



TAMPA ELECTRIC

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BUREAU OF AIR REGULATION

August 1, 2000

Mr. A. A. Linero, P.E.  
Administrator  
New Source Review Section  
Florida Department of Environmental Protection  
111 South Magnolia Drive, Suite 4  
Tallahassee, FL 32301

Via FedEx  
Airbill No. 8132 1667 6637

Re: Tampa Electric Company (TEC) – Polk Power Station Unit 1  
Title V Permit Modification Request

Dear Mr. Linero:

Tampa Electric Company has received the Department's additional information request for historical NOx and SO2 emissions data from Polk Unit 1. TEC understands that the Department requires this information to determine if the combustion of syngas produced from the gasification of a blend of petcoke and coal up to 60% petcoke exceeds the SO2 and NOx thresholds as defined in Table 62-212.400-2. Presented below in Table 1 is Polk Power stations's historical NOx and SO2 data from 1998 and 1999 along with projections for NOx and SO2 emissions from pet coke blend derived syngas fuels. Tables 2 and 3 are PSD analyses based on the data and projections from Table 1 as requested by the Department.

	NOx [tons/yr]	SO2 [tons/yr]	Oil Fired Hours	Syngas Fired Hours
1998	589	1,321	665	5,171
1999	608	1,183	680	5,989
Average	599	1,252	673	5,580

Table 1  
Historical Emissions (Based on 1998 and 1999 AOR's)

	2-year Average Historical Emissions	40% Petcoke 60% Coal Blend	PSD Threshold	Difference	PSD Applicable?
NOx [tons/yr]	599	512	40	-87	N
SO2 [tons/yr]	1,252	759	40	-493	N

Table 2  
PSD Analysis - 40% Petcoke, 60% Coal Blend

TAMPA ELECTRIC COMPANY  
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	2-year Average Historical Emissions	60% Petcoke 40% Coal Blend	PSD Threshold	Difference	PSD Applicable?
NOx [tons/yr]	599	579	40	-20	N
SO <sub>2</sub> [tons/yr]	1,252	677	40	-575	N

**Table 3**  
**PSD Analysis - 60% Petcoke, 40% Coal Blend**

Sample Calculation for Future Actual NOx Emissions:

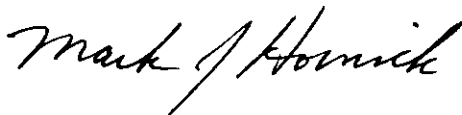
$$0.085 \frac{\text{lb NOx}}{\text{MMBtu}} * 1,706 \frac{\text{MMBtu}}{\text{hr}} * 5,580 \frac{\text{Hours}}{\text{yr}} \div 2,000 \frac{\text{tons}}{\text{lb}} + \left( .16 \frac{\text{tons NOx}}{\text{hr}} * 673 \frac{\text{Oil fired hrs}}{\text{yr}} \right) = 512 \frac{\text{tons NOx}}{\text{yr}}$$

As evidenced by the data above, both NOx and SO<sub>2</sub> emissions resulting from the combustion of syngas produced from the gasification of petcoke and coal blends do not increase above the PSD threshold limits. In fact, in each case, they actually decrease.

TEC understands that with the submission of the above information, the Department will continue processing the application.

If you have any questions, please telephone Shannon Todd or me at (813) 641-5125.

Sincerely,



Mark J. Hornick  
 General Manager/Responsible Official  
 Polk Power Station

EP\gm\SKT185

c: Syed Arif, FDEP  
 Buck Oven, FDEP  
 Bill Thomas, FDEP - SWD

*E. Duce*  
 EPA  
 NPS