



**Enron North America Corp.**

P.O. Box 1188

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May 15, 2001

**RECEIVED**

**MAY 16 2001**

**BUREAU OF AIR REGULATION**

Mr. Al Linero, P.E.  
Administrator, New Source Review Section  
Bureau of Air Regulations, Division of Resource Management  
Florida Department of Environmental Protection  
2600 Blair Stone Road  
Tallahassee, Florida 32399-9523

**RE: Request for Additional Information  
DEP File No. 0112534-001-AC (PSD-FL-314)  
Deerfield Beach Energy Center**

Dear Mr. Linero:

On behalf of Deerfield Beach Energy Center, LLC (DBEC), we have reviewed your letter of April 3, 2001 requesting additional information. There were ten separate items in your letter to be addressed in order for the Department to continue the processing of our application. The items are addressed below in the order in which they were stated in the Department's letter.

- 1. The following comment was submitted by the Broward County Department of Planning and Environmental Protection: "Please ensure that the projected impact (i.e. modeling) of the proposed facility on Broward's ambient air takes into consideration air pollutant emissions anticipated from Enron's Pompano Beach Energy Center." (e-mail dated February 22, 2001)*

*Response* - Please refer to Attachment 1 which provides the modeling results of the cumulative impact assessment for the Pompano and Deerfield Projects.

- 2. Based on our definitions, the Deerfield and Pompano Projects constitute a single facility. The Department already made a preliminary determination for the Pompano Project and will conduct a separate permit application review for the Deerfield Project. However, all impact analyses (Class I and Class II) submitted with the Deerfield project application must include the cumulative impacts of the Pompano and Deerfield Projects, since cumulative effects were not considered in the Pompano project review. (Rule 62-210.200, F.A.C., Definitions)*

*Response* - Attachment 1 provides the results of the cumulative modeling analysis to assess the cumulative effects of the Pompano and Deerfield Projects. This modeling demonstrates that the cumulative effects of both projects will comply with all applicable ambient criteria including the Class I increments and air quality related values in the Everglades National Park.

- 3. The "ambient impact analysis" is incomplete. A Class I area impact analysis for the Everglades National Park is required. (Rule 62-212.400(5)(d), F.A.C.)*

*Response* - Please refer to Attachment 1 for the results of the Class I area impact analysis for the Everglades National Park. The combined impacts of the Deerfield and Pompano Projects have been addressed.

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4. *The "additional impact analysis" is not complete. This analysis should include impairment, if any, to visibility, soils and vegetation particularly for the Class I Area. (Rule 62-212.400(5)(e), F.A.C.*

*Response* – Please refer to Attachment 1 for the results of the additional impact analysis. The combined impacts of the Deerfield and Pompano Projects have been addressed.

5. *Please consult with the National Park Service (Federal Land Manager) to insure they have sufficient information to determine whether the emissions from the projects will have an adverse impact on the air quality related values (AQRVs including visibility) in the Everglades National Park. (Rule 62-212.400(4)(a)2., Federal Land Manager Participation)*

*Response* – The National Park Service was consulted regarding the proposed approach to assess Class I impacts on the Everglades. A Class I modeling protocol for the Deerfield Project was provided to the National Park Service via electronic mail on February 6, 2001. This protocol incorporated guidance provided by the National Park Service on the earlier Class I modeling protocol submitted for the Pompano Beach Energy Center Project

6. *Please obtain and provide summaries of visibility monitoring data for the Everglades National Park if available from the National Park Service. (Rule 62-212.400(5)(e)3., F.A.C.)*

*Response* – Visibility monitoring data, in the form of background extinction values, for the Everglades National Park was provided by John Notar of the National Park Service and used in the regional haze analysis presented in Attachment 1.

7. *Please review the cost calculation for the carbon monoxide oxidation catalyst. The cost appears high compared to similar projects. Please ask your consultant to contact us this matter so we can provide specific guidance.*

*Response* - The cost effectiveness for an oxidation catalyst has been presented in the permit application as \$13,200/ton CO removed. This value has been calculated using cost techniques outlined in the OAQPS Control Cost Manual (U.S. EPA 1996), using an equipment cost quotation provided by FDEP. An additional calculation has been performed to estimate the effect of extended startup operations that would result from installation of an oxidation catalyst. Addition of this cost results in a CO cost effectiveness of \$33,900/ton. The additional cost due to extended startup operations has been isolated from other cost effectiveness calculations.

8. *According to recent tests conducted at TECO Polk Power Station, a simple cycle GE 7FA unit achieved between 1 and 3 ppmvd CO at loads between 50 and 100 percent while burning fuel oil. These are very low emissions. We understand that GE will not actually guarantee these low values, but it is worth mentioning this fact in your analysis of CO control costs. We do not believe it is cost-effective to control CO by oxidation catalyst, but want to have the most accurate possible information in the record.*

*Response* - While it is true that several sites with GE 7FA combustion turbines are reporting extremely low CO emission levels during steady state source testing, the cost effectiveness analysis has been performed based on proposed long term emission limitations. The proposed

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emission limitations of 9 ppmvd @ 15% O<sub>2</sub> while firing natural gas, and 20 ppmvd @ 15% O<sub>2</sub> while firing distillate oil are intended to provide a realistic limit for long term compliance. These proposed limits will apply to the proposed combustion turbines during continuous operation, over the lifetime of the combustion turbines, during both steady state and transient operation.

9. *According to initial compliance testing conducted by JEA at its Kennedy Plant, they were able to achieve emissions of 30 ppmvd of NO<sub>x</sub> while burning fuel oil. We recommend that Enron contact JEA and get some details on how this was accomplished and whether it is continuously accomplished. JEA is a municipal power company and can probably provide such information from the public record. (Rule 62-212.400, F.A.C., BACT)*

*Response* - The 9 ppmvd @ 15% O<sub>2</sub> while firing natural gas and 42 ppmvd @ 15% O<sub>2</sub> while firing distillate oil limits proposed in the permit application are intended to serve as emission limitations that will be achieved on a continuous basis over the entire life of the project. These limitations must be met at a wide range of ambient conditions, and at changing load conditions. It is very likely that in new and clean condition, at steady state, during three, one-hour source tests, the NO<sub>x</sub> emissions from the proposed GE 7FA turbines will be significantly lower than the proposed permit limitations. However, proposing a lower limitation would present a significant threat to the ability of the proposed turbines to maintain continuous compliance, over the life of the project.

Some specific considerations that should be considered regarding NO<sub>x</sub> emitted during oil firing are, the Fuel Bound Nitrogen content, and ISO correction. The 42 ppmvd @ 15% O<sub>2</sub> NO<sub>x</sub> emission rate warranted by GE is coupled to a maximum fuel bound nitrogen content of 0.015%. If the actual fuel bound nitrogen content during the source test was below this 0.015% level, the resulting NO<sub>x</sub> emissions would also be lower than the 42 ppmvd @ 15% O<sub>2</sub> level.

According to conversations with Bert Gianazza of JEA, the 30 ppmvd emission rate measured during initial compliance testing were in ISO corrected units. Without knowing the specific ambient temperature, pressure, and humidity, during the source testing at the Kennedy Plant it is impossible to compare the 30 ppmvd (ISO) NO<sub>x</sub> concentration measured during the Kennedy Plant source test with the 42 ppmvd @ 15% O<sub>2</sub> permit limit requested for the DBEC project.

In addition, Bert Gianazza of JEA provided Scott Osbourn of ENSR and Teresa Heron of DEP with NO<sub>x</sub> data for the period 8/8/00 to 3/31/01. These data show considerable variability in the emissions of NO<sub>x</sub> when firing oil, but generally indicate ISO corrected ppm levels in the high 30s to low 40s when the unit is operating at full load. Because JEA has not provided any details of the method of ISO correction it is not possible to make any conclusions as to whether NO<sub>x</sub> levels of 30 ppmvd @ 15% O<sub>2</sub> are being attained during oil firing by JEA.

10. *Based upon the application, trucking of the No. 2 distillate fuel oil is contemplated. At 1000 hours per year of fuel oil operation on all 3 turbines, approximately 44 million gallons may be consumed annually or approximately 6,000 truckloads. Please obtain estimates of truck*

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*traffic on Green Road (i.e. NW 48<sup>th</sup> Street) from the local Transportation Planning agencies.  
Provide estimates of the increases in truck traffic assuming continuous short-term fuel oil  
use and a longer-term scenario.*

**Response** – Please refer to Attachment 2, which is a summary of the traffic impact analysis prepared by McMahon Associates. This analysis compares the traffic impacts of the Deerfield Beach Energy Center to those expected for development of the site under the designated zoning, M-4 (which allows a variety of industrial and manufacturing uses). The trip generation comparison in Table 2 shows that the Deerfield Beach Energy Center could produce between 6 and 100 daily truck trips, depending on the intensity of distillate fuel use. This compares to a daily estimate of 265 to 728 truck trips for an allowable light industrial use at this site.

Please contact Dave Kellermeyer at Enron North America at (713) 853-3161, if you have any questions or comments concerning the above.

Sincerely,



Ben Jacoby  
Director

attachments

cc:

D. Kellermeyer/ENA  
S. Krinsky/ENA  
S. Osbourn/ENSR  
R. Iwanchuk/ENSR  
B. Stormwind/ENSR  
M. Griffin/ENSR  
B. Burgess/ENSR

*O. Balbait*  
*Q. Mack, Research Co.*  
*ENR*  
*NPS*

## **ATTACHMENT 1**

### **CUMULATIVE AIR QUALITY IMPACT ANALYSIS FOR THE DEERFIELD AND POMPANO BEACH ENERGY CENTERS**

**May 2001**

Air dispersion modeling was conducted to determine the maximum cumulative ambient concentrations of NO<sub>x</sub>, CO, SO<sub>2</sub>, PM<sub>10</sub> and lead resulting from maximum potential emissions from the proposed Pompano Beach Energy Center (PBEC) and Deerfield Beach Energy Center (DBEC) facilities. The modeling to determine the peak cumulative impacts (i.e., Class II receptors) was conducted with ISCST3 in accordance with U.S. EPA's "Guideline on Air Quality Models" (U.S. EPA, 1999) as described in the PSD permit applications submitted for each facility. The only exception to the permit application modeling was that a new receptor grid was developed to ensure resolution of the maximum combined impacts and to exclude receptors within the fenced boundary of each facility. The near-field receptors are shown in Figure 1 and the far-field receptors are shown in Figure 2.

In addition, the combined facility impacts relative to PSD increments, regional haze and acidic deposition were assessed for receptors located at the Everglades National Park (ENP) PSD Class I area. The methodology and approach for applying the CALPUFF model to assess the Class I impacts was consistent with the approach documented in the PBEC air permit application and approved by the National Park Service (NPS).

#### **Class II Analysis**

A summary of the ISCST3 modeling results for the PBEC and DBEC combustion turbines (i.e., total of six turbines) firing natural gas is summarized in Table 1. The maximum cumulative concentrations, and corresponding receptor locations, over the five years of meteorology are summarized for 100%, 75%, and 50% operating load cases. Note that the maximum annual concentrations are based on an operating limit of 3500 hours/year for each turbine firing natural gas. Table 2 provides a summary of the concentrations modeled for oil firing. For oil, the maximum annual concentrations reflect a limit of 1000 hours/year oil use for each turbine.

The overall maximum concentrations are summarized in Table 3 for comparison to the Class II Significant Impact Levels (SILs). The maximum short-term impacts are associated with oil firing. Note that the annual results are composite values based on a worst case operating schedule of 1000 hours/year of oil use and 1000 hours/year of natural gas use for each combustion turbine to reflect air permit language that restricts annual operational flexibility. Specifically, the maximum allowable operating hours (i.e., 3500 hours per turbine unit) will be reduced by 2 hours for each oil-fired hour in excess of 250 for each turbine unit. Each facility's potential to emit will be significantly reduced because maximum oil use would reduce total hours of operation by an average of 1,500 hours per unit.

As shown in Table 3, the maximum combined impacts for the PBEC and DBEC combustion turbines are well below the SILs and therefore demonstrate compliance with the NAAQS and PSD Class II increments.

In addition, as summarized in Table 4, an analysis was performed to satisfy the requirements of the Broward County Code Sec. 27-175 and 27-176(c)(2)b which prohibits

major sources from allowing emissions of criteria pollutants in quantities that would reduce by more than one half the margin between the existing ambient concentrations and the applicable NAAQS. The Broward County Department of Planning and Environmental Protection (DPEP) was contacted to obtain air monitoring data to establish a baseline of existing ambient concentrations in Broward County. The DPEP provided 1999 ambient monitoring data from sites operated by the Broward County Air Quality Division. These data consisted of eight monitoring sites for PM<sub>10</sub>, one for SO<sub>2</sub>, one for NO<sub>2</sub> and five for CO. To be conservative, ENSR selected the highest measured concentrations for each averaging period from among all the sites for use in this analysis. Table 4 shows that the combined impacts of PBEC and DBEC will consume substantially less than one-half of the margin between the maximum baseline concentration and the NAAQS. In fact, the combined impacts of both facilities are less than one percent of this margin for all criteria pollutants modeled.

A screening analysis was conducted to determine the potential for the cumulative impacts of the PBEC and DBEC projects to adversely impact soils and vegetation. The analysis was based on the combined PBEC and DBEC model-predictions of maximum ground level concentrations of SO<sub>2</sub>, NO<sub>x</sub> and CO, the PSD-applicable pollutants of concern for potential impact to soils and vegetation. The criteria for evaluating impacts on soils and vegetation was taken from U.S. EPA's *A Screening Procedure for the Impacts of Air Pollution Sources on Plants, Soils and Animals* (U.S. EPA 1980). Table 5 lists the U.S. EPA suggested criteria and the predicted cumulative facility impacts. These criteria are established for sensitive vegetation and crops exposed to the effects of the gaseous pollutants through direct exposure. Adverse impacts on soil systems result more readily from the secondary effects of these pollutants' impacts on the stability of the soil system. These impacts could include increased soil temperature and moisture stress and/or increased runoff and erosion resulting from damage to vegetative cover. Thus, the Table 5 criteria have been applied to evaluate impacts on both soils and vegetation. As shown in Table 5, the results clearly indicate that no adverse impacts will occur to sensitive vegetation, crops, or soil systems as a result of operation of the proposed facilities.

### **Class I Analysis for ENP**

First, screening level modeling with CALPUFF was conducted to assess Class I impacts including air increment and regional haze for the PBEC and DBEC combustion turbines. Screening modeling resulted in significant air impacts for SO<sub>2</sub> and PM<sub>10</sub> and therefore refined CALPUFF was conducted to further resolve the air increment analysis. In addition, refined modeling with CALPUFF was conducted to assess acidic deposition in the form of total sulfur and nitrogen deposition.

#### **CALPUFF Screening Modeling**

The results of the CALPUFF screening modeling for the PBEC and DBEC combustion turbines combined are summarized in Table 6. The table lists the maximum concentrations modeled with CALPUFF over all five years of meteorological data. The maximum short-term concentrations are based on distillate oil use and annual impacts were modeled based on emissions representative of 1000 hours/year oil and 1000 hours/year natural gas for each combustion turbine. As shown in Table 6, the short-term SO<sub>2</sub> and PM<sub>10</sub> concentrations exceed the Class I SILs while all annual average concentrations are below the Class I SILs. Therefore, refined CALPUFF modeling was required to resolve the short-term SO<sub>2</sub> and

PM<sub>10</sub> concentrations. The refined modeling results are presented below.

Initially, CALPUFF modeling of regional haze impacts was conducted with the maximum short-term emission rates for the PBEC and DBEC combustion turbines (i.e., unlimited operation of 6 turbines on oil for 24-hours). These results are summarized in Table 7. As shown in the table, the maximum change in extinction from the background is significant. In order to mitigate the potential for an adverse regional haze impact, the PBEC and DBEC projects will accept an enforceable permit condition to limit the number of hours that oil can be fired in all six units in a 24-hour period. That is, oil use will be limited to a total of 50 turbine-hours/day. To simulate this in CALPUFF, an additional modeling iteration for regional haze was performed with the maximum hourly oil-based emission rates for six turbines scaled by 50/144 (i.e., a maximum of 50 turbine-hours on oil out of a possible 144 turbine-hours in a 24-hour period). In addition, to account for the operations for the balance of the day, the modeling included the maximum hourly natural gas emissions for six turbines scaled by 94/144 (i.e., to cover the balance of the day). This was achieved in CALPUFF by simulating two sources. The first source was input with the scaled maximum hourly emissions rates (SO<sub>2</sub>, PM<sub>10</sub>, and NO<sub>x</sub>) representative of a daily maximum limit of 50 turbine-hours on oil and the second source with the scaled maximum hourly emission rates based on 94 turbine-hours on natural gas. The results for limited daily oil use are summarized in Table 8. The table shows that the maximum change in extinction associated with the both the DBEC and PBEC projects is 7.91% and the 5% change threshold is exceeded no more than 5 days in any year modeled. Previous guidance provided by the NPS indicated that the project-related change in extinction is determined to be insignificant if 1) the maximum change in extinction from background, as determined through screening modeling, is less than 10% and 2) the number of days in a year that modeled values exceed 5% are limited. Thus in limiting oil use in the turbines to a total of 50 turbine-hours/day, the PBEC and DBEC projects will not have an adverse regional haze impact and no further modeling was necessary.

### CALPUFF Refined Modeling

Given that CALPUFF screening predicted SO<sub>2</sub> and PM<sub>10</sub> concentrations greater than the SILs for short-term averaging periods, refined CALPUFF modeling was performed to further resolve the Class I increment consumption. In addition, deposition modeling for total sulfur and nitrogen was also conducted to obtain refined results.

The results of the CALPUFF refined modeling for short-term average SO<sub>2</sub> and PM<sub>10</sub> concentrations are summarized in Table 9. The table lists the maximum modeled concentrations over the 5-year period. These results are representative of the six turbine stacks and are based on the maximum hourly emissions for oil use. The refined modeled concentrations are below the 24-hour PM<sub>10</sub> SIL but still above the SILs for SO<sub>2</sub>. Note that factoring in the daily limit on oil may result in an insignificant 24-hour SO<sub>2</sub> concentration. However, the restriction on daily oil usage has no effect on the 3-hour average impact of 2.10 µg/m<sup>3</sup> which is greater than the 1.0 µg/m<sup>3</sup> SIL. Therefore, interactive modeling of all PSD sources within 200 km of ENP was performed to demonstrate compliance with the 3-hour and 24-hour SO<sub>2</sub> Class I increments.

The multi-source modeling for increment consumption was performed with the inventory of the SO<sub>2</sub> PSD sources within 200 km of ENP and corresponding permitted emissions and stack parameters provided by FDEP in support of the PBEC permit application modeling. This inventory included increment expanding sources (negative emission source) as well as increment consuming (positive emissions sources).

The results of the multi-source modeling are summarized in Table 10. Compliance for short-term averaging periods (≤ 24 hours) is based on comparison of the highest second-highest modeled concentrations with the PSD Class I increments. Table 10 lists the highest second-highest concentrations computed by CALPUFF over the five years of meteorological data for all PSD sources. As shown in the table, the modeled concentrations are below both the 3-hour and 24-hour Class I PSD increments thus demonstrating compliance. Note there is little or no contribution to the total modeled values from the PBEC and DBEC combustion turbines.

Refined CALPUFF modeling also provided upper limit estimates of annual (wet and dry) deposition of sulfur and nitrogen compounds (kg/ha/yr) associated with annual emissions of SO<sub>2</sub> and NO<sub>x</sub> from the PBEC and DBEC combustion turbines (i.e., based on six turbines each limited to 1000 hours/year oil firing and 1000 hours/year natural gas firing). The maximum annual sulfur deposition was  $4.93 \times 10^{-3}$  kg/ha/yr and the maximum annual nitrogen deposition was  $3.68 \times 10^{-3}$  kg/ha/yr. As indicated by the NPS, there are no deposition significance thresholds for ENP. Measurements of wet deposition at ENP have been taken in 1998 and 1999 as part of the National Acid Deposition Program (NADP). Although dry deposition values are currently being taken at ENP, measurements are not yet available. Therefore, consistent with FLAG Phase I guidance, the total existing deposition was estimated by doubling the wet deposition values. Using this convention, the estimated average annual sulfur deposition at ENP is 8 kg/ha/yr and the average nitrogen deposition is 7 kg/ha/yr. Given that the predicted PBEC and DBEC combined deposition rates of sulfur and nitrogen are only about 0.06% and 0.05 %, respectively, of the existing deposition rates at ENP, the combined deposition impact of the PBEC and DBEC emissions can be deemed insignificant.



**Table 1 ISCST3 Modeling Results for Natural Gas – Combined Impacts of Pompano and Deerfield Beach Energy Centers**

**100% Load**

Pollutant	Averaging Period	Maximum Concentration ( $\mu\text{g}/\text{m}^3$ )*	Receptor Location	
			UTM East (m)	UTM North (m)
NO <sub>x</sub>	Annual	0.030	574374	2912688
PM-10	24-hour	0.237	577374	2922688
	Annual	0.009	574374	2912688
SO <sub>2</sub>	3-hour	0.716	589374	2890688
	24-hour	0.143	577374	2922688
	Annual	0.005	574374	2912688
CO	1-hour	3.061	581974	2909188
	8-hour	1.095	597374	2886688

\* Annual concentrations based on a maximum of 3500 hours/year of natural gas use.

**75% Load**

Pollutant	Averaging Period	Maximum Concentration ( $\mu\text{g}/\text{m}^3$ )*	Receptor Location	
			UTM East (m)	UTM North (m)
NO <sub>x</sub>	Annual	0.028	574374	2912688
PM-10	24-hour	0.276	577374	2922688
	Annual	0.010	574374	2912688
SO <sub>2</sub>	3-hour	0.676	589374	2890688
	24-hour	0.135	577374	2922688
	Annual	0.005	574374	2912688
CO	1-hour	3.114	583800	2905595
	8-hour	0.985	597374	2886688

\* Annual concentrations based on a maximum of 3500 hours/year of natural gas use.

**50% Load**

Pollutant	Averaging Period	Maximum Concentration ( $\mu\text{g}/\text{m}^3$ )*	Receptor Location	
			UTM East (m)	UTM North (m)
NO <sub>x</sub>	Annual	0.026	574374	2912688
PM-10	24-hour	0.319	577374	2922688
	Annual	0.012	574374	2912688
SO <sub>2</sub>	3-hour	0.616	589374	2890688
	24-hour	0.124	577374	2922688
	Annual	0.005	574374	2912688
CO	1-hour	3.304	583374	2908288
	8-hour	0.910	597374	2886688

\* Annual concentrations based on a maximum of 3500 hours/year of natural gas use.

Table 2 ISCST3 Modeling Results for Distillate Oil – Combined Impacts of Pompano and Deerfield Beach Energy Centers

100% Load

Pollutant	Averaging Period	Maximum Concentration ( $\mu\text{g}/\text{m}^3$ )*	Receptor Location	
			UTM East (m)	UTM North (m)
NO <sub>x</sub>	Annual	0.045	574374	2912688
PM-10	24-hour	0.439	577374	2922688
	Annual	0.005	574374	2912688
SO <sub>2</sub>	3-hour	6.676	589374	2890688
	24-hour	1.336	577374	2922688
	Annual	0.014	574374	2912688
CO	1-hour	6.881	581974	2909188
	8-hour	2.428	597374	2886688
Lead	24-hour	3.61E-04	577374	2922688

\* Annual concentrations based on a maximum of 1000 hours/year of oil use.

75% Load

Pollutant	Averaging Period	Maximum Concentration ( $\mu\text{g}/\text{m}^3$ )*	Receptor Location	
			UTM East (m)	UTM North (m)
NO <sub>x</sub>	Annual	0.042	574374	2912688
PM-10	24-hour	0.511	577374	2922688
	Annual	0.005	574374	2912688
SO <sub>2</sub>	3-hour	6.239	589374	2890688
	24-hour	1.245	577374	2922688
	Annual	0.013	574374	2912688
CO	1-hour	7.334	583800	2905595
	8-hour	2.331	597374	2886688
Lead	24-hour	4.21E-04	577374	2922688

\* Annual concentrations based on a maximum of 1000 hours/year of oil use.

50% Load

Pollutant	Averaging Period	Maximum Concentration ( $\mu\text{g}/\text{m}^3$ )*	Receptor Location	
			UTM East (m)	UTM North (m)
NO <sub>x</sub>	Annual	0.038	574374	2912688
PM-10	24-hour	0.590	577374	2822688
	Annual	0.006	574374	2912688
SO <sub>2</sub>	3-hour	5.617	589374	2890688
	24-hour	1.130	577374	2822688
	Annual	0.012	574374	2912688
CO	1-hour	12.340	583374	2908288
	8-hour	3.502	597374	2886688
Lead	24-hour	4.86E-04	577374	2822688

\* Annual concentrations based on a maximum of 1000 hours/year of oil use.

**Table 3 Comparison of Maximum ISCST3 Concentrations to Class II Significant Impact Levels – Combined Impacts of PBEC and DBEC**

Pollutant	Averaging Period	Maximum Concentration ( $\mu\text{g}/\text{m}^3$ )	SIL ( $\mu\text{g}/\text{m}^3$ )
NO <sub>x</sub>	Annual	0.054	1
PM-10	24-hour	0.590	5
	Annual	0.010	1
SO <sub>2</sub>	3-hour	6.676	25
	24-hour	1.336	5
	Annual	0.016	1
CO	1-hour	12.340	2,000
	8-hour	3.502	500
Lead**	Quarterly	4.86E-04	1.5

\* Annual concentrations based on a worst-case composite of maximum natural gas concentration scaled by 1000 hours/year plus maximum oil concentration scaled by 1000 hours/year.

\*\* Lead concentration is conservatively represented by the maximum 24-hour value. There is no SIL for Lead. The lead concentration is compared to the NAAQS.

Table 4 PBEC and DBEC Combined Impacts Compliance Demonstration for Broward County Code Section 27.176(c)(2)(b)

Pollutant	Averaging Period	Baseline Conc. <sup>(1)</sup> ( $\mu\text{g}/\text{m}^3$ )	Site No.	NAAQS ( $\mu\text{g}/\text{m}^3$ )	$\frac{1}{2}$ [NAAQS-Baseline] ( $\mu\text{g}/\text{m}^3$ )	Maximum Predicted Cumulative Impact of PBEC and DBEC ( $\mu\text{g}/\text{m}^3$ )
PM <sub>10</sub>	24 hr	38	3	150	56	0.590
	Annual	18	28,29	50	16	0.010
SO <sub>2</sub>	3-hr	272	28	1300	514	6.676
	24-hr	47	28	365	159	1.336
	Annual	9	28	80	35.5	0.016
NO <sub>2</sub>	Annual	20	31	100	40	0.054
CO	1-hr	10,877	18	40,000	14,563	12.340
	8-hr	6,298	28	10,000	1,851	3.502

<sup>(1)</sup> Highest measured concentration in 1999 from Broward Co. Air Quality Division Monitoring Stations.

Table 5 Comparison to U.S. EPA Criteria for Gaseous Pollutant Impacts on Natural Vegetation and Crops – PBEC and DBEC Combined Impacts

Pollutant	Averaging Time*	Minimum Impact Level for Affects On Sensitive Plants ( $\mu\text{g}/\text{m}^3$ )	Maximum Impact of PBEC and DBEC Projects ( $\mu\text{g}/\text{m}^3$ )
SO <sub>2</sub>	1 hour	917	10.39
	3 hours	786	6.68
	Annual	18	0.02
NO <sub>x</sub>	4 hours	3760	21.40
	8 hours	3760	11.58
	1 month	564	4.28
	Annual	94	0.05
CO	1 week	1,800,000	1.36
* 24-hour average used to conservatively represent 1-week and 1-month average impacts and 3-hour average used to conservatively represent 4-hour average impact.			

**Table 6 CALPUFF Screening Modeling Concentrations for PBEC and DBEC Combined Compared to Class I Significant Impact Levels**

<b>Pollutant</b>	<b>Averaging Period</b>	<b>Maximum Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Class I SIL (<math>\mu\text{g}/\text{m}^3</math>)</b>
NO <sub>2</sub>	Annual	0.033	0.1
PM <sub>10</sub>	24-hour	0.373	0.3
	Annual	0.006	0.2
SO <sub>2</sub>	3-hour	3.283	1.0
	24-hour	1.034	0.2
	Annual	0.012	0.1
* Maximum short-term concentrations based on maximum hourly emissions for six turbines operating on oil and annual concentrations based on a worst-case operating schedule of 1000 hours/year on natural gas and 1000 hours/year on oil.			

**Table 7 CALPUFF Screening Maximum 24-Hour Average Regional Haze Impacts of PBEC and DBEC for Unlimited Daily Oil Use**

<b>Model Year</b>	<b>Maximum Extinction Change From Background (%)</b>	<b>Number of Days Maximum Change from Background is &gt; 5%</b>
1986	10.75	73
1987	14.88	66
1988	16.79	40
1989	10.26	28
1990	15.29	44
Note: Results based on maximum hourly emissions for six turbines firing oil.		

Table 8 CALPUFF Screening Maximum 24-Hour Average Regional Haze Impacts of DBEC for Limited Daily Oil Use

Model Year	Maximum Extinction Change From Background (%)	Number of Days Maximum Change from Background is > 5%
1986	5.06	1
1987	7.02	4
1988	7.91	5
1989	5.46	1
1990	7.51	4
Note: Results based on maximum hourly emissions for six turbines firing oil for 50 turbine-hours and natural gas for 94 turbine-hours within a 24-hour period.		

Table 9 Comparison of Maximum Modeled Refined CALPUFF Concentrations Associated with DBEC to Class I Significant Impact Levels

Pollutant	Averaging Period	Maximum Concentration ( $\mu\text{g}/\text{m}^3$ )	SIL ( $\mu\text{g}/\text{m}^3$ )
PM <sub>10</sub>	24-hour	0.174	0.3
SO <sub>2</sub>	3-hour	2.10	1.0
	24-hour	0.423	0.2
* Maximum short-term concentrations based on maximum hourly emissions for three turbines and unlimited daily oil use to be conservative.			

Table 10 Interactive Refined CALPUFF Modeling Results and Class I PSD Increment Compliance Demonstration

Pollutant	Averaging Period	Maximum Concentration for All PSD Sources ( $\mu\text{g}/\text{m}^3$ )*	PBEC and DBEC Contribution to Total Maximum ( $\mu\text{g}/\text{m}^3$ )	PSD Class I Increment ( $\mu\text{g}/\text{m}^3$ )
SO <sub>2</sub>	3-hour	9.60	0.00	25
	24-hour	4.01	0.09	5
* Values shown are the highest second-highest concentrations computed by CALPUFF over all years of meteorological data.				
Note: Modeling based on maximum hourly emissions for six turbines and unlimited daily oil use to be conservative.				

Figure 1 Near-field Receptors for ISCST3 Class II Modeling



**Enron Deerfield and Pompano Beach**

**Figure 2**  
**Far-Field Receptors**

**Legend:**

- ★ Deerfield (north) and Pompano (south) Site Locations
- Far-Field Receptors

1:250,000 USGS QUADRANGLES: Miami  
May 2001  
Scale 1:250,000  
Project Number: 6292-140-280



## ATTACHMENT 2. TRAFFIC IMPACT ANALYSIS

### A. Background and Assumptions

McMahon Associates, Inc., a leading consultant in the field of traffic engineering, has completed a review of the traffic impacts associated with the Facility. The proposed Facility will be situated on a 29.98 acre tract, located generally north of NW 48th Street and east of Florida's Turnpike, in the City of Deerfield Beach. Pursuant to the Special Act that annexed the property into the City of Deerfield Beach, the site retains the Broward County M-4 Zoning designation until December 1, 2002.

Access to the site will be provided via NW 48th Street which currently terminates just south of the site at the Florida's Turnpike Right of Way. However, according to the Broward County Transportation Improvement Program for Fiscal Year 2001 – 2004 (published in June 2000) the extension of Wiles Road is underway, extending it from its current terminus at SR-7 to Powerline Road. The last phase of this project will result in an overpass across Florida's Turnpike, at the NW 48th Street alignment. Wiles Road/NW 48th Street will then provide a four-lane cross section from Coral Ridge Drive in western Broward County to Dixie Highway in the eastern part of the County with NW 48th Street continuing as two-lanes east of US-1.

As stated previously, the site is zoned M-4, which permits a variety of industrial and manufacturing uses. A trip generation analysis was performed to determine the number of trips that could be associated with this use, as presented below in Table 1.

**Table 1**  
**Deerfield Beach Energy Center**  
**Trip Generation Analysis**

Approved Use	Square Feet	ITE Land Use Code (1)	ITE Trip Gen Trips			Truck Trips (Average Intensity) (3)			Truck Trips (High Intensity) (4)		
			Daily Trips (2)	AM Peak	PM Peak	Daily Trips	AM Peak	PM Peak	Daily Trips	AM Peak	PM Peak
Industrial	457,000	110	3,311	451	491	265	36	39	728	99	108

1. ITE Land Use Code 110 represents General Light Industrial.
2. Daily trip total as determined under Broward County guidelines is 2,349.
3. Average truck trips were based on 8% of the daily trips according to ITE 6<sup>th</sup> Edition (Land Use 130).
4. High truck trips were based on 22% of the daily trips according to ITE 6<sup>th</sup> Edition (Land Use 130).

According to the Institute of Transportation Engineers (ITE) *Trip Generation* 6<sup>th</sup> Edition, Land Use Code 110 – Light Industrial, the site would be anticipated to generate approximately 3,311 daily trips based on a 457,000 square foot development. This assumes a 35 percent Floor Area Ratio (FAR) for the site with single story development. ITE also provides an estimation of potential truck traffic. Land Use Code 130, Industrial Park, states that the average percentage of truck trips for all surveyed sites was eight percent, with a high of 22 percent. By applying these percentages to the estimated daily trips, the subject site would be expected to generate an average of 265 daily truck trips, and up to a high of 728 truck trips.

## B. Comparison of the Facility Traffic Impacts with those of the Designated Industrial Use

An analysis was also performed which compared the number of trips that would be generated by the DBEC versus light industrial on the subject 29.98 acre portion of the site. The results of the analysis are presented below in Table 2.

**Table 2**  
**Deerfield Beach Energy Center**  
**Trip Generation Comparison**

Land Use	Acres/ Square Feet	ITE Land Use Code (1)	ITE Trip Gen Trips			Truck Trips (Average Intensity)			Truck Trips (High Intensity)		
			Daily Trips	AM Peak	PM Peak	Daily Trips	AM Peak	PM Peak	Daily Trips	AM Peak	PM Peak
DBEC Expected	29.98	120	202	59	65	6 (2)	0	0	24 (5)	2	2
DBEC High End	29.98	120	202	59	65	26 (3)	2	2	100 (6)	9	9
Light Industrial	457,000	110	3,311	451	491	265 (4)	36	39	728 (7)	99	108

1. ITE Land Use Code 110 represents General Light Industrial, ITE Land Use Code 120 represents General Heavy Industrial
2. The Facility includes a 58,800 barrel storage tank and a 14,700 barrel day tank. Given natural gas being the primary fuel source and the operational requirements the DEP has imposed to utilize natural gas when available, the expected distillate oil use will only be approximately 250 hours per year. The Facility's expected average number of truck trips is based on the plant's fuel oil consumption for 250 hour (231,250 barrels @ 925 bbl/hr) divided by 300 days per year of truck deliveries (i.e., no deliveries on Sunday and holidays), and a nominal taker truck capacity of 240 barrels.
3. Since the Facility is limited to a maximum of 1000 hour per year of operation on fuel oil per the DEP air permit, the average number of truck trips is based on the plant's fuel oil consumption for 1000 hours (925,000 barrels @ 925 bbl/hr) divided by 300 days per year of truck deliveries (i.e., no deliveries on Sunday and holidays), and a nominal taker truck capacity of 240 barrels.
4. Average truck trips were based on 8 percent of the daily trips according to ITE 6<sup>th</sup> Edition (Land Use 130)
5. The proposed Facility will have a maximum of 24 truck trips per day for only those days when the Facility operates at full load for the 16 hour operating day when natural gas is not available and is not expected to be available for several days. DBEC's assumptions and clarifications are as follows: (a) Fuel oil would power the plant at full load for 16 hours per day, three days per week, one week per month; (b) operation on fuel oil is expected to occur for only 250 hour per year; (c) the fuel oil storage tank and fuel oil day tank inventories would be drawn upon to supply the fuel oil demand; (d) truck deliveries of fuel oil would be scheduled for six days per week when fuel oil operation occurs to partially replenish the fuel oil tanks.
6. The proposed Facility will have a maximum of 100 truck trips per day for only those days when the Facility operates at full load for the 16 hour operating day when natural gas is not available and is not expected to be available for several days. DBEC's assumptions and clarifications are as follows: (a) Fuel oil would power the plant at full load for 16 hour per day, five day per week; (b) operation on fuel oil will be permitted for up to a maximum of 1000 hour per year; (c) the fuel oil storage tank and fuel oil day tank inventories would be drawn upon to supply the fuel oil demand; (d) truck deliveries of fuel oil would be scheduled for six days per week when fuel oil operation occurs to partially replenish the fuel oil tanks.
7. As Table 2 indicates, a 457,000 square foot light industrial development generates approximately 3,311 daily trips. After applying the truck trip percentage, the same development would generate an average of 265 daily truck trips and up to a high of 728 truck trips. The average truck trip generation equated to eight percent of total daily trips, while the high intensity truck trip generation equaled 22 percent of total daily trips.

## **C. Conclusions**

It is estimated that the Facility will generate approximately 75 vehicle trips per day on average throughout the life of the Facility. This trip generation estimate is consistent with the very low labor requirements associated with today's modern power generation facilities. A maximum of 15 employees will be required to operate the Facility at any time. Required parking for the project is only 25 spaces.

The maximum number of daily truck trips generated by the Facility will be significantly less than the calculated average truck trip generation level for light industrial. Based on the DBEC High End scenario, the Facility's average daily truck trip generation for those periods when natural gas is not available will be less than one tenth the average daily truck trip level calculated for light industrial uses. The 100 maximum truck trips (50 deliveries) are anticipated to be distributed over an 18-hour period or longer depending on the actual dispatch of the Facility. A relatively uniform distribution is anticipated, consistent with the nature of the trip purpose (replenishment of fuel as consumed based on the actual dispatch of the Facility). This equates to an average of less than six truck trips per hour. Therefore, the impact of the Facility's truck trips will be negligible.

In conclusion, as compared with the approved uses of the site, the proposed Facility will result in a significant decrease in the potential number of total daily trips and truck trips assigned onto the adjacent roadways. The traffic anticipated to be generated by the proposed use will be minimal, and should easily be accommodated by the surrounding roadway network.



Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

April 5, 2001

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Albert R. Capellini, P.E., Mayor  
City of Deerfield Beach, City Hall  
150 Northeast 2<sup>nd</sup> Avenue  
Deerfield Beach, Florida

Re: Status of Application  
DEP File No. 0112534-001-AC (PSD-FL-314)  
Deerfield Beach Energy Center

Dear Mr. Capellini:

Attached is a copy of our letter to Enron requesting additional information regarding their air construction permit application to build a power plant consisting of three 170-MW dual fuel GE "7FA" combustion turbines for the proposed Deerfield Beach Energy Center (DBEC) in Broward County. The application is incomplete. We expect a response from Enron fairly soon. We will review the application for completeness within 30 days following responses to our request.

You may provide comments regarding the application. You will also have an opportunity to comments after the Department makes a preliminary decision regarding the application.

You or your staff may access and download the application at the following web address:

<http://www8.myflorida.com/licensingpermitting/learn/environment/air/airpermit.html>

Click on "New Power Projects in Broward County" and on "Enron Deerfield Beach Energy Center."

If you have any questions, please call me at 850/921-9523 or e-mail me at: [alvaro.linero@dep.state.fl.us](mailto:alvaro.linero@dep.state.fl.us)  
Matters regarding review of the modeling should be directed to Tom Rogers at 850/921-9554 or Cleve Holladay at 850/921-8986.

Sincerely,

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

AAL/al

cc: Mayor, Parkland  
Mayor, Coconut Creek  
Mayor, Pompano Beach  
Mayor, Margate  
Mayor, Coral Springs  
City Manager, Deerfield Beach  
Chair, Broward County Commission  
Broward Commissioners, Districts 1, 2, 3, and 9  
Director, Broward County DPEP

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<p>1. Article Addressed to:</p> <p style="margin-left: 40px;">Mayor Albert R. Capellini City of Deerfield Beach City Hall 150 NE Second Ave. Deerfield Beach, FL 33441</p>	<p>3. Service Type</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><input checked="" type="checkbox"/> Certified Mail</p> <p><input type="checkbox"/> Registered</p> <p><input type="checkbox"/> Insured Mail</p> </div> <div style="width: 45%;"> <p><input type="checkbox"/> Express Mail</p> <p><input type="checkbox"/> Return Receipt for Merchandise</p> <p><input type="checkbox"/> C.O.D.</p> </div> </div>
<p>2. Article Number (Copy from service label) <b>7099 3400 0000 1450 3153</b></p>	
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City, State, ZIP+4

**Deerfield Beach, FL 33441**

PS Form 3800, July 1999
See Reverse for Instructions



Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

April 3, 2001

## CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Ben Jacoby, Director  
Deerfield Beach Energy Center, L.L.C.  
1400 Smith Street  
Houston, Texas 77002-7631

Re: Request for Additional Information  
DEP File No. 0112534-001-AC (PSD-FL-314)  
Deerfield Beach Energy Center

Dear Mr. Jacoby:

On March 5, 2001 the Department has received your application fee for an air construction permit for three 170-MW dual fuel GE "7FA" combustion turbines for the proposed Deerfield Beach Energy Center (DBEC) in Broward County. The application is incomplete. In order to continue processing your application, the Department will need the additional information below. Should your response to any of the below items require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form.

1. The following comment was submitted by the Broward County Department of Planning and Environmental Protection: "Please ensure that the projected impact (i.e. modeling) of the proposed facility on Broward's ambient air takes into consideration air pollutant emissions anticipated from Enron's Pompano Beach Energy Center." (e-mail dated February 22, 2001)
2. Based on our definitions, the Deerfield and Pompano Projects constitute a single facility. The Department already made a preliminary determination for the Pompano Project and will conduct a separate permit application review for the Deerfield Project. However, all impact analyses (Class I and Class II) submitted with the Deerfield project application must include the cumulative impacts of the Pompano and Deerfield Projects, since cumulative effects were not considered in the Pompano project review. (Rule 62-210.200, F.A.C., Definitions)
3. The "ambient impact analysis" is incomplete. A Class I area impact analysis for the Everglades National Park is required. (Rule 62-212.400(5)(d), F.A.C.)
4. The "additional impact analysis" is not complete. This analysis should include impairment, if any, to visibility, soils and vegetation particularly for the Class I Area. (Rule 62-212.400(5)(e), F.A.C.)
5. Please consult with the National Park Service (Federal Land Manager) to insure they have sufficient information to determine whether the emissions from the projects will have an adverse impact on the air quality related values (AQRVs including visibility) in the Everglades National Park. (Rule 62-212.400(4)(a)2., Federal Land Manager Participation)

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6. Please obtain and provide summaries of visibility monitoring data for the Everglades National Park if available from the National Park Service. (Rule 62-212.400(5)(e)3., F.A.C.)
7. Please review the cost calculation for the carbon monoxide oxidation catalyst. The cost appears high compared to similar projects. Please ask your consultant to contact us this matter so we can provide specific guidance.
8. According to recent tests conducted at TECO Polk Power Station, a simple cycle GE 7FA unit achieved between 1 and 3 ppmvd CO at loads between 50 and 100 percent while burning fuel oil. These are very low emissions. We understand that GE will not actually guarantee these low values, but it is worth mentioning this fact in your analysis of CO control costs. We do not believe it is cost-effective to control CO by oxidation catalyst, but want to have the most accurate possible information in the record.
9. According to initial compliance testing conducted by JEA at its Kennedy Plant, they were able to achieve emissions of 30 ppmvd of NO<sub>x</sub> while burning fuel oil. We recommend that Enron contact JEA and get some details on how this was accomplished and whether it is continuously accomplished. JEA is a municipal power company and can probably provide such information from the public record. (Rule 62-212.400, F.A.C., BACT)
10. Based upon the application, trucking of the No. 2 distillate fuel oil is contemplated. At 1000 hours per year of fuel oil operation on all 3 turbines, approximately 44 million gallons may be consumed annually or approximately 6,000 truckloads. Please obtain estimates of truck traffic on Green Road (i.e. NW 48<sup>th</sup> Street) from the local Transportation Planning agencies. Provide estimates of the increases in truck traffic assuming continuous short-term fuel oil use and a longer-term scenario.

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

If you have any questions, please call me at 850/921-9523. Matters regarding review of the modeling should be directed to Tom Rogers at 850/921-9554 or Cleve Holladay at 850/921-8986.

Sincerely,

A handwritten signature in black ink, appearing to read 'A.A. Linero' followed by a stylized flourish and the number '4/3'.

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

AAL/al

cc: Gregg Worley, EPA  
John Bunyak, NPS  
Isidore Goldman, DEP SED  
Daniela Banu, Broward County DPEP  
Scott Osbourn, ENSR  
Blair Burgess, ENSR

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<p>1. Article Addressed to:</p> <p>Mr. Ben Jacoby, Director Deerfield Beach Energy Center, L.L.C. 1400 Smith Street Houston, Texas 77002-7631</p>		<p>3. Service Type</p> <p><input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail</p> <p><input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise</p> <p><input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p>	
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**Mr. Ben Jacoby**

Street, Apt. No., or PO Box No.  
**1400 Smith Street**

City, State, ZIP+4  
**Houston, Texas 77002-7631**

PS Form 3800, July 1999 See Reverse for Instructions





**Enron North America Corp.**

P.O. Box 1188

Houston, TX 77251-1188

April 2, 2001

Mr. Al Linero, P.E.  
Florida Department of Environmental Protection  
2600 Blair Stone Road  
Tallahassee, FL 32399-2400

**RECEIVED**

**APR 03 2001**

**BUREAU OF AIR REGULATION**

RE: Deerfield Beach Energy Center  
Basis for Issuance of PSD Permit

Dear Mr. Linero:

On behalf of Deerfield Beach Energy Center, LLC I would like to address the issue of the definition of "stationary source" as it relates to the Deerfield Beach Energy Center (DBEC) and the Pompano Beach Energy Center (PBEC). The PSD regulations defined stationary source as any building, structure, facility or installation, which emits or may emit any pollutant regulated under the Clean Air Act. The regulations go on to define "building, structure, facility or installation" as:

All of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control). Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same "Major Group, as described in the Standard Industrial Classification Manual, 1972, as amended by the 1977 Supplement,... (40 CFR 52.21 a(b)(6))

The PBEC and DBEC facilities clearly meet the criteria of the same industrial grouping (SIC code 4911) and common ownership and control (both are 100% owned by Enron North America). Thus the issue of whether these two proposed facilities can be considered as one or two sources for the purpose of PSD permitting, is dependent on the definition of "contiguous and adjacent".

It is my understanding that "contiguous and adjacent" has not always been interpreted by the US EPA to require that there be no physical separation between two facilities for them to constitute a single source. For example, in 1981 EPA ruled that two General Motors facilities in Lansing, Michigan were one source for the purpose of PSD review, even though they were physically separated by one mile.<sup>1</sup> However, these two General

---

<sup>1</sup> Memorandum from Director, Division of Stationary Source Enforcement to Steve Rothblatt, Chief, Air Programs Branch, entitled "PSD Definition of Source", June 30, 1981.

Mr. Al Linero, P.E.

April 2, 2001

Page 2

Motors plants were physically connected by a railroad spur (which served only these two facilities) and products from one site were shipped on the spur for further assembly at the other plant. In other words, there were operational and functional linkages between the two facilities.

Another criterion that EPA has used to determine whether two separated facilities are the same source for PSD purposes, is whether operation of one facility is dependent on another (i.e., would shut down of one facility cause the other to shut down). Clearly in the case of the PBEC and DBEC facilities, there are no such operational dependencies. The proposed PBEC and DBEC power plants will be located approximately one mile apart. There will be no shared facilities or infrastructure between the two sites. Operating personnel will not be shared between the facilities.

In other words, the location and proximity of these facilities was not to enable the operation of the two facilities to be integrated. If these two facilities were sited even further apart, the degree to which they are dependent on each other would not be significantly affected.

It is also worth noting that whether the PBEC and DBEC sources are treated as one or two permitted sources, there is no difference in regulatory requirements. The facilities both trigger PSD and BACT requirements, regardless of whether they are independent or combined. Therefore, there is no regulatory advantage gained or lost either way. This would not be the case, if the plants were minor (non-PSD) sources individually, but not collectively. In our view, the only distinguishing factor is that, if the sources were considered to be separate facilities, a cumulative impact assessment (i.e., considering the impacts of both facilities in a single assessment) may not be required. To alleviate that concern, Enron commits to complete and submit to the Department the type of cumulative impact assessment that would be required as if the two plants were to be considered one facility.

There are existing precedents for keeping the two facilities separate. In Broward County, we noted that there are two relevant examples. The Wheelabrator North and Wheelabrator South facilities are under the same ownership and control as well as sharing the same SIC code. These two facilities hold separate Title V Operating permits (and presumably were issued separate PSD permits). In addition, the FP&L Port Everglades and FP&L Lauderdale power plants have the same ownership, yet hold separate permits, even though they are only 4 miles apart.

As these examples in Broward County illustrate, there is no bright line, numerical standard for determining how far apart activities may be and still be considered "contiguous" or "adjacent." As explained in the preamble to the August 7, 1980 PSD rules, such a decision must be made on a case-by-case basis. Moreover, in further explaining this factor, EPA has noted that whether or not two facilities are adjacent depends on the "common sense" notion of a source and the functional inter-relationship

Mr. Al Linero, P.E.

April 2, 2001

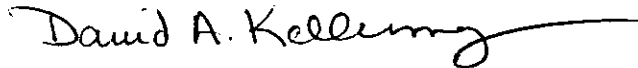
Page 3

of the facilities and is not simply a matter of the physical distance between the two facilities.

For the above reasons, we strongly feel that the DBEC and PBEC facilities should be permitted as separate sources. Although it is currently our intent to develop both sites, we need to be able to retain commercial flexibility. In the event that at a future date Enron would wish to sell one of the facilities or sites, a single PSD permit that includes both facilities would provide significant (and unnecessary) constraints to such a transaction.

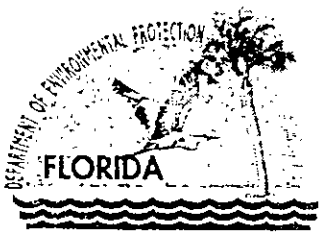
We appreciate your consideration of these factors and look forward to discussing this issue further with you.

Sincerely,

A handwritten signature in black ink, reading "David A. Kellermeyer". The signature is fluid and cursive, with a long horizontal line extending from the end of the name.

David A. Kellermeyer  
Director

cc: Ben Jacoby  
Steve Krinsky  
Scott Osbourn, ENSR



Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

March 9, 2001

Mr. Gregg Worley, Chief  
Air, Radiation Technology Branch  
Preconstruction/HAP Section  
U.S. EPA, Region 4  
61 Forsyth Street  
Atlanta, Georgia 30303

RE: Deerfield Beach Energy Center, LLC  
Facility ID No. 0112534-001-AC, PSD-FL-314

Dear Mr. Worley:

Enclosed for your review and comment is an application for Deerfield Beach Energy Center, LLC to construct and operate a simple cycle combustion turbine power plant in Broward County, Florida

Your comments may be forwarded to my attention at the letterhead address or faxed to the Bureau of Air Regulation at 850/922-6979. If you have any questions, please contact Jeff Koerner, review engineer, at 850/921-9536.

Sincerely,

*ja* *Patty Adams*

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

AAL/pa

Enclosure

cc: Jeff Koerner

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**Enron North America Corp.**

P.O. Box 1188

Houston, TX 77251-1188

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MAR 05 2001

March 2, 2001

BUREAU OF AIR REGULATION

Ms. Patty Adams  
Florida Department of Environmental Protection  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

RE: Deerfield Beach Energy Center, LLC  
Permit Application for Deerfield Beach Energy Center  
Submission of Outstanding Permit Fee

Dear Ms. Adams:

On behalf of Deerfield Beach Energy Center, LLC, enclosed is a check in the amount of \$5,250 to cover the outstanding fee for the previously-submitted air permit application for the Deerfield Beach Energy Center in Broward County, Florida. Due to previously-submitted and withdrawn applications, Enron North America understands that a portion of the total permit fee has already been covered by a positive fee balance with the Florida Department of Environmental Management.

If you have any questions, please don't hesitate to call me at (713) 853-3161.

Sincerely,  
Enron North America

A handwritten signature in black ink that reads "David A. Kellermeyer". The signature is fluid and cursive, with a long horizontal stroke extending from the end of the name.

David A. Kellermeyer  
Director

Enclosure