

Memorandum

Florida Department of Environmental Protection

Kim

TO: Howard L. Rhodes

THRU: Clair Fancy *CAF 10/20*
Al Linero *AL 10/20*

FROM: Willard Hanks *WH*

DATE: October 20, 1997

SUBJECT: Osceola Power L.P.
Modification of Permit
AIRS No. 0990331-006-AC (PSD-FL-197E)

Attached for your approval is a letter that will modify the construction permit for Osceola Power's cogeneration facilities located near Pahokee in Palm Beach County. No comments were submitted in response to the public notice for the proposed modification.

The modification will require a minor reduction in the amount of coal that can be burned in the facility, and allows increases in the hourly emissions of nitrogen oxides, sulfur dioxide, lead, mercury and carbon monoxide. Except for nitrogen oxides and lead, and as provided for by Specific Conditions of the existing permit, the proposed adjustments will result in annual emissions below the current annual permitted values. The modification also clarifies some compliance testing procedures, including when the sulfuric acid mist compliance test is to be conducted.

That part of this request having to do with the burning of tire derived fuel is being held in abeyance until after the Department reviews the test burn results. The Department may receive a similar request from this facility once emission data is collected on the burning of bagasse and tire derived fuels at this plant.

I recommend your approval and signature of the letter modifying the permit for the burning of wood waste.

WH/t

Attachment

*Note: We did a BAT
determination for NOx. Their previous
limit which they had proposed was
unrealistically low and resulted in
high opacity due to ammonia salts.
The BAT limit is equal to the
one we set for Wheelabrator/Hubbardale.*

AL

FINAL DETERMINATION

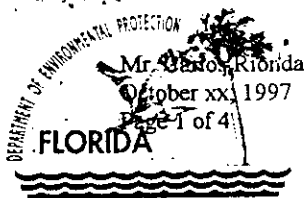
Osceola Power L.P.

Modification of Permit No. AC50-269980 (PSD-FL-197B)

Permit No. 0990331-006-AC

An Intent to Issue an air construction permit modification for Osceola Power L.P., 74 Megawatt Cogeneration Facility located at U. S. Highway 98 and Hatton Highway near Pahokee, Palm Beach County, Florida was distributed on September 9, 1997. The Public Notice of Intent to Issue Air Construction Permit Modification was published in the Palm Beach Post on September 12, 1997. Copies of the modification were available for public inspection at the Department offices in Tallahassee and Fort Myers and the Palm Beach County Public Health Unit in West Palm Beach.

Comments were not submitted in response to the public notice. The final action of the Department will be to issue the permit modification as proposed.



Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

October 20, 1997

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Carlos Rionda, General Manager
Osceola Power Limited Partnership
Post Office Box 606
Pahokee, Florida 33476

Re: Permit Modification No. 0990331-006-AC (PSD-FL-197C)
74 Megawatt Cogeneration Facility

Dear Mr. Rionda:

The Department has reviewed your application dated August 6, 1997 to modify the original construction permit for the Osceola Cogeneration Facility. The application is to revise emission limits for carbon monoxide (CO), lead (Pb), mercury (Hg), sulfur dioxide (SO₂), and nitrogen oxides (NO_x). An evaluation for the Prevention of Significant Deterioration (PSD) was performed and a Best Available Control Technology determination was conducted for NO_x. Construction permit No. AC50-269980 (PSD-FL-197B) is hereby modified as follows:

SPECIFIC CONDITION NO. 15.

The combined use of coal and oil shall be less than 25 percent of the total heat input to ~~this cogeneration facility~~ each boiler on a calendar quarter basis. The consumption of low sulfur coal shall not exceed ~~5.4 percent of the total heat input to each boiler unit in any calendar quarter. The plant shall not burn more than 18,221~~ 14,883 tons of coal during any 12-month period (12-month rolling average).

SPECIFIC CONDITION NO. 16.

The permittee shall maintain a daily log of the amounts and types of fuels used. The amount, heating value, beryllium content (coal only), sulfur content, and equivalent SO₂ emission rate (in lb/MMBtu) of each fuel oil and coal delivery shall be kept in a log for at least two years. For each calendar month, the calculated SO₂, mercury, and lead emissions and 12-month rolling average shall be determined (in tons) and kept in a log.

SPECIFIC CONDITION NO. 19.

Visible emissions from any cogeneration boiler shall not exceed 20 percent opacity, 6-minute average, except up to 27 percent opacity is allowed for up to 6 minutes in any 1 hour period. Based on a maximum heat input to each boiler of 760 MMBtu/hr for biomass fuels, 600 MMBtu/hr for No. 2 fuel oil, and 530 MMBtu/hr for coal, stack emissions shall not exceed any limit shown in the following table:

Pollutant	EMISSION LIMIT (per boiler) ^d						Total ^e Two Boilers (TPY)
	Biomass		No. 2 Oil		Bit. Coal		
	(lb/MMBtu)	(lb/hr)	(lb/MMBtu)	(lb/hr)	(lb/MMBtu)	(lb/hr)	
Particulate (TSP)	0.03	22.8	0.03	18.0	0.03	15.9	123.1
Particulate (PM ₁₀)	0.03	22.8	0.03	18.0	0.03	15.9	123.1
Sulfur Dioxide							
3-hour average	---	---	---	---	1.2	636.0	---
24-hour average	0.10	76.0	0.05	30.0	1.2	636.0	---
Annual average	0.02 a				1.2 a	---	339.0 f
(Bagasse)	0.02 a b	---	---	---			
(Woodwaste)	0.05 a c						
Nitrogen Oxides							
Annual average	0.12 0.14	88.2 105 a	0.12 0.14 a	72.0 84.0 a	0.15 a	79.5 a	477.1 577
Carbon Monoxide							
24-hr average	0.35	266.0	0.2 0.35	120 210.0	0.2 0.35	106.0 185.5	1,436.4
Volatile Organic Compounds	0.06 b 0.04 c	45.6 b 30.4 c	0.03	18.0	0.03	15.9	219.2
Lead	2.7 x 10 ⁻⁶ b (Bagasse) 2.7 x 10 ⁻⁶ b (Wood Waste)	0.002 0.002 0.12	8.9 x 10 ⁻⁷	0.0005	5.1 x 10 ⁻⁶	0.0027	0.011 0.27 f
Mercury	5.7 x 10 ⁻⁶ b 3.5 x 10 ⁻⁶ b 0.29 x 10 ⁻⁶ c 4.0 x 10 ⁻⁶ c	0.0043 b 0.0027 b 0.00022 c 0.0030 c	2.4 x 10 ⁻⁶	0.0014	8.4 x 10 ⁻⁶	0.0045	0.0168 f
Beryllium	---	---	3.5 x 10 ⁻⁷	0.0002	5.9 x 10 ⁻⁶	0.0031	0.0015
Fluorides	---	---	6.3 x 10 ⁻⁶	0.004	0.024	12.7	5.25
Sulfuric Acid Mist	0.005	3.72	0.0025	1.5	0.010	5.3	6.0

^a Compliance based on 30-day rolling average, per 40 CFR 60, Subpart Da.

^b Emission limit for bagasse. Subject to revision after testing pursuant to Specific Conditions Nos. 23 and 24.

^c Emission limit for woodwaste. Subject to revision after testing pursuant to Specific Conditions Nos. 23 and 24.

^d The emission limit shall be prorated when more than one type of fuel is burned in a boiler.

^e Limit heat input from No. 2 fuel to less than 25% of total heat input on a calendar quarter basis and coal to 48,224 14,883 tons during any 12-month period. Combined heat input of coal and oil shall be less than 25% of the total heat input on a calendar quarter basis.

^f Compliance based on a 12-month rolling average.

The permittee shall comply with the excess emissions rule contained in Rule 62-296.210, F.A.C. In addition, the permittee is allowed excess emissions during startup conditions, provided such excess emissions do not exceed a duration of four hours, and such emissions in excess of two hours do not exceed six (6) times per year.

SPECIFIC CONDITION NO. 21 STACK TESTING.

- a. Within 60 calendar days after achieving the maximum capacity at which each unit will be operated, but no later than 180 operating days after initial startup, the permittee shall conduct emission compliance tests for all air pollutants listed in Specific Condition No. 19 (including visible emissions). Tests shall be conducted during normal operations (i.e., within 10 percent of the permitted heat input). The permittee shall furnish the Department a written report of the results of such performance tests within 45 days of completion of the tests. The emission compliance tests will be conducted in accordance with the provisions of 40 CFR 60.46a.
- b. Compliance with emission limitations for each fuel stated in Specific Condition No. 20 above shall be demonstrated using EPA Methods, as contained in 40 CFR Part 60 (Standards of Performance for New Stationary Sources), continuous emissions monitoring data, or 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants), or any other method as approved by the Department, in accordance with F.A.C. Rule 17-297.620. A test protocol shall be submitted for approval to the Bureau of Air Regulation at least 90 days prior to testing.

<u>EPA Method*</u>	<u>For Determination of</u>
1	Selection of sample site and velocity traverses.
2	Stack gas flow rate when converting concentrations to or from mass emission limits.
3 or 3A	Gas analysis when needed for calculation of molecular weight or percent O ₂ .
4	Moisture content when converting stack velocity to dry volumetric flow rate for use in converting concentrations in dry gases to or from mass emission limits.
5	Particulate matter concentration and mass emissions.
201 or 201A	PM ₁₀ emissions.
6, 6C, or 19	Sulfur dioxide emissions from stationary sources.
7 or 7E	Nitrogen oxide emissions from stationary sources.
8 (modified)	Sulfuric acid mist. **
9	Visible emission determination of opacity. - At least three one hour runs to be conducted simultaneously with particulate testing. - At least one truck unloading into the mercury reactant storage silo (from start to finish).
10	Carbon monoxide emissions from stationary sources.
12	Determination of inorganic lead emissions from stationary sources.
13A or 13B	Fluoride emissions from stationary sources.
18 or 25	Volatile organic compounds concentration.
101A	Determination of particulate and gaseous mercury emissions.
104	Determination of beryllium emissions from stationary sources.
108	Determination of particulate and gaseous arsenic emissions.
EMTIC Test	Chromium and copper emissions.
Method CTM-012.WPF	

* Other approved EPA test methods may be substituted for the listed method unless the Department has adopted a specific test method for the air pollutant.

** Test for sulfuric acid mist only required when coal or tire derived fuel blends are burned at the facility.

A copy of this permit modification shall be filed with the referenced permit and shall become part of the permit. This permit modification is issued pursuant to Chapter 403, Florida Statutes. Any party to this order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, F.S., by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Legal Office; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 (thirty) days from the date this Notice is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.



Howard L. Rhodes, Director
Division of Air Resources
Management


CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF FINAL PERMIT MODIFICATION (including the FINAL permit Modification) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 10-21-97 to the person(s) listed:

Mr. Carlos Rionda, Osceola Power L.P. *
Mr. David Buff, Golder Associates
Mr. Brian Beals, EPA
Mr. John Bunyak, NPS
Mr. David Knowles, SD
Mr. J. Koerner, PBCPHU

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED,
on this date, pursuant to §120.52(7), Florida
Statutes, with the designated Department Clerk,
receipt of which is hereby acknowledged.

 10-21-97
(Clerk) (Date)

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

**Cogeneration Facility
Osceola Power L.P.
PSD-FL-197C and 0990331-006-AC
Pahokee, Palm Beach County**

BACKGROUND

The applicant, Osceola Power L.P., constructed and began operating a 74 megawatt cogeneration facility in 1995. The facility consists of two identical spreader stoker boilers and associated equipment. The facility is permitted to burn primarily biomass (woodwaste and bagasse), with No. 2 fuel oil and coal used as supplemental fuels. Emission control equipment consists of an electrostatic precipitator (ESP) for particulate and heavy metals control, a selective non-catalytic reduction (SNCR) system for nitrogen oxides (NO_x) control, and an activated carbon injection system for mercury (Hg) control.

Ultimately the facility will provide the steam presently provided by the existing boilers at the adjacent Osceola Farms sugar mill. The boilers at that mill are scheduled for permanent shutdown by January 1, 1999.

A Best Available Control Technology (BACT) determination for NO_x control was not required at the time the permit was issued for the new boilers because potential emissions were estimated to be less than recent actual emissions from the boilers destined for shutdown. Very low NO_x emissions limits were set to avoid triggering New Source review for this pollutant. Osceola Power L.P. has met these limits but has encountered problems which may have been exacerbated by injection of excessive urea when trying to meet those limits. Among the problems are: relatively high plume opacity aggravated by formation of ammonium particulate species; increased deterioration of superheater tubes; and lower ESP particulate collection efficiency.

Osceola Power is requesting that the NO_x limits for the facility be relaxed. This results in a Significant Emission Increase (greater than 40 tons per year) in a PSD criteria pollutant at a Major Facility per Table 62-212.400-2. Relaxation of these limits will subject the facility to the PSD regulations, which requires a BACT determination pursuant to Rule 62-212.410, F.A.C. A project description, process description, and rule applicability are included in the Technical Evaluation and Preliminary Determination.

Following is the BACT determination proposed by the applicant:

BACT DETERMINATION REQUESTED BY THE APPLICANT:

POLLUTANT	PRESENT PERMITTED LIMIT lb/MMBtu heat input	PROPOSED BACT LIMIT lb/MMBtu heat input
Nitrogen Oxides:		
Biomass	0.12	0.15 lb/MMBtu
No. 2 Fuel Oil	0.12	0.15 lb/MMBtu
Coal	0.15	0.17 lb/MMBtu

10/22/97

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

The proposed increase in the emissions limits will result in an annual increase of approximately 150 tons per year (TPY) of NO_x. Osceola Power L.P. proposes to use the existing SNCR system to achieve the revised limits. The revised limits will be met by decreasing the ratio of urea injected into the furnace to NO_x present in the combustion gases. The applicant expects an amelioration of the present problems as a result of lowering use of urea.

DATE OF RECEIPT OF A BACT APPLICATION:

August 7, 1997

REVIEW GROUP MEMBERS:

A. A. Linero, New Source Review Section.

BACT DETERMINATION PROCEDURE:

In accordance with Chapter 62-212, F.A.C., this BACT determination is based on the maximum degree of reduction of each pollutant emitted which the Department of Environmental Protection (Department), on a case by case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques. In addition, the regulations state that, in making the BACT determination, the Department shall give consideration to:

- Any Environmental Protection Agency determination of BACT pursuant to Section 169, and any emission limitation contained in 40 CFR Part 60 - Standards of Performance for New Stationary Sources or 40 CFR Part 61 - National Emission Standards for Hazardous Air Pollutants.
- All scientific, engineering, and technical material and other information available to the Department.
- The emission limiting standards or BACT determination of any other state.
- The social and economic impact of the application of such technology.

The EPA currently stresses that BACT should be determined using the "top-down" approach. The first step in this approach is to determine, for the emission unit in question, the most stringent control available for a similar or identical emission unit or emission unit category. If it is shown that this level of control is technically or economically unfeasible for the emission unit in question, then the next most stringent level of control is determined and similarly evaluated. This process continues until the BACT level under consideration cannot be eliminated by any substantial or unique technical, environmental, or economic objections.

The air pollutant emissions from this facility can be grouped into categories based upon the control equipment and techniques that are available to control emissions from these emission units. Using this approach, the emissions can be classified as follows:

- **Combustion Products** (e.g., SO₂, NO_x, PM). Controlled generally by good combustion of clean fuels or removal in add-on control equipment.
- **Products of Incomplete Combustion** (e.g., CO, VOC). Control is largely achieved by proper combustion techniques.

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

- **Other fuel contaminants** (fluorides, lead, mercury)

Grouping the pollutants in this manner facilitates the BACT analysis because it enables the equipment available to control the type or group of pollutants emitted and the corresponding energy, economic, and environmental impacts to be examined on a common basis. Control of "non-regulated" air pollutants is considered in determining a BACT limit on a "regulated" pollutant (i.e., PM, SO₂, H₂SO₄, fluorides, etc.) if a reduction in "non-regulated" air pollutants can be directly attributed to the control device selected as BACT for the abatement of the "regulated" pollutants.

BACT POLLUTANT ANALYSIS

NITROGEN OXIDES (NO_x)

Oxides of nitrogen (NO_x) are generated during fuel combustion by oxidation of chemically bound nitrogen in the fuel (fuel NO_x) and by thermal fixation of nitrogen in the combustion air (thermal NO_x). As flame temperature increases, the amount of thermally generated NO_x increases. Fuel type affects the quantity and type of NO_x generated. Generally, biomass is low in nitrogen. Due to lower heating value and higher moisture, biomass causes lower flame temperatures and generates less thermal NO_x than oil or coal, which have higher fuel nitrogen content, and exhibit higher flame temperatures.

A review of EPA BACT/LAER Clearinghouse (BACT Clearinghouse) information indicates that NO_x emissions at many facilities burning primarily biomass are minimized by process control and good combustion practices, while several facilities employ the add-on technology of SNCR.

The applicant has proposed SNCR for control of NO_x emissions. SNCR involves the injection of either aqueous ammonia or urea into the boiler. The Osceola Power facility currently uses the NO_x OUT process whereby a urea-based reagent is injected into the flue gas. The urea selectively reduces the NO_x to nitrogen, carbon dioxide, and water. Generally, some unreacted urea in the flue gas results in emissions of ammonia (termed ammonia slip).

The applicant's proposed technology of SNCR is compared below with previous determinations documented by the BACT Clearinghouse.

BACT Clearinghouse Determinations

<u>Determination:</u>	<u>Least Stringent</u>	<u>Most Stringent</u>	<u>Applicant Proposal</u>
Year	1995	1992	1997
Limit (lb/MMBtu):	0.30	0.15	0.15

Based on information contained in the BACT/RACT/LAER Clearinghouse EPA database, all BACT determinations issued within the past 5 years for NO_x emissions from wood-fired boilers were reviewed. Most determinations were based on SNCR technology. A few determinations have been based on combustion control and boiler design and operation. Of the BACT determinations requiring SNCR, only a few have NO_x limits of less than 0.15 lb/MMBtu. A discussion of each of these is provided below:

- Multitrade LP - 0.1 lb/MMBtu; is a peaking boiler, not base load unit, and therefore is not directly comparable to Osceola.

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

- SAI Energy - 0.023 lb/MMBtu; is a fluidized bed unit, therefore not directly comparable to Osceola; also, was never constructed.
- Scott Paper - 43 ppm - Limit could not be met by Scott Paper; plan on raising to 86 ppm (similar to 0.15 lb/MMBtu).

BACT DETERMINATION RATIONALE:

According to the applicant and information from the BACT/LAER Clearinghouse, the range of NO_x BACT emission limits from recently-built wood-fired-boilers is 0.15 to 0.3 lb/MMBtu. This is consistent with determinations made by the Department for AES/Seminole Kraft and Wheelabrator Ridge of 0.29 and 0.14 lb/MMBtu respectively. Osceola Power has actually demonstrated that it can meet a limit of 0.12 lb/MMBtu while burning wood waste and bagasse, but has experienced operational problems including increased superheater tube failures, lower particulate removal efficiency, higher plume opacity, and disproportionately high ammonia emissions (slip). Ammonia is not a regulated air pollutant, but adds to the nitrogen load to the environment.

Identical units at Okeelanta Power are limited to 0.15 lb/MMBtu but experience less problems than those at Osceola Power. The most obvious difference in the operation at Osceola and Okeelanta is the amount of urea injected to accomplish NO_x removal.

Based on comparisons between Osceola and Okeelanta, the applicant has estimated the marginal cost of NO_x removal between 0.12 and 0.15 lb/MMBtu to be \$25,600/ton. However the Department does not include costs related to lost production. Recalculation results in an estimate of approximately \$13,000/ton which appears to be well in excess of typical cost effectiveness criteria used by the Department.

The limit previously established at Osceola when burning coal is 0.15 lb/MMBtu. The company has requested that this limit be raised to 0.17 lb/MMBtu, which is equal to that at Okeelanta. The use of coal is limited to 4.4 percent of fuel use and neither Osceola nor Okeelanta has yet established any history of NO_x emissions or operational problems when firing or co-firing coal. At present there is no established limit for NO_x emissions when firing or co-firing tire-derived fuel (TDF). The applicant requested a limit when firing TDF of 0.17 lb/MMBtu.

The determination at Wheelabrator of 0.14 lb/MMBtu was made for the case when a fuel blend of 40 percent tires and 60 percent wood was fired. It is noted that Osceola Power agreed initially to a lower limit of 0.12 lb/MMBtu to avoid increases in NO_x emissions compared to the operation of certain existing boilers at Osceola Farms which are destined for permanent shutdown. This allowed the project to avoid being subjected to Non-Attainment Area New Source Review (NAANSR) and implementation of the Lowest Achievable Emissions Rate (LAER) irrespective of cost.

The area has since been redesignated as a maintenance area with respect to ozone. Therefore projects involving the ozone pre-cursors, VOCs and NO_x can be reviewed in accordance with PSD/BACT procedures instead of NAANSR/LAER procedures. The Department is reluctant to relax limits which were set to either comply with or "net out" of NAANSR. However, it appears that the impacts on ambient NO_x and ozone concentrations are negligible in this case. The energy, economic, and environmental impacts of the control method are apparently exacerbated by operating at the extreme limits of NO_x removal.

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

Selective Catalytic Reduction (SCR) may be a feasible control option for this type of unit. The technology is similar to SNCR, but involves injection of ammonia at a much lower temperature downstream of the furnace and in the presence of a catalyst, such as vanadium pentoxide. SCR has been demonstrated at coal-fired plants and could resolve concerns about the superheater tubes. However it would be costly and could add more factors to the problems experienced at the facility. The Department did not find any examples of SCR application to units fired primarily with woodwaste.

The air dispersion modeling analysis and the additional impact analysis presented by the applicant demonstrates that the increase in NO_x emissions will have insignificant effect upon ambient air concentrations in the area, and no adverse impact is predicted upon soils, vegetation or visibility in the area. Locally, there will be some improvement in visibility because of the reduction in ammonia salt emissions. Lower ammonia and ammonia salt emissions reduces the nitrogen load into the environment.

The maximum predicted annual average NO_x impact due to the proposed modification is 0.10 µg/m³. The maximum impact upon the Everglades National Park PSD Class I area is 0.0013 µg/m³, annual average. These impacts are well below specified significant impact levels of 1.0 µg/m³ for the facility area, and 0.025 µg/m³ for the Class I area.

BACT DETERMINATION BY DEP:

In consideration of all the facts and previous BACT determinations by the Department, the BACT determination for this proposed project is as follows:

A limit of 0.14 lb NO_x/MMBtu when firing wood waste, bagasse, or oil will be set. The justification is that it is equal to the most stringent demonstrated limit at a similar facility burning similar fuel. Although the cost effectiveness appears high, the Department believes that eventually optimization of operational and maintenance practices may reduce the problems and costs attributed to the control method without necessarily requiring further reductions in NO_x emission limits.

A BACT determination will not be set at this time for coal or TDF. This will be done when these fuels are burned or tested in the future. This will allow time for correction of the problems so that the effect of the control method can be separated from other practices at the facility. An example is the relocation of induced draft fans from upstream of the ESP to downstream of the ESP. In this case, the particulate control technique actually helped to remedy the problem of premature deterioration of the fans.

NO_x DETERMINATION

The BACT emission levels established by the Department are as follows:

POLLUTANT	PRESENT PERMITTED LIMIT	DEPARTMENT BACT LIMIT
	lb/MMBtu heat input	lb/MMBtu heat input
Nitrogen Oxides:		
Biomass	0.12	0.14 lb/MMBtu
No. 2 Fuel Oil	0.12	0.14 lb/MMBtu
Coal	0.15	n/a
Tire-Derived Fuel	n/a	n/a

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

COMPLIANCE

Compliance for NO_x will be determined by annual stack tests utilizing EPA Method 7 or 7E, and by the continuous NO_x monitors installed on each boiler. Compliance with the limit of 0.14 lb/MMBtu shall be on a 30-day rolling average.

DETAILS OF THE ANALYSIS MAY BE OBTAINED BY CONTACTING:


A. A. Linero, P.E., Administrator, New Source Review Section
Department of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Recommended By:

Approved By:



for C. H. Fancy, P.E., Chief
Bureau of Air Regulation



Howard L. Rhodes, Director
Division of Air Resources Management

10/22/97

Date:

10/23/97
Date:

Memorandum

Florida Department of Environmental Protection

TO: Howard L. Rhodes

THRU: Clair Fancy *CAF 10/22*
Al Linero *AL 10/22*

FROM: Willard Hanks *WmH*

DATE: October 22 1997

SUBJECT: Osceola Power L.P.
Modification of Permit
AIRS No. 0990331-006-AC (PSD-FL-197E)

Attached for your approval is the Best Available Control Technology (BACT) determination used to recently modify the construction permit for Osceola Power's cogeneration facilities located near Pahokee in Palm Beach County. No comments were submitted in response to the public notice for the proposed BACT and modification.

I recommend your approval and signature of the BACT.

WH/t

Attachment

Howard: F.Y.S. This ^{NO_x} BACT is accomplished
by SNCR and is equal to the one issued
to Wheelabrator Ridge who burn similar
material - 0.14 lb/mmBtu.

AL