneous use of duct burners and evaporative cooling for up to 8760 hours per year.

RESPONSE

Yes, Gulf Power is seeking such a permit.

FDEP AIR #4

Describe all contemporaneous emission increases and decreases for Units 1 and 2 as well as the existing combustion turbine.

RESPONSE

There have been no creditable contemporaneous emission increases or decreases for Plant Smith with the exception of NO_X emissions on Smith Unit 1 as part of Gulf's commitment to offset NO_X emissions of the new Smith 3 combined-cycle unit.

FDEP AIR #5
Confirm that Units 1 and 2 share a smokestack. Provide annual utilization projections of Units 1 and 2 as well as the existing combustion turbine as a result of this project, including operating hours, outage factors, capacity factors, fuel usage and type, heat inputs per fuel type and annual emissions through year 2008.

RESPONSE

Smith Units 1 and 2 share a common smokestack. Attached as Attachment B is projected information on Gulf's 10-year site plan. Based on Gulf Power's proprietary analysis, there will be no increase in operating hours, outage factors, fuel usage or heat inputs for Units 1, 2, or the CT due to this project. Potential NO_x emissions will remain less than the Prevention of Significant Deterioration (PSD) trigger level discussed in the following. Future projected emissions show an actual decrease in emissions for Plant Smith.

FDEP AIR #6
Provide NO_x emissions (tons) for calendar year 1997 from Unit 1. Additionally, provide 2 year averages for NO_x emissions as follows and indicate the source of the data:

Period	*NO_x Emission Rate (avg. tpy)*		*NO_x Emission Rate (avg. lb/10^6 Btu*	
	Unit 1	*Unit 2*	*Unit 1*	*Unit 2*
6/97-5/99				
1997-1998				
1996-1997				
1995-1996				
1994-1995				
1993-1994				

RESPONSE

Plant Smith Unit 1 emitted 3,298 tons of NO_x in 1997. (Please note that Smith Unit 1 had a 37-day outage in 1997, thus 1997 is not representative year for baseline calculations.) In a preliminary project meeting (January 27, 1999) with the Florida Department of Environmental Protection (FDEP), Clair Fancy proposed an average of 1996+1998 continuous emission monitoring (CEM) data as an acceptable baseline period for Smith Unit 1 in the emissions offset plan. This proposal and method was included in the original SCA. However, in recent discussions with FDEP, Gulf Power was asked to consider including Smith Unit 2 in the emissions offset plan to address the issue of load shifting. Gulf Power evaluated this proposal and has agreed to include Unit 2 in the Smith NO_x emissions offset plan. Thus, a reconsideration of the baseline proposal was reinitiated with Mike Halpin and Clair Fancy (FDEP) on August 26, 1999. Based on the information provided in the following, Gulf Power recommends a new NO_x emissions baseline be established using the average of CEM data for 1995 and 1996. Other averaging options are considered non-representative of normal plant operations due to abnormal unit outage periods or contain data generated by less accurate non-CEM methods. This approach is consistent with the U.S. Environmental Protection Agency's (EPA's) presumption that any 2 consecutive years within the 5 years prior to a proposed change is representative of normal source operations for a utility (Chapter 56, *Federal Register* [F.R.], Part 27636 [June 14, 1991]; 57 F.R. 32324 [July 21,1992]).

Period	NO_x Emissions (average tpy)*				NO_x Emission Rate (lb/MBTU)		
	Unit 1	Unit 2	Total	Method	Unit 1	Unit 2	Method
6/97 to 5/99†	3017	2517	5534	CEMS	0.561	0.402	CEMS
1997 to 1998†	3359	2395	5754	CEMS	0.582	0.412	CEMS
1996 to 1997†	3533	2707	6240	CEMS	0.613	0.425	CEMS
1995 to 1996**	3881	2785	6666	CEMS	0.625	0.411	CEMS
1994 to 1995‡	3344	3316	6661	AP-42	0.606	0.609	AP-42
1993 to 1994‡	3148	3458	6606	AP-42	0.619	0.617	AP-42

*Data based on CEMS.
†Data contains unit outages (Not considered representative).
**Method agreed by Mike Halpin on August 26, 1999.
‡Data based on AOR AP-42 Factors (CEMS not available).

<u>FDEP AIR #7</u>
Based upon Department records, Unit 1 emitted 3750.2 tons of NO_x in 1996 and 3423 tons of NO_x in 1998. Describe the source(s) of the values used in the NO_x netting analysis, which are approximately 20 tons higher cumulatively.

<u>RESPONSE</u>

Yes, this observation is correct. Gulf Power, after preliminary discussions with Al Linero and Clair Fancy, changed the baseline method of calculation to a more accurate method, so annual compliance of the emissions offset could be better determined. The revised method of calculation uses the actual NO_x emission rate determined by CEM in lieu of the standard AP-42 default value used historically in Gulf Power's annual operating report for coal fired boilers. The change is a more accurate method of monitoring future actual emissions, and thus should be utilized for past actuals. The revised method multiplies the annual average CEM emission rate by the annual heat input determined by fuel sampling and analysis to calculate actual NO_x tons/year.

FDEP AIR #8

Provide information relative to the proposed Unit 1 Low NO_x burner installation. The Department is interested in vendor guarantees with respect to all pollutants for which PSD applies to Unit 3 (including NO_x and opacity), as well as potential heat input changes, boiler surface area changes and other operating characteristics.

RESPONSE

There were no vendor guarantees included in the purchase of the low-NO_x burner tip technology for Smith Unit 1. Nevertheless, Gulf Power has a great deal of experience in the technology for Smith Unit 1 at similar units within Gulf Power. For example, Plant Crist Unit 4 reduced NO_x emissions approximately 25 percent using the same technology. NO_x emissions on Smith Unit 1 should also be significantly reduced by use of this technology. There is no expected increase in opacity, nor are there any planned changes to heat input rates, boiler surface area, or other operating practices associated with this project. The project should be exempt from PSD review since NO_x emissions are not increasing and because this is a pollution control project being added at an existing electric utility boiler (Rule 62-212.400[2][a], Florida Administrative Code [F.A.C.]). Additional information regarding potential changes in emissions are summarized in Attachment C.

FDEP AIR #9

Indicate whether Unit 1 or 2 is included in a Phase II averaging plan and what alternative contemporaneous limits exist if higher than 0.40 lb/MMBtu NO_x. Additionally, indicate whether any emission reductions at this facility are being planned or contemplated, and for what purpose.

RESPONSE

The Phase II alternative contemporaneous emission limits (ACEL) established in the NO_x averaging plan for Smith Units 1 and 2 is 0.62 pounds per million British thermal unit (lb/MMBtu) and 0.44 lb/MMBtu, respectively. No other emission reductions are planned for Plant Smith other than those needed for the Smith Unit 3 NO_x offset.

FDEP AIR #10
According to Section 6.7 the applicant is planning to fence the entire perimeter of the plant site. There are state owned waters within the plant boundaries to which the general public can not be prevented access. This would preclude fencing of the entire perimeter. Gulf should redo the significant impact modeling using appropriate fenceline receptors. Also, this project may impact previously modeled SO_2 violations at the site discovered in association with the ongoing Title V permit application. Please do an SO_2 AAQS modeling analysis which includes all SO_2 emitting sources at the facility in order to show that this project will have a zero impact at any receptor and time in which a violation of the SO_2 AAQS has been previously predicted.

RESPONSE

Discussions are continuing with FDEP and EPA to resolve the Title V modeling issues at Plant Smith. Issues regarding fenceline receptors have been settled. Gulf Power has operated ambient air monitors at Plant Smith for more than 20 years to monitor and report ambient air quality for SO_2, NO_x, and PM_{10}. No violations of ambient air quality standards have ever been recorded. Gulf Power will continue to monitor air quality at Plant Smith. The new SO_2 limit of Plant Smith Units 1 and 2 will contain an adequate margin of compliance for all sources located at the facility. All sources will be included in the revised Title V model for Plant Smith. This issue will be resolved over the next several months and will not affect issuance of a construction permit for Smith 3.

FDEP AIR #11
Comment on the applicability of natural gas use on Units 1, 2 or the combustion turbine.

RESPONSE

Gulf Power currently has no plans to operate Unit 1 or 2 or the existing combustion turbine on natural gas.

FDEP AIR #12
Confirm the value shown on Table 5.6.1-2, which indicates that the PM_{10} (24-hour average) significant impact level will be exceeded.

RESPONSE

As indicated in Table 5.6.1-2 of the SCA, the maximum Smith Unit 3 24-hour PM_{10} impact exceeds the PSD significant impact level. The impact is primarily due to PM_{10}

emissions from the mechanical draft, salt water cooling tower. As described in Section 7.3 on Page 98 of the PSD permit application (Tab 10.2.7 of the SCA), estimated PM_{10} emissions from the cooling tower were based on conservative AP-42 procedures. Multisource, interactive air quality dispersion modeling demonstrates that impacts from all PM/PM_{10} emission sources, plus background, will be below the ambient air quality standard (AAQS) and PSD Class II increments (reference Tables 7-13 through 7-16 of the PSD permit application). The cooling water for the proposed combined-cycle produces some salt mist. These particulate emissions will be controlled using high efficiency drift eliminators achieving a drift loss rate of no more than 0.001 percent of the cooling tower recirculating water flow. This technology is equivalent to other projects with best available control technology (BACT) limitations approved in Florida.

Memorandum

Florida Department of Environmental Protection

TO: Buck Oven, PPSO

THRU: Clair Fancy, Chief, BAR

THRU: Al Linero, Administrator, NSR Section, BAR

FROM: Mike Halpin, Review Engineer

DATE: June 28, 1999

SUBJECT: Gulf Power Smith Unit 3
PA 99-40 and PSD-FL-269

Please include the following questions and comments in your Sufficiency package to Gulf Power.

1. Please confirm that potential NOx emissions are highest at 95° F with duct burners, evaporative cooling and steam augmentation when compared to other temperature values (but the identical operating mode) analyzed in this application. If this is not the case, indicate the lowest permit temperature at which applicant seeks to utilize all three operational enhancements simultaneously. Also, please confirm that steam power augmentation along with duct burner firing (without evaporative cooling) is not an operating mode applicant seeks to be permitted (this was not one of the listed operating scenarios).

2. Please review and complete the chart (below) in order to clarify the Department's understanding of the selected pollutant emission rates at 100% output (2 CT/HRSG) and 95° F. Provide the same information on separate charts for 0° F, 65° F and the temperature value identified in the previous question. Emissions are shown as "ppmvd / lbs per hr" except for SO_2 which is lbs/hr only and based upon 2 grains S/ 100CF.

Operating Mode	**HRS/YR**	**NO_X**	**CO**	**VOC**	**SO_2**	**PM10**
Standard at 95° F		9 /	13 / 116.6	3 / 14		
Standard plus Duct Burners (95°F)		10.1 /	16 / 157.4	4 / 20		
Standard plus D.B. and Evaporative Cooling (95°F)	8760	10.6 /	16 / 157.4	4 / 20		/41.8
Standard plus D.B., Evaporative Cooling and Steam Aug. (95°F)	1000	13.6 / 226.6	23 / 233.2	5.8 / 33.7	24.8	/42.9

3. Please confirm that Gulf Power is seeking a permit to allow for the simultaneous use of duct burners and evaporative cooling for up to 8760 hours per year.

4. Please describe all contemporaneous emission increases and decreases for Units 1 and 2 as well as the existing combustion turbine.

5. Please confirm that Units 1 and 2 share a smokestack. Provide annual utilization projections of Units 1 and 2 as well as the existing combustion turbine as a result of this project, including operating hours, outage factors, capacity factors, fuel usage and type, heat inputs per fuel type and annual emissions through year 2008.

6. Please provide NOx emissions (tons) for calendar year 1997 from Unit 1. Additionally, provide 2 year averages for NOx emissions as follows and indicate the source of the data:

PERIOD	NOx EMISSION RATE (AVG. TPY)		NOx EMISSION RATE (AVG. lb/10^6 BTU)	
	Unit 1	Unit 2	Unit 1	Unit 2
6/97 – 5/99				
1997 – 1998				
1996 – 1997				
1995 – 1996				
1994 – 1995				
1993 – 1994				

7. Based upon Department records, Unit 1 emitted 3750.2 tons of NOx in 1996 and 3423 tons of NOx in 1998. Please describe the source(s) of the values used in the NOx netting analysis, which are approximately 20 tons higher cumulatively.

8. Please provide information relative to the proposed Unit 1 Low NOx burner installation. The Department is interested in vendor guarantees with respect to all pollutants for which PSD applies to Unit 3 (including NOx and opacity), as well as potential heat input changes, boiler surface area changes and other operating characteristics.

9. Please indicate whether Unit 1 or 2 is included in a Phase II averaging plan and what alternative contemporaneous limits exist if higher than 0.40 lb/MMBtu NOx. Additionally, indicate whether any emission reductions at this facility are being planned or contemplated, and for what purpose.

10. According to Section 6.7 the applicant is planning to fence the entire perimeter of the plant site. There are state owned waters within the plant boundaries to which the general public can not be prevented access. This would preclude fencing of the entire perimeter. Gulf should redo the significant impact modeling using appropriate fenceline receptors. Also, this project may impact previously modeled SO_2 violations at the site discovered in association with the ongoing Title V permit application. Please do an SO_2 AAQS modeling analysis which includes all SO_2 emitting sources at the facility in order to show that this project will have a zero impact at any receptor and time in which a violation of the SO_2 AAQS has been previously predicted.

11. Comment on the applicability of natural gas use on Units 1, 2 or the combustion turbine.

12. Please confirm the value shown on Table 5.6.1-2, which indicates that the PM10 (24-hour average) significant impact level will be exceeded.

We will provide Park Service and EPA comments as soon as they are available. Please advise Gulf that they may contact me (Mike Halpin) at 850/921-9530 regarding the above questions.

Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

June 9, 1999

Mr. Ronald W. Gore, Chief
Air Division
Alabama Department of Environmental Mgmt.
1751 Congressman W.L. Dickinson Drive
Montgomery, Alabama 36109-2608

Re: Gulf Power, PSD-FL-269, PA 99-40

Dear Mr. Gore:

Enclosed for your information is an application for the above-mentioned project. It consists of the addition of a new 574 MW combined cycle Unit No. 3 at the existing Smith Plant, located north of Panama City. This new unit is comprised of two nominal 170 MW GE combustion turbines incorporating power (steam) augmentation, two HRSG's equipped with duct burners, and one nominal 200 MW steam turbine.

For reference, the proposed project is almost identical to the Plant Barry project by Gulf's Southern Company affiliate, Alabama Power. However, selective catalytic reduction is not planned because, unlike the Barry project, nitrogen oxide emission reductions at an existing conventional unit are projected to NO_X offset emissions increases from this combined cycle unit.

Please send any comments to my attention at the letterhead address or fax them to the Bureau at (850) 922-6979. We will send you a copy of our preliminary determination and public notice when distributed. If you have any questions, please contact Mike Halpin at (850) 921-9530.

Sincerely,

AA Lin 6/9

A. A. Linero, P.E.
Administrator
New Source Review Section

AAL/mph/kt

Enclosures:

cc: Mike Halpin, BAR

HOPPING GREEN SAMS & SMITH
PROFESSIONAL ASSOCIATION
ATTORNEYS AND COUNSELORS
123 SOUTH CALHOUN STREET
POST OFFICE BOX 6526
TALLAHASSEE, FLORIDA 32314
(850) 222-7500
FAX (850) 224-8551
FAX (850) 425-3415

June 8, 1999

Mr. Al Linero
Department of Environmental Protection
Bureau of Air Regulation
Magnolia Courtyard
Tallahassee, FL 32399

Re: Gulf Power Co. Smith Unit 3
Prevention of Significant Deterioration Permit Application

pa 99-40
PSD-FL-269

Dear Al:

Enclosed is one copy of the PSD Permit Application for Gulf Power's proposed Smith Unit 3 near Panama City, Florida. This application is Volume 4 of the Site Certification Application which Gulf Power filed on June 7, 1999, with FDEP's Siting Coordination Office. This constitutes an official application form which has been signed by a Gulf Power representative and sealed by Tom Davis of ECT, a Florida Professional Engineer. Also enclosed at the back of the application are 4 computer disks containing the dispersion modeling files. The appropriate fee has been included as part of the the Site Certification Application fee for the project.

We look forward to working with you on this application. Should you or your staff have any comments or questions, please contact either Dwain Waters of Gulf Power at 850-444-6527 or me at the above number.

Sincerely,

Doug Roberts

Douglas S. Roberts

cc: Jim Vick
Dwain Waters
Phil Simpson, ECT

Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

June 8, 1999

Mr. Gregg Worley, Chief
Air, Radiation Technology Branch
Preconstruction/HAP Section
U.S. EPA – Region IV
61 Forsyth Street
Atlanta, Georgia 30303

Re: Gulf Power PSD-FL-269

Dear Mr. Worley:

Enclosed for your review and comment is an application for the above-mentioned project. It consists of a 574 MW addition designated as Gulf Power Smith Unit 3. This unit will be comprised of two nominal 170 MW GE Frame 7FA combustion turbines, two heat recovery steam generators equipped with duct burners and one nominal 200 MW steam turbine generator. The CT's and DB's will be fired exclusively with pipeline quality natural gas.

This project appears to be nearly identical to those at company affiliates Alabama Power - Plant Barry and Mississippi Power - Plant Daniel. However, unlike the Barry and Daniel projects, Gulf Power proposes to offset NO_X emissions by the installation of low NO_X burners at its (conventional) Unit 1 to "net out" of PSD. Additionally, the applicant proposes a federally enforceable NO_X emissions cap of 3,587 TPY on Units No. 1 and 3 using CEMS to demonstrate compliance. Accordingly, selective catalytic reduction is not proposed for installation.

The applicant proposes NO_X emissions on Unit No. 3 as per the table below (emissions based upon 15% O_2 correction and 100% output):

Operating Mode	Proposed NO_X emission rate
Standard	9 ppm
Standard plus Duct Burners	10.1 ppm
Standard plus Duct Burners plus Evaporative Cooling	10.6 ppm
Standard plus DB plus Evaporative Cooling plus Steam Augmentation	13.6 ppm

We request your review and opinion of the netting calculation and of any collateral increases caused by the project on the conventional unit. Your comments can be forwarded to my attention at the letterhead address or faxed to me at (850) 922-6979. If you have any questions, please contact Mike Halpin at (850) 921-9530.

Sincerely,

A. A. Linero, P.E.Administrator
New Source Review Section

AAL/mph/kt

Enclosures

cc: Mike Halpin, BAR

Department of
Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

June 8, 1999

Mr. John Bunyak, Chief
Policy, Planning & Permit Review Branch
NPS-Air Quality Division
Post Office Box 25287
Denver, CO 80225

Re: Gulf Power, PSD-FL-269

Dear Mr. Bunyak:

Enclosed for your review and comment is an application for the above-mentioned project. It consists of the addition of a new 574 MW Unit No. 3 at the existing Smith Plant. This new unit is comprised of two nominal 170 MW GE combustion turbines, two HRSG's equipped with duct burners and one nominal 200 Mw steam turbine.

Your comments can be forwarded to my attention at the letterhead address or faxed to the Bureau at (850) 922-6979. If you have any questions, please contact Mike Halpin at (850) 921-9530.

Sincerely,

A. A. Linero, P.E.
Administrator
New Source Review Section

AAL/mph/kt

Enclosures

cc: Mike Halpin, BAR

Memorandum

Florida Department of
Environmental Protection

TO: Al Linero
Ed Middleswart
Geof Mansfield
Mike Hatcher
Mary Jean Yon
Kat Ethridge

RECEIVED
JUN 07 1999
BUREAU OF
AIR REGULATION

FROM: Buck Oven

DATE: June 7, 1999

SUBJECT: Gulf Power - Smith Unit 3 - Power Plant Siting Application
PA 99-40, Module 8050

PSD-FL-269

Gulf Power has submitted the PPSA application for their Lansing Smith site. I understand **NOTE**: to Al, I am sending the **original** of the PSD/Title V certification to BAR. That copies of the PSD and NPDES permits are being sent directly to BAR and Industrial Waste. Please have the appropriate staff reviw the application and furnish me comments on any additional information needed (Sufficiency) by August 6, 1999.

cc: Scott Goorland
Bobby Cooley

RECEIVED
JUN 07 1999
BUREAU OF
AIR REGULATION

Notebook Application
on Shelf

AL

INTEROFFICE MEMORANDUM

Date: 07-Jun-1999 10:09am
From: Hamilton Oven TAL
OVEN_H
Dept: Office Siting Coordination
Tel No: 850/487-0472

Subject: Gulf Power Lansing Smith 3

We have received Gulf Power's Power Plant Siting Application for Lansing Smith Unit 3. It is a 574 MW, natural gas-fired, combined cycle unit located just north of the existing plant. We will be distributing the application during the next few days. Gulf Power will deliver four (4) copies of the application to Ed Middleswart in the NW district Office by tomorrow. I will send one copy of the application to Panama City. Four copies will go to BAR. One copy will go to other program areas. If any office wants/needs more copies, let us know. We (the Siting Office) will need to make a decision on completeness within 15 days. Gulf Power will then file copies of the application with the other agencies. 45 days after that, DEP will need to file a determiniation on Sufficiency (the real completeness review). Please send any comments on Sufficiency/com- pleteness to this Office not later than August 6, 1999.

Lansing Smith Unit 1

NOx Averaging Plan Compliance

Lansing Smith Unit 1 must comply with the Southern Company NOx Averaging Plan, as approved by the U.S. Environmental Protection Agency (EPA) on (date) pursuant to 40 CFR Part 76. The NOx Alternative Contemporaneous Emission Limitation (ACEL) for Lansing Smith Unit 1 is 0.62 lbs/mmBtu, as set forth in that approved Plan, which is less stringent than the otherwise applicable emission limitation in 40 CFR 76.5 of 0.40 lb/mmBtu. The Southern Company NOx Averaging Plan also limits the heat input for Lansing Smith Unit 1 to _______ mmBtu/year.

Lansing Smith Unit 1 is deemed to be in compliance with the Southern Company NOx Averaging Plan if its annual average emission rate is equal to or less than 0.62 lbs/mmBtu.

The recent average short-term emission rate for Lansing Smith Unit 1 has been approximately 0.585 lb/mmBtu, and recent annual emissions have been 3594 tons per year. In the future, Lansing Smith Unit 1 will limit its annual NOx emissions to 2817 tons per year. This will allow a new (repowered) unit to be added at the Plant without requiring review under the Prevention of Significant Deterioration permitting program for NOx emissions.

In order to insure that the annual NOx emission levels used to determine PSD applicability at Plant Lansing Smith are not effectively double counted under the Southern Company NOx Averaging Plan, Southern Company proposes a default annual average NOx value of 0.585 lbs/mmBtu to be substituted for any Lansing Smith Unit 1 annual average NOx emission rate ~~if~~ when the Southern System annual heat input for a compliance year is less than the sum of the heat input in the approved plan plus heat input for Lansing Smith Unit 1 for that year.

One Energy Place
Pensacola, Florida 32520

850.444.6111

GULF POWER
A SOUTHERN COMPANY

Certified Mail

April 6, 1999

RECEIVED
APR 15 1999
BUREAU OF
AIR REGULATION

Mr. Gregg M. Worley
EPA Region IV Federal Center
Air and Radiation Technology Branch
61 Forsyth St. , SW
Atlanta, GA 30303-8960

Dear Mr. Worley:

RE: Lansing Smith Electric Generating Plant
Oris Code: 643

Thank you for reviewing Gulf Power's proposed new combined cycle electric generating project at Lansing Smith located near Panama City, Florida. As previously discussed, Gulf Power believes the project as proposed would not be applicable to PSD for nitrogen oxides (NOx) due to offsets obtained from reductions on Lansing Smith Unit 1. The proposed control strategy for Lansing Smith Unit 1 is low NOx burner control technology and GNOICS, a Generic NOx Control Intelligent System.

EPA's initial review of this project revealed no restrictions regarding the use of nitrogen oxide reductions at Lansing Smith Unit 1 for offset consideration, but identified concern on how the project would effect the Southern Company NOx Averaging Plan under the Acid Rain program. More specifically, how Gulf Power would assure EPA that credits incurred for the PSD offset would not be double counted under the NOx Averaging Plan. To address this issue, Gulf Power proposes to evaluate the margin of compliance of the Southern Company NOx Averaging Plan each year and determine if the margin of compliance is within the influence of Lansing Smith Unit 1. Should the plan's margin of compliance be less than .001 lbs/mbtu, a default value equal to the unit's pre-offset emission rate would be substituted for actual emissions for Lansing Smith Unit 1 for that year and the Southern Company NOx Averaging Plan would be re-calculated using the default value. If the plan's margin of compliance is greater than .001 lbs/mbtu, then no change would be made to the actual emissions recorded for Lansing Smith Unit 1 and the compliance evaluation would stand "as is".

Gulf Power believes this review is a fair method to evaluated the influence of Lansing Smith because Unit 1 accounts for less than 1% of the total weighted average of the Southern Company NOx Averaging Plan. One percent of the weighted average is equivalent to less than .001 lbs/mbtu of the compliance margin. Attached is suggested permit language outlining the above evaluation scenario with a copy of the Southern Company NOx Averaging Plan Worksheet.

Please provide confirmation of EPA's previous PSD evaluation of this project and comment on Gulf Power's NOx averaging evaluation plan so the permitting of this project will remain on a timely basis.

If you have any questions or need further information regarding this project, please call or email me at (850) 444-6527 or gdwaters@southerco.com, respectively.

Sincerely,

G. Dwain Waters Q.E.P.

G. Dwain Waters, Q.E.P.
Air Quality Programs Coordinator

cc: Tom Turk, Gulf Power Company
Al Linero, Florida Department of Environmental Protection - TLHSE
Danny Herrin, Southern Company Services
Jim Vick, Gulf Power Company
Tom Davis, Environmental Consulting & Technology, Inc.
Angela Morrison, Hopping Green Sams & Smith

DRAFT PERMIT LANGUAGE
Lansing Smith Unit 1
NOx Averaging Plan Compliance

Lansing Smith Unit 1 must comply with the Southern Company NOx Averaging Plan, as approved by the U.S. Environmental Protection Agency (EPA) on (date) pursuant to 40 CFR Part 76. The NOx Alternative Contemporaneous Emission Limitation (ACEL) for Lansing Smith Unit 1 is 0.62 lbs/mmBtu, as set forth in that approved Plan, which is less stringent than the otherwise applicable emission limitation in 40 CFR 76.5 of 0.40 lb/mmBtu. The Southern Company NOx Averaging Plan also limits the heat input for Lansing Smith Unit 1 to 9,199,644 mmBtu/year.

Lansing Smith Unit 1 is deemed to be in compliance with the Southern Company NOx Averaging Plan if its annual average emission rate is equal to or less than 0.62 lbs/mBtu (the ACEL) and the annual heat input does not exceed the annual heat input limit for Smith Unit 1 in the Averaging Plan. If Lansing Smith Unit 1 does not meet those limits, or if another Southern Company unit included in the NOx Averaging Plan does not meet its ACEL and maximum or minimum heat input limits, as applicable, all of the units within the Plan are deemed to be in compliance with the Plan if the Btu-weighted annual NOx emission rate of all the Units subject to the Plan is less than or equal to the Btu-weighted annual average emission rate for the same units operated in compliance with 40 CFR 76.5, 76.6 or 76.7.

The recent average short-term NOx emission rate for Lansing Smith Unit 1 has been approximately 0.585 lb/mmBtu, and recent annual emissions have been 3,594 tons per year. In the future, Lansing Smith Unit 1 will limit its annual NOx emissions to 2,832 tons per year. This annual emission reduction will allow a new (combined-cycle) unit to be added at the Plant without increasing net NOx emission or requiring review under the Prevention of Significant Deterioration permitting program for NOx emissions.

In order to insure that the annual NOx emission levels used to determine PSD applicability at Plant Lansing Smith are not effectively double counted under the Southern Company NOx Averaging Plan, Southern Company proposes to use a default annual NOx average rate of <u>0.585</u> lbs/mmBtu for Smith Unit 1 during any year that the margin of compliance with the Plan's grand average requirement of <u>0.46</u> NOx lbs/mmbtu is less than <u>0.001</u> NOx lbs/mmBtu. Because Smith Unit 1 influences the Southern Company NOx Averaging Plan by only 0.001 lbs/mmBtu, as long as compliance with the averaging plan is achieved with a margin of .001 lb/mmBtu or greater, no additional calculations are necessary. If the margin is ever less than .001 lb/mmBtu, then the default valve of 0.585 lb/mmBtu shall be used for Smith Unit 1 to eliminate any potential double-counting effect.

4/5/99

Southern Company NOx Averaging Plan Worksheet

Plant Name	State	ID#	Emission Limitation	ACEL	Annual Heat Input	EM * Heat Input	ACEL * Heat Input
Arkwright	GA	1	0.45	0.69	1875509	843979.05	1294101.21
Arkwright	GA	2	0.45	0.7	1886089	848740.05	1320262.3
Arkwright	GA	3	0.4	0.71	2006321	802528.4	1424487.91
Arkwright	GA	4	0.4	0.75	1932669	773067.6	1449501.75
Barry	AL	1	0.4	0.49	10805761	4322304.4	5294822.89
Barry	AL	2	0.4	0.49	10643159	4257263.6	5215147.91
Barry	AL	3	0.4	0.49	17148763	6859505.2	8402893.87
Barry	AL	4	0.4	0.37	25471720	10188688	9424536.4
Barry	AL	5	0.4	0.45	50897853	20359141.2	22904033.85
Bowen	GA	1	0.45	0.42	45395755	20428089.75	19066217.1
Bowen	GA	2	0.45	0.43	46911826	21110321.7	20172085.18
Bowen	GA	3	0.45	0.43	59796338	26908352.1	25712425.34
Bowen	GA	4	0.45	0.43	62106898	27948104.1	26705966.14
Branch	GA	1	0.68	0.99	14906580	10136474.4	14757514.2
Branch	GA	2	0.5	0.72	16571123	8285561.5	11931208.56
Branch	GA	3	0.68	0.84	27015768	18370722.24	22693245.12
Branch	GA	4	0.68	0.84	28967878	19698157.04	24333017.52
Crist	FL	4	0.45	0.52	3062929	1378318.05	1592723.08
Crist	FL	5	0.45	0.6	4850348	2182656.6	2910208.8
Crist	FL	6	0.5	0.45	17603755	8801877.5	7921689.75
Crist	FL	7	0.5	0.45	32267381	16133690.5	14520321.45
Daniel	MS	1	0.45	0.28	28010957	12604930.65	7843067.96
Daniel	MS	2	0.45	0.26	29025313	13061390.85	7546581.38
Gadsden	AL	1	0.45	0.65	2473380	1113021	1607697
Gadsden	AL	2	0.45	0.68	2333659	1050146.55	1586888.12
Gaston	AL	1	0.5	0.43	15666430	7833215	6736564.9
Gaston	AL	2	0.5	0.43	15642121	7821060.5	6726112.03
Gaston	AL	3	0.5	0.43	16016613	8008306.5	6887143.59
Gaston	AL	4	0.5	0.43	15780983	7890491.5	6785822.69
Gaston	AL	5	0.45	0.42	43137116	19411702.2	18117588.72
Gorgas	AL	6	0.46	0.86	5058595	2326953.7	4350391.7
Gorgas	AL	7	0.46	0.86	5052447	2324125.62	4345104.42
Gorgas	AL	8	0.4	0.49	11173785	4469514	5475154.65
Gorgas	AL	9	0.4	0.3	10939664	4375865.6	3281899.2
Gorgas	AL	10	0.4	0.76	46251622	18500648.8	35151232.72
Greene CO	AL	1	0.68	0.98	19524675	13276779	19134181.5
Greene CO	AL	2	0.46	0.43	18839670	8666248.2	8101058.1
Hammond	GA	1	0.5	0.83	4539663	2269831.5	3767920.29
Hammond	GA	2	0.5	0.83	6333156	3166578	5256519.48
Hammond	GA	3	0.5	0.83	6439818	3219909	5345048.94
Hammond	GA	4	0.5	0.45	26126591	13063295.5	11756965.95
Kraft	GA	1	0.45	0.58	2974849	1338682.05	1725412.42
Kraft	GA	2	0.45	0.58	2238703	1007416.35	1298447.74
Kraft	GA	3	0.45	0.58	3971009	1786954.05	2303185.22
L. Smith	FL	1	0.4	0.62	9199644	3679857.6	5703779.28
L. Smith	FL	2	0.4	0.44	10154723	4061889.2	4468078.12
McDonough	GA	1	0.45	0.42	18934013	8520305.85	7952285.46

McDonough	GA	2	0.45	0.42	17338565	7802354.25	7282197.3
McIntosh	GA	1	0.5	0.86	8568975	4284487.5	7369318.5
Miller	AL	1	0.46	0.29	53814591	24754711.86	15606231.39
Miller	AL	2	0.46	0.29	52772559	24275377.14	15304042.11
Miller	AL	3	0.46	0.29	49093163	22582854.98	14237017.27
Miller	AL	4	0.46	0.29	55722252	25632235.92	16159453.08
Mitchell	GA	3	0.45	0.62	5322072	2394932.4	3299684.64
Scherer	GA	1	0.4	0.5	52573864	21029545.6	26286932
Scherer	GA	2	0.4	0.5	55563600	22225440	27781800
Scherer	GA	3	0.45	0.29	37912770	17060746.5	10994703.3
Scherer	GA	4	0.4	0.3	70093731	28037492.4	21028119.3
Scholz	FL	1	0.5	0.68	1855434	927717	1261695.12
Scholz	FL	2	0.5	0.77	1864795	932397.5	1435892.15
Wansley	GA	1	0.45	0.41	53141279	23913575.55	21787924.39
Wansley	GA	2	0.45	0.42	49741786	22383803.7	20891550.12
Watson	MS	4	0.5	0.5	17100575	8550287.5	8550287.5
Watson	MS	5	0.5	0.65	33455317	16727658.5	21745956.05
Yates	GA	1	0.45	0.48	3853527	1734087.15	1849692.96
Yates	GA	2	0.45	0.48	4687321	2109294.45	2249914.08
Yates	GA	3	0.45	0.48	3981916	1791862.2	1911319.68
Yates	GA	4	0.45	0.4	7,087,706	3189467.7	2835082.4
Yates	GA	5	0.45	0.4	5,186,897	2334103.65	2074758.8
Yates	GA	6	0.45	0.33	13,373,298	6017984.1	4413188.34
Yates	GA	7	0.45	0.3	14,601,869	6570841.05	4380560.7
					1526671484	699481605.3	697549509.9
						NOx lbs/mbtu	NOx/lbs/mbtu
						0.46	0.46

NOx Grand Avg with Smith 1 @ .62 lb/mbtu =	**0.457 lbs/mbtu**
NOx Grand Avg with Smith 1 @ .46 lb/mbtu =	**0.456 lbs/mbtu**
Potential Smith 1 lb/mbtu Impact on Plan =	**0.001 lbs/mbtu**
Smith 1 % of total weighted heat input =	**0.82%**