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OF COUNSEL
W. ROBERT FOKES

March 22, 1994

Mr. Hamilton S. Oven
Siting Coordinator
Florida Department of Environmental
Protection
3900 Commonwealth Blvd., Suite 953
Tallahassee, FL 32399

Re: Gainesville Regional Utilities
Deerhaven Unit No. 2, PA 74-04
Proposed Agreement to Modify Conditions of Certification
Combustion Turbine Project

Dear Mr. Oven:

Pursuant to Section 403.516(1)(b), Florida Statutes, I am submitting, on behalf of the City of Gainesville, Gainesville Regional Utilities (GRU), a Proposed Agreement to Modify the Site Certification for Deerhaven Unit No. 2. The cited statute authorizes the Department of Environmental Protection (DEP) to modify the certification, including the conditions of certification, when no objection is raised by a party or person whose substantial interests will be affected by the proposed modification. GRU is also simultaneously submitting to the Department an application for a Prevention of Significant Deterioration permit for this project.

The Siting Board's original certification order authorizing construction and operation of Deerhaven Unit No. 2 was issued on May 16, 1978. By this Proposed Agreement, GRU requests approval of a modification of the certification to authorize GRU to construct and operate a new simple cycle combustion turbine on a one-acre parcel within the Deerhaven Plant site, as described in the attached documents.

This combustion turbine, its location and expected impacts are discussed in greater detail in the attached modification submittal and PSD permit application. No changes to the existing facilities

at the Deerhaven site or other new facilities will be required as a result of this modification. The location of the new CT is adjacent to the existing gas turbines at the Deerhaven site on an upland area of the site. No wetlands will be impacted by the project. The CT will utilize existing facilities on the site such as fuel supply and storage facilities and existing transmission systems serving the Deerhaven site.

GRU is requesting a modification of the certification, including additional conditions of certification, that will authorize the construction and operation of this new combustion turbine. Those proposed conditions are attached to the Proposed Agreement for Modification of Certification. These additional conditions of certification will allow the construction of the combustion turbine to proceed following the Department's issuance of this modification request.

GRU requests that the Department issue an order pursuant to section 403.516(1)(b), F.S., modifying the terms and conditions of the certification upon no objection being raised by a party or substantially affected person. The modification order should contain the attached conditions and any additional necessary or revised conditions proposed by agency parties and accepted by GRU.

In accordance with DEP's regulations, we have forwarded copies of this Proposed Agreement by hand delviery or certified U.S. mail to those parties in the original certification proceedings, as indicated in the Certificate of Service to the attached Agreement for Modification of Certification. Copies of this Request are also being provided to the persons and agencies identified below.

An application fee in the amount of $10,000, (Check No. 17092), payable to DEP, is being submitted with this proposed agreement. If you or any of the parties have questions or comments on this request, please contact either Yolanta Jonynas of GRU in Gainesville at 904/334-3400, ext. 1284, or me at 222-7500.

Sincerely,

HOPPING BOYD GREEN & SAMS

BY: 

Douglas S. Roberts
Post Office Box 6526
Tallahassee, FL 32314
(904) 222-7500

Attachments

cc: Richard T. Donelan, DEP
Mary Marshall, Alachua County Attorney
Cindy S. Price, Asst. General Counsel
Fla. Dept. of Transportation
Charles F. Justice, Exec. Director
North Central Fla. Regional Planning Council

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

IN RE: SITE CERTIFICATION, DEERHAVEN UNIT NO. 2; GAINESVILLE REGIONAL UTILITIES	)	DER CASE NO. PA 74-04

PROPOSED AGREEMENT FOR MODIFICATION OF SITE CERTIFICATION, INCLUDING ADDITIONAL CONDITIONS OF CERTIFICATION, FOR NEW COMBUSTION TURBINE

I.

Gainesville Regional Utilities (GRU) hereby requests a modification of the site certification, including conditions of certification, for Deerhaven Unit No. 2 pursuant to Section 403.516.(1)(b), Florida Statutes (F.S.) and Rule 17-17.211, Florida Administrative Code (F.A.C.). Those provisions authorize the Department of Environmental Protection (DEP) to modify the certification after public notice and opportunity for review by the public and by the parties to the original certification proceeding and upon no objection to the proposed modification being raised by those persons. This agreement for modification addresses the construction and operation of a new 74 megawatt (nominal) simple cycle combustion turbine (CT) to be located within the certified Deerhaven site. In support of this modification, GRU states:

II.

On May 16, 1978, GRU was issued a final Site Certification Order by the Siting Board, pursuant to Chapter 403, Part II, F.S., authorizing the construction and operation of Deerhaven Unit No. 2, subject to the provisions of the certification order and to the conditions of certification included in that order. That certification authorized the construction and operation of a 235 megawatt (MW) electrical generating plant on the Deerhaven site. The site already contained an existing oil and gas-fired generating unit (Unit 1) and two gas turbines. GRU has identified several needed modifications to the certification including additional conditions of certification to allow construction and operation of a new nominal 74 MW natural gas-fired combustion turbine within the certified Deerhaven site.

This modification of site certification is required because the new CT will be located within the previously certified Deerhaven power plant site. Pursuant to the PPSA, issuance of the original certification for the Deerhaven site has vested exclusive authority in the Siting Board for approval of any subsequent activities on the certified Deerhaven site which would otherwise require regulatory approval by a state, regional or local agency. The proposed CT has no steam electric generating capacity greater than 75 MW. Therefore, if this CT were located at a site other than the Deerhaven site, this CT project would not be subject to the PPSA since it is not an "electrical power plant" as defined in the PPSA, section 402.503(12), F.S. Thus, approval of this CT project will be obtained in the form of a modification of the

original certification for Deerhaven Unit 2 and not as a separate certification proceeding.

III.

The new CT will be located on a one acre parcel of the existing Deerhaven site, adjacent to the existing combustion turbines on the site. The CT will interconnect to the existing electrical transmission system on the site with no new transmission facilities offsite required to accommodate this unit. The existing natural gas supply line and fuel oil storage tank will serve the new CT. Minimal offsite and onsite impacts will occur, principally due to the development of the small CT project site including stormwater management facilities. No changes to other onsite facilities will be required as a result of the CT project. The principal impact will be to air resources in the area, with the project having only a minimal impact on air quality in the vicinity of the site. The details of the project and its impacts are described in the attached Request for Modification of Site Certification and the separate application for a Prevention of Significant Deterioration (PSD) permit. A copy of that application is included with this request as additional information.

IV.

GRU proposes that additional and modified conditions of certification be imposed as part of the approval of this modification. A proposed set of additional conditions of certification is appended to this request. These conditions address principally the additional air emissions from the CT

project and establish appropriate post-certification proceedings for submittal of additional information to jurisdictional regulatory agencies principally DEP, for approval, as appropriate and necessary.

Request For Relief

Accordingly, GRU requests that

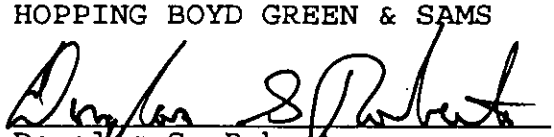
1. All parties to the original certification proceeding agree to, or otherwise do not object to, this proposed modification and the attached additional provisions of the certification and the conditions of certification within thirty (30) days of submittal of this proposed Agreement, as provided for in Section 403.516(1)(b), F.S.;

2. Upon no objection being raised by the parties as provided above or by a substantially affected person within forty-five (45) days of public notice of this proposed modification, the Department of Environmental Protection issue an order modifying the terms and conditions of the certification, pursuant to Section 403.516.(1)(b), F.S., and incorporating the proposed additional and modified conditions of certification; and

3. The Department of Environmental Protection grant such other relief as may be appropriate, including necessary additional conditions of certification proposed by agency parties.

Respectfully submitted this 22nd day of March, 1994.

HOPPING BOYD GREEN & SAMS



Douglas S. Roberts
Fla. Bar No. 0559466
123 South Calhoun Street
Post Office Box 6526
Tallahassee, Florida 32314
(904) 222-7500

Attorney for Gainesville
Regional Utilities

CERTIFICATE OF SERVICE

8

I HEREBY CERTIFY that a copy of the foregoing and attachment have been furnished to the following on this 22nd day of March, 1994:

Hamilton S. Oven, Jr., P.E.
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Richard T. Donelan
Assistant General Counsel
Department of Environmental Regulation
2600 Blair Stone Road
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620 South Meridian Street, Room 101
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General Counsel
Michael Palecki
Florida Public Service Commission
101 East Gaines Street
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Tallahassee, FL 32399-0850

Tom Brown
General Counsel
Suwannee River Water Management District
Rt. 3, Box 64
Live Oak, FL 32060

Jane Walker
Florida Defenders of the Environment
10601 N.W. 23rd Ave.
Gainesville, Fla. 32606

Attorney

March 21, 1994

Proposed Conditions of Certification
GRU Deerhaven CT #3 Project

AIR

The construction and operation of the Gainesville Regional Utilities Deerhaven Combustion Turbine #3 (DHCT3) shall be in accordance with all applicable provisions of Chapters 17-210 to 297, F.A.C. and 40 CFR Subparts A and GG. The following emission limitations and conditions reflect BACT determinations for the DHCT3. In addition to the foregoing, the Project shall comply with the following conditions of certification as indicated.

A. General Requirements

1. The maximum heat input rates to DHCT3 at ISO conditions (i.e., 59° F, 60% relative humidity and sea level pressure) shall neither exceed 971.1 MMBtu/hr while firing natural gas, 1096.6 MMBtu when firing natural gas in the power augmentation (PA) mode, nor 990.6 MMBtu/hr while firing fuel oil. Heat input will vary depending on ambient conditions and the DHCT3 characteristics. Manufacturer's curves or equations for correction to other ambient conditions shall be provided to DEP at least 90 days before initial compliance testing.

2. The DHCT3 may operate up to 3900 hours per year, of which 2000 hours may be while firing fuel oil and up 390 hours of natural gas firing with power augmentation.

3. Only natural gas (NG) or low sulfur fuel oil shall be fired in the combustion turbine. The maximum sulfur content of the fuel oil shall not exceed 0.05 percent, by weight except that the permittee shall be allowed up to an equivalent of 55 hours of full load operation at ISO conditions using fuel oil with a sulfur content of 0.25 percent by weight. Thereafter, the maximum sulfur content shall not exceed 0.05 percent by weight.

4. Fugitive dust emissions during the construction period shall be minimized by covering or watering dust generation areas.

B. Emission Limits

1. The maximum allowable emissions from the DHCT3, when firing natural gas or low sulfur fuel oil, in accordance with the BACT determination, shall not exceed the following, at ISO conditions based upon the high heating values of the fuels (except during periods of start up, shutdown, malfunction, fuel switching, and load change):

EMISSIONS LIMITATIONS

POLLUTANT	FUEL	BASIS(a)	LB/HR(b)		TPY(c)
NOx	GAS	15 ppmvd(d)	53		40
	GAS w/PA	30 ppmvd(d)	120		23
	Oil	54 ppmvd(e)(d)	213		213
				Total	276
VOC (f)	Gas	2 ppmvw	3		
	Gas w/PA	3 ppmvw	5		
	Oil	5 ppmvw	6		
				Total	9
CO	Gas	15 ppmvd	32		
	Gas w/PA	20 ppmvd	42		
	Oil	30 ppmvd	65		
				Total	97
PM/PM_{10} (f)	Gas		7		
	Gas w/PA		7		
	Oil(g)		15		
				Total	22
SO_2	Gas		26		
	Gas w/PA		30		
	Oil (0.05%) (h)		48		
	Oil (0.25%) (h)		240		
				Total	80
Visible Emissions	Oil	20 percent opacity			

PA - Power Augmentation.

a. The values are the computational basis for the lb/hr numbers, which are the actual emission limitations.

b. Emission limitations in LB/HR are blocked 24-hour averages (midnight to midnight), except for opacity which is based on 6-minute averages. All values, except opacity, are at ISO conditions.

c. Annual emission limits (TPY) are based on the DHCT3 operating at full load for a total of 3900 hours per year, with up to 2000 hours of oil-fired operation and up to 390 hours of natural gas firing with power augmentation, with the remaining hours on natural gas firing.

d. 15 ppmvd/30 ppmvd/54 ppmvd at 15% O_2, not ISO corrected.

e. Fuel oil NO_x emissions are based on full load operation at

ISO conditions and 15 percent oxygen. For fuel oil firing, NO_x levels of 54 ppmvd are based on a fuel bound nitrogen content of 0.030 percent by weight.

f. Exclusive of background concentrations.

g. PM/PM10 emission limitations are exclusive of sulfuric acid mist and sulfates.

h. SO_2 emissions based on a maximum of 0.05 percent sulfur in the fuel oil except that up to an equivalent of 55 hours of full load operation at ISO conditions are authorized using fuel oil with a 0.25% sulfur content by weight. A 95.1% conversion of sulfur is assumed.

2. The following DHCT3 emission controls are tabulated for PSD purposes:

ESTIMATED EMISSIONS

POLLUTANT	METHOD OF CONTROL	Basis (a)
Sulfuric Acid Mist	Natural Gas/No. 2 Fuel Oil (b)	BACT
Inorganic Arsenic	Natural Gas/No. 2 Fuel Oil (b)	(c)
Beryllium	Natural Gas/No. 2 Fuel Oil (b)	(c)
Mercury	Natural Gas/No. 2 Fuel Oil (b)	(c)
Pb	Natural Gas/No. 2 Fuel Oil (b)	(c)

a. Since these pollutants are inherent constituents in the fuel, the basis for control will be by specifying that only natural gas and No. 2 fuel oil can be fired at the facility.

b. Only natural gas or No. 2 fuel oil will be combusted. The No. 2 fuel oil shall have a maximum sulfur content of 0.05% by weight except that the permittee is authorized for up to an equivalent of 55 hours of full load operation at ISO conditions using a fuel oil with 0.25% sulfur content.

c. Below PSD significant emissions level.

3. The permittee will install a dry low NOx combustor on DHCT3 for NOx control when firing natural gas. Control of NOx when firing fuel oil will be accomplished by water injection.

4. Excess emissions from the DHCT3 resulting from start up, shutdown, malfunction, fuel switching, or load change shall be acceptable providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for a longer duration.

C. Performance Testing

1. Initial (I) compliance tests shall be performed on the DHCT3 using both fuels. Testing of emissions shall be conducted with the source operating at capacity (maximum heat input rate for the tested operating temperature). This requirement is met if the compliance test is conducted at 90-100% of the permitted capacity achievable for the average ambient air temperature during the test. Although this may result in tests at less than 90% of the maximum permitted heat input under Conditions A.1, above, if the test demonstrates compliance at the lower heat input rate, DHCT3 may be operated at the permitted capacity for the full range of ambient conditions. If it is impracticable to test at capacity, then sources may be tested at less than capacity; in this case subsequent source operation is limited to 110% of the test load until a new test is conducted. Once the unit is so limited, then operation at higher capacities is allowed for no more than fifteen days for purposes of additional compliance testing to regain the rated capacity in the permit, with prior notification to the Department.

Annual (A) compliance tests shall be performed on the DHCT3 with the fuel(s) used for more than 400 hours in the preceding 12-month period. Tests shall be conducted using EPA reference methods in accordance with 40 CFR 60, Appendix A, as adopted by reference in Rule 17-297, F.A.C.:

a. Reference Method 5, 5B, 5F or 17 for PM (I, A, for oil only).

b. Reference Method 9 for VE (I, A for oil only).

c. Reference Method 10 for CO (I, A).

d. Reference Method 20 for NOx (I, A).

e. Reference Method 18 for VOC (I, A).

f. ASTM D 4294 (or equivalent) for sulfur content of distillate oil (I,A), which can be used for determining SO_2 and $H2SO_4$ emissions annually.

g. ASTM D 1072-80, D 3031-81, D 4084-82, or D

3246-81 (or equivalent) for sulfur content of natural gas (I, and A if deemed necessary by DEP). Alternatively, natural gas supplier data for sulfur content may be submitted.

Other DEP approved methods may be used for compliance testing after prior departmental approval.

2. Sulfur and nitrogen content and lower heating value of the fuel being fired in the combustion turbines shall be based on a weighted 12 month rolling average from fuel delivery receipts or other records supplied by the fuel supplier. The records of fuel oil usage shall be kept by GRU for a two-year period for regulatory agency inspection purposes. For sulfur dioxide, periods of excess emissions shall be reported if the fuel oil being fired in the gas turbine exceeds 0.05 percent sulfur except for up to an equivalent of 55 hours of full load operation using 0.25% sulfur oil.

D. Monitoring Requirements

1. CEMS data shall be recorded and reported in accordance with 40 CFR 60 and 40 CFR 75 for NOx emissions. Periods of start up, shutdown, fuel switching, malfunction, and load change shall be recorded.

2. A malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

E. Notification, Reporting and Recordkeeping

1. To determine compliance with the natural gas and fuel oil firing heat input limitation, the permittee shall maintain daily records of natural gas and fuel oil consumption for the turbine. All records shall be maintained for a minimum of two years after the date of each record and shall be made available to representatives of the Department upon request.

2. The project shall comply with all the applicable requirements of Chapter 17, F.A.C., and 40 CFR 60 Subparts A and GG. All notifications and reports required by this specific condition shall be submitted to the Department's Air Program, within the Northeast District office. Performance test results shall be submitted within 45 days of completion of such test.

4. The following protocols shall be submitted to the Department's Air Program, within the Northeast District office for approval;

a. CEMS - The Federal Acid Rain Program requirements of 40

CFR 75 shall apply when those requirements become effective within the state.

b. Performance Test Protocol - At least 90 days prior to conducting the initial performance tests required by this permit, The permittee shall submit to the Department's Air Program, within the Northeast District office, a protocol outlining the procedures to be followed, the test methods and any differences between the reference methods and the test methods proposed to be used to verify compliance with the conditions of this permit. The Department shall approve the testing protocol provided that it meets the requirements of this permit.

c. The permittee shall notify the Department at least 15 days prior to conducting compliance testing, in accordance with Rule 17-297.340, FAC.

F. Modifications

The permittee shall give written notification to the Department when there is any modification to this facility. This notice shall be submitted sufficiently in advance of any critical date involved to allow sufficient time for review, discussion, and revision of plans, if necessary. Such notice shall include, but not be limited to, information describing the precise nature of the change; modifications to any emission control system; production capacity of the facility before and after the change; and the anticipated completion date of the change.

Florida Department of
Environmental Protection

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

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

February 11, 1994

Ms. Yolanta E. Jonynas
Senior Environmental Engineer
Gainesville Regional Utilities
P.O. Box 147117, Station A136
Gainesville, Florida 32614-7117

Re: Gainesville Regional Utilities
Deerhaven Generating Station (PA 74-04)
74 MW Simple Cycle Combustion Turbine
Preliminary Air Quality Modeling Results and Monitoring Exemption Request

Dear Ms. Jonynas:

The Department has reviewed your Ambient Air Monitoring Exemption request and your subsequently submitted Preliminary Air Quality Modeling Results. The Department has the following comments:

1. Based on the information provided in the Monitoring Exemption Request, the Department concurs that the maximum predicted impacts of the proposed combustion turbine are below the monitoring significance levels specified in F.A.C. Rule 17-212.400(3)(e) for the following PSD significant pollutants: SO_2, PM, NO_X, CO, Be, Hg, and fluorides. Therefore, preconstruction monitoring will not be required for these pollutants. In addition since the project's projected VOC emissions are less than 100 tons per year, preconstruction monitoring will not be required for ozone.

2. Based on the results of your preliminary air quality modeling for the proposed combustion turbine alone, the Department agrees that off-site impacts from the project will not be significant and that multiple source modeling is not required for either the near site Class II PSD increment/ambient standards analysis or the long distance Class I PSD increment analysis for the following PSD significant pollutants: SO_2, PM, CO, and NO_X.

3. However, even though the project's maximum predicted air quality impacts (when using 0.05% sulfur or natural gas) are less than the National Park Service's recommended significance levels for SO_2, PM, and NO_2, you will still have to do an air quality related values (AQRV) analysis for these pollutants and all other PSD

significant pollutants for both the Chassahowitzka and Okefenokee National Wilderness Areas. The AQRV analysis evaluates potential effects of the project on vegetation, wildlife, soils, aquatic resources, and visibility. Depending upon the project's predicted impacts for each pollutant, the analysis may, require at the simplest level only a literature review or at the most complex level a deposition analysis using MESOPUFF II in addition to a literature review. Also for determining impacts on PSD Class I areas, the Department follows the recommendations of the Interagency Workgroup on Air Quality Modeling (IWAQM). These recommendations are contained in the "Interagency Workgroup on Air Quality Modeling (IWAQM) Phase I Report: Interim Recommendation for Modeling Long Range Transport and Impacts on Regional Visibility (EPA-454/R-93-015). This document can be downloaded from the EPA's Support Center for Regulatory Air Models Bulletin Board System (SCRAM BBS).

If you have any further modeling questions, please call Cleve Holladay at 904-488-1344.

Sincerely,

C. H. Fancy
Chief
Bureau of Air Regulation

CHF/cgh

cc: Buck Oven, FDEP
Tom Rogers, FDEP
Teresa Heron, FDEP
Doug Fulle, EBASCO

EBASCO

January 21, 1993

RECEIVED

JAN 2 4 1994

Bureau of
Air Regulation

Mr. Cleve Holladay
Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32301

Dear Mr. Holladay:

Subject: Gainesville Regional Utilities
Deerhaven Combustion Turbine Addition
Air Quality Modelling Runs

I understand that in a conversation with Ms. Yolanta Jonynas of GRU you asked for a disk containing the input and output files of the ISC2 model runs which were made in support of the analysis transmitted to FDEP in a letter from GRU dated December 27, 1993. Ms. Jonynas has asked that I to transmit the disk which you requested directly to you.

The attached disk contains the input and output files which support the Class I Area analysis contained in the December 27, 1993 letter. The other portion of the analysis, dealing with the impacts in the site vicinity, are contained on the disks previously sent to you in support of the Monitoring Exemption Request, dated November 24, 1993. A complete listing of the input and output files on all disks is also enclosed.

Please call me at (404) 662- 2377 should you have any questions on this material.

Very truly yours,

Douglas J. Fulle
Regional Manager, Air Quality

attachment

djf

cc. Y. Jonynas(GRU)
D. Beck(GRU)
D. Roberts(HBGS)
T. Putman
File 326

EBASCO ENVIRONMENTAL *A Division of Ebasco Services Incorporated*
145 TECHNOLOGY PARK • NORCROSS, GA 30092-2979 • (404) 662-2300 • FAX (404) 662-2408

GAINESVILLE REGIONAL UTILITIES
Strategic Planning

December 27, 1993

Mr. Hamilton S. Oven
Office of Siting Coordination
Florida Department of Environmental Protection
3900 Commonwealth Blvd., Suite 953
Tallahassee, FL 32399-3000

Re: Gainesville Regional Utilities
Deerhaven Generating Station (PA 74-04)
74 MW Simple Cycle Combustion Turbine
Preliminary Air Quality Modelling Results

Dear Mr. Oven:

The air quality modelling protocol submitted for this project and approved by the Department indicated that preliminary air quality modelling would be conducted for the proposed project alone and projected impacts compared with various "significance levels" in order to determine whether additional air quality impact assessments (i.e., multiple source modelling) would be needed. This letter provides the results of the preliminary modelling and requests Department concurrence that multiple source modelling is not needed to support the Modification to Certification Request/PSD Application.

As indicated in the modelling protocol, worst case load and worst case temperature analyses were conducted for the proposed combustion turbine (CT) on the worst case fuel - No. 2 fuel oil. Based on these analyses, a series of worst case combinations of CT load and ambient temperature were determined for the various averaging times associated with the PSD Class II increments and ambient standards. These worst case combinations were identified in the monitoring exemption request submitted to you on November 24, 1993. CT emissions information and recent No. 2 fuel oil data have been refined since the monitoring exemption request was prepared and these more recent data have been used in the significant impact area analyses described in this letter.

(904) 334-3400 ext. 1261 P.O. Box 147117, Station A136, Gainesville, Florida 32614-7117 Fax: (904) 334-3151

Class II Area Impacts

In order to determine the significant impact areas in the vicinity of the proposed CT for Class II PSD purposes, the worst case load and temperature combinations were analyzed for all five years of meteorological data (Gainesville/Tampa 1985-1989). CT emission rates appropriate for the various temperature/load combinations and consistent with what will be proposed as BACT in the permit application were used in the analysis. The emission rates for sulfur dioxide (SO_2) were based upon a blend of the 187,000 gallons of 0.46% S fuel currently in the on-site tank and a 200,000 gallon batch of 0.05% S fuel oil which has been purchased to add to the tank. For annual average emission rates for all pollutants, the short-term maximum rates were scaled down to a lower number consistent with the maximum hours (3,900 hours) of CT operation which will be requested in the permit application. The results of this analysis are presented in Attachment 1. As indicated, the maximum predicted impacts (highest not highest, second-highest) values are below the Class II significance values defined in Table C-4 of the Draft New Source Review Workshop Manual. Thus, the off-site impacts from the project will not be "significant," and no further air quality impact assessments (i.e., multiple source modelling) in the site vicinity should be needed.

Class I Area Impacts

With respect to Class I PSD areas, a separate analysis for distant receptors was conducted using emissions and stack parameters consistent with expected worst case conditions - full load (100%), low temperature (20°F), fuel oil operation. A maximum of 3,900 hours of CT operation and the blended fuel oil sulfur content of 0.25% were assumed for the initial analysis. Receptor locations for the Class I areas were obtained from the Department. The results of the analysis are presented in Attachment 2. As indicated, the maximum (again highest rather than highest, second-highest) impacts based on a five year analysis are below both the EPA(Virginia) and NPS significance values for particulate matter (PM_{10}) and nitrogen dioxide (NO_2). Maximum SO_2 impacts are above the EPA and NPS significance levels, however. For SO_2, using a maximum of 2,000 hours per year of fuel oil operation (which is the maximum amount of fuel oil operation which will be applied for in the application), the predicted annual impacts fall to very close to the NPS significance values, but the maximum predicted short-term impacts are still above the NPS significance values. However, by using the very low sulfur (0.05%) fuel which will ultimately be used for the CT, the maximum predicted impacts fall below the NPS significance values, as indicated in Attachment 2. This implies that the impacts of the proposed project on the Class I areas will be "insignificant" when firing natural gas or very low sulfur fuel oil, and that no further air quality Class I increment consumption assessments (i.e., multiple source modelling) should be necessary for these Class I areas.

Please note that although the application will contain a request to use the existing blend of fuel oil stored in the on-site tank, any new oil purchased for the proposed CT will be the very low sulfur oil used in the final portion of this analysis. The supply of on-site blended fuel (387,000 gallons) could be used up in about 52 hours of continuous full load, low temperature operation. Thus, for the purposes of determining the need for multiple source modelling for Class I PSD areas, it is reasonable to use the very low sulfur fuel oil which will be the ultimate fuel for the proposed CT when it is not burning natural gas, the primary fuel.

Please review the attached information and provide us with your concurrence that further air quality modelling is not required for either the near site Class II PSD increment/ambient standards analysis or the long distance Class I PSD increment analysis. Should you have any questions on this analysis, please call me at (904) 334-3400 ext. 1284.

Sincerely,

Yolanta E. Jonynas

Yolanta E. Jonynas
Senior Environmental Engineer

YEJ:djf
Enclosures

xc. Doug Beck
Doug Fulle, Ebasco
Doug Roberts, HBGS
Tom Rogers, FDEP
DHGT3

SUMMARY OF MAXIMUM OFF-SITE IMPACTS VERSUS CLASS II PSD SIGNIFICANCE VALUES

Pollutant	Averaging Time	Emission Rate (g/s)	Ambient Temperature (°F)	CT Load (%)	Year	Normalized Impact ($\mu g/m^3$)	Maximum Impact ($\mu g/m^3$)	Class II Significance Value ($\mu g/m^3$)
SO_2	Annual	12.5	20	80	85	.00262	.03275 OK	1
			✓	✓	86	.00228	.02850	
					87	.00254	.03175	
					88	.00257	.03213 OK	
					89	.00245	.03063 OK	
	24-Hour	28.1	20	80	85	.03910	1.0987 OK	5
		OK	✓	✓	86	0.3643	1.0237	
					87	.03986	1.1201	
					88	.04025	1.1310 OK	
					89	.05223	1.4677 OK	
	3-Hour	20.7	75	60	85	.20018	4.1437	25
			✓	✓	86	.18534	3.8365	
					87	.19481	4.0326	
					88	.17011	3.5213	
					89	.23693	4.9045	
PM_{10}	Annual	.085	95	60	85	.00323	.00275	1
			✓	✓	86	.00279	.00237	
					87	.00301	.00256	
					88	.00318	.00270	
					89	.00306	.00260	
	24-Hour	1.9	95	60	85	.04638	.08812	5
		OK	✓	✓	86	.04195	.07971	
					87	.04964	.09432 OK	
					88	.04949	.09403	
					89	.06108	.11605	

SUMMARY OF MAXIMUM OFF-SITE IMPACTS VERSUS CLASS II PSD SIGNIFICANCE VALUES

Pollutant	Averaging Time	Emission Rate (g/s)	Ambient Temperature (°F)	CT Load (%)	Year	Normalized Impact ($\mu g/m^3$)	Maximum Impact ($\mu g/m^3$)	Class II Significance Value ($\mu g/m^3$)
CO	8-Hour	7.9	20	60	85	.10005	.79040	500
					86	.08489	.67063	
					87	.12073	.95377	
					88	.08630	.68177	
					89	.12577	.99358	
	1-Hour	7.3	75	60	85	.45575	3.3270	2000
					86	.46655	3.4058	
					87	.46367	3.3848	
					88	.41993	3.0655	
					89	.71080	5.1888	
NO_2	Annual	11.1	20	80	85	.00262	.02908	1
					86	.00228	0.2531	
					87	.00254	0.2819	
					88	.00257	.02853	
					89	.00245	.02720	

Note: Annual emission rates based on 3,900 hours/year operation.
SO_2 emission rates based on 0.25% S fuel oil.

ATTACHMENT 2

SUMMARY OF MAXIMUM CLASS I AREA IMPACTS
AT 20°F 100% LOAD ON FUEL OIL OK

Pollutant	Emissions (g/s)	Averaging Period	Maximum Concentration ($\mu g/m^3$)		EPA (Virginia) Significance Values ($\mu g/m^3$)	NPS Significance Values ($\mu g/m^3$)
			Chassahowitzka	Okefenokee		
Based on 3,900 Hours/Year (.445 of Year) of .25% S Fuel Oil:						
SO_2	14.9	Annual	0.00522 OK	0.00522	0.1	.0025
	33.6	24	0.31954 OK	0.34238 OK	0.275	.07
	33.6	3	1.52443 OK	1.34299 OK	1.23	.48
PM_{10}	0.85	Annual	0.00030 OK	0.00030 OK	.27	.08
	1.9	24	0.01807 OK	0.01936 OK	1.35	.33
NO_2	13.3	Annual	0.00466 OK	0.00466 OK	0.1	.025
Based on 2,000 Hours/Year (.228 of Year) of .25% S Fuel Oil:						
SO_2	7.66	Annual	0.00268 OK	0.00268 OK	0.1	.0025
	33.6	24	0.31954 OK	0.34238 OK	0.275	.07
	33.6	3	1.52443 OK	1.34299 OK	1.23	.48
Based on 2,000 Hours/Year (.228 of Year) of .05% S Fuel Oil:						
SO_2	1.52	Annual	1989 0.00053 OK	0.00053 OK	0.1	.0025
	6.68	24	0.06353 OK	0.06807 OK	0.275	.07
	6.68	3	0.30307 OK	0.26700 OK	1.23	.48

Note: Annual emission rates are scaled based on 3,900 or 2,000 hours per year of operation.
SO_2 emission rates based on expected fuel oil mix (.25% S) and future oil (.05% S).

.03997

Putting file

I N T E R O F F I C E M E M O R A N D U M

Date: 01-Nov-1993 03:54pm
From: Douglas Outlaw TAL
OUTLAW_D
Dept: Air Resources Manage
Tel No: 904/488-1344
SUNCOM: SC 278-1344

TO: Hamilton Buck Oven TAL (OVEN_H)

CC: Preston Lewis TAL (LEWIS_P)
CC: Syed Arif TAL (ARIF_S)

Subject: GRU Minutes of Sept 22, 1993, Meeting

I have noted several comments on the minutes submitted by GRU for the Deerhaven Generating Station. The comments are:

a. Paragraph 3 - The Department agreed that SNCR, not SCR, was not technically feasible but would need to be verified in the application. An economic analysis for SCR will need to be included as a part of the BACT application.

b. Paragraph 4 - Use of the fuel oil currently stored on site was discussed during the meeting with GRU and it was agreed that fuel oil issues would require further discussion. GRU did indicate that the fuel oil currently stored on site could be used in other units; however, no discussion of NOx emissions for the proposed CT in the 80-85 ppmvd range for fuel oil firing occurred during the meeting. GRU indicated that the fuel bound nitrogen content in the fuel stored on site had been tested at 0.1 per cent, by weight, but were planning to collect another sample for a new analysis.

c. The Department did suggest that GRU consider a limitation on the hours the CT is fired with fuel oil but also stated that that the number of hours allowed can significantly impact the economic analysis for the BACT determination.

Florida Department of
Environmental Protection

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

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

October 26, 1993

Ms. Yolanta E. Jonynas
Senior Environmental Engineer
Gainesville Regional Utilities
P.O. Box 147117, Station A136
Gainesville, Florida 32614-7117

Dear Ms. Jonynas:

I have reviewed the revised air quality modeling protocol provided with your October 20 letter to Mr. Hamilton Oven. This protocol is acceptable. If you have any further questions regarding the required air quality analysis please call me at 904/488-0114.

Sincerely,

Thomas G. Rogers

Thomas G. Rogers
Administrator

TGR/tr

cc: H. Oven
P. Lewis

GAINESVILLE REGIONAL UTILITIES
Strategic Planning

October 19, 1993

Mr. Hamilton Oven, Siting Coordinator
Florida Department of Environmental Protection
3900 Commonwealth Blvd., Suite 953
Tallahassee, FL 32399

RE: Gainesville Regional Utilities
Deerhaven Generating Station (PA 74-04)
74 MW Simple Cycle Combustion Turbine Project

Dear Mr. Oven:

Enclosed are the minutes of our September 22, 1993 meeting to discuss the 74 MW simple cycle combustion turbine which Gainesville Regional Utilities is proposing to locate at the Deerhaven Generating Station.

The modelling protocol has been revised to incorporate the Department's comments and will be submitted under separate cover for your review and approval.

Please call me at (904) 334-3400 Ext. 1284 if you have any questions.

Sincerely,

Yolanta E. Jonynas
Sr. Environmental Engineer

Enclosure

xc: Doug Beck (w/o enc)
Martin Costello, FDEP
Teresa Heron, FDEP
Cleve Holladay, FDEP
Doug Outlaw, FDEP
Doug Roberts, HBGS
Tom Rogers, FDEP
DHGT3

OVEN1093.y13

(904) 334-3400 ext. 1261 P.O. Box 147117, Station A136, Gainesville, Florida 32614-7117 Fax: (904) 334-3151

MINUTES OF MEETING

Date: September 22, 1993

Location: FDEP Offices/Tallahassee

Subject: Deerhaven Combustion Turbine Project
Environmental Permitting Plans

Attendees:
Doug Beck, GRU
Yolanta Jonynas, GRU
Doug Fulle, EED
Buck Oven, FDEP
Darrel Graziani, EED
Doug Outlaw, FDEP
Teresa Heron, FDEP
Doug Roberts, HBGS
Tom Rogers, FDEP
Cleve Holladay, FDEP
Martin Costello, FDEP

Purpose: The purposes of the meeting were to: (1) bring the FDEP personnel up to speed on GRU's plans for the project; (2) provide FDEP with a description of the proposed modification to certification request package; (3) go over the air quality modelling protocol which had been previously submitted; (4) discuss potential BACT emission rates; (5) discuss the potential for fuel oil firing (both new very low sulfur oil and existing low sulfur oil); and (6) discuss issues related to the monitoring of flow in the combustion turbine stack.

A summary of the meeting follows:

1. After initial introductions, Tom Rogers indicated that Cleve Holladay will probably be the meteorologist assigned to the application and Teresa Heron indicated that she will probably be assigned to the permit and Doug Outlaw will be involved in the BACT portion of the application. Buck Oven confirmed that the project would be treated as a modification to certification. Doug Roberts provided copies of the modification to certification package description to the meeting participants and D. Fulle summarized its contents. Buck Oven's initial reaction to the document was favorable, although it was recognized that a formal review of the submittal would need to await a more thorough review.

2. Doug Fulle asked for FDEP's comments on the modelling protocol. Tom Rogers indicated that the overall modelling approach was acceptable, but that there were a few specific comments. They want to see all 189 air toxics listed in the CAAA90 addressed, not just the criteria pollutants; however, multiple source modelling will be required only for those criteria pollutants with significant off-site impacts. The IWAQM recommendations

regarding determining impacts on the Class I PSD areas will need to be followed, and impacts on both Class I areas rather than just the nearest one will be required. Similarly, for visibility, impacts on both Class I areas will need to be evaluated. Tom Rogers indicated that the need for or lack of need for an AQRV analysis will need to be determined after consultations with the Park Service rather than being determined by the level of impacts versus the NPS significance values. FDEP offered to be involved in any discussions with the NPS on this issue. Tom Rogers confirmed that the Gainesville/Tampa meteorological data set supplied by FDEP should be used in the analysis as opposed to a Gainesville/Waycross data set. He further confirmed that flat terrain can be used in the analyses.

3. Doug Fulle described some of the BACT issues which GRU wanted to get some initial feedback on, including the 15 ppmvd emission level for NOx when firing natural gas. Three cases were discussed: (1) dry low NOx combustor when firing gas; (2) water injection for power augmentation when firing gas; and (3) water injection when firing fuel oil. The fact that the unit is being built at the GE factory in 1993 and will be in commercial operation in 1995 was stressed to emphasize the differences in schedule between GRU's project and a number of others whose applications are before FDEP now but whose commercial operation is not expected before 1997 or 1998. There was no adverse reaction by FDEP to the 15 ppmvd level as a potential BACT level for NOx on gas. It was agreed that while we will need to verify the lack of technical feasibility of SCR for this simple cycle application, we will not need to include an economic analysis of SCR. FDEP requested that the emissions data supplied with the application should be for both ISO conditions and for a low temperature case (ie. 20 F).

4. Doug Fulle indicated that there were two fuel related issues for discussion: (1) any expected limitations on fuel oil firing in general, and (2) any limitations on firing the No. 2 fuel oil existing on site until as this supply is depleted. Emissions of NOx with water injection for new oil would probably be in the range of 42-48 ppmvd (depending upon fuel bound nitrogen) and for the existing on-site oil in the 80-85 ppmvd range (due to its high fuel bound nitrogen content). Doug Beck indicated that the existing oil would be burned on site anyway since the existing CTs are permitted to burn it, and it would make sense to GRU to burn it in the newer, more efficient unit to get rid of it sooner. This would also allow for maintaining only a single fuel oil storage tank for the No. 2 fuel oil. Doug Outlaw indicated that FDEP would be expecting to include some kind of a limitation on the amount of fuel oil firing but did not indicate how many hours would be acceptable to the Department. He also indicated that they might be willing to accept the firing of the existing on-site fuel oil if there were a commitment from GRU that only very low sulfur oil would be purchased to replenish the existing supply. It was agreed that the fuel oil issues will require further discussion.

5. Doug Beck talked about GRU's plans for CEMS for the CT. He indicated that GRU would prefer to have a CEMS for SO2 as opposed to using the alternative method allowed by the 40 CFR 75 regulations since they will already have a CEMS for NOx for the CT and a comprehensive CEMS program for the whole Deerhaven site. However, they are aware of a problem with measuring flow in the CT exhaust stack (required for SO2 determination) due

to the turbulence and may need to seek approval of an alternative flow measurement technique or location. There may also be a problem with the use of Method 2 for flow determination in the stack sampling/compliance test due to this same turbulence problem. Martin Costello and Doug Outlaw advised that the procedure to get these issues resolved would be to write a letter to Mike Harley of FDEP requesting approval of an alternative monitoring/measurement location or technique which would include explanations from GE on the problem.

6. Tom Rogers added a couple of additional points on the modelling. First, we should use a 0.25 km spacing on receptors on our coarse grid in areas expected to have the maximum impacts (to be determined by SCREEN or screening runs of ISCST) rather than the 0.5 km spacing which we had proposed. Second, we should assume 10 grains of sulfur per hundred standard cubic feet of natural gas.

7. Action items

- Doug Fulle to prepare meeting minutes.
- GRU to have their existing oil's fuel bound nitrogen content reanalyzed.
- GRU to get discuss the flow measurement method problem with GE and prepare a letter to Mike Harley of FDEP requesting approval for alternative methods.
- Ebasco Environmental to revise the modelling protocol per the discussions for resubmittal to FDEP.
- Upon completion of preliminary modelling, GRU/Ebasco to contact FDEP about discussing the need for an AQRV analysis with the federal land manager for the Class I PSD areas.
- FDEP (Buck Oven) to review and provide comments to GRU on the modification to certification package description.

djf