TAMPA ELECTRIC

July 7, 2004

Mr. Jim Pennington
Florida Department of
Environmental Protection
Division of Air Resource Management
111 South Magnolia Drive, Suite 4
Tallahassee, Florida 32301

Via FedEx
Airbill No. 7926 7916 5239

Re: Tampa Electric Company
Polk Power Station Unit 1
100% Petcoke Test Burn Request
Permit No. 1050233-012-AV
AIRS #1050233, EU ID #001

Dear Mr. Pennington:

The purpose of this letter is to request permission to conduct a test burn at Polk Power Station (PPS) Unit 1 under the authority of the current Title V Air Operation Permit No. 1050233-012-AV. The test burn would be conducted to test the feasibility of firing syngas produced from the gasification of up to 100% petcoke fuel (with a flux) at a maximum sulfur content of 6 percent by weight. As you are aware, Tampa Electric Company (TEC) received authorization from the Florida Department of Environmental Protection (FDEP) to conduct performance tests while firing syngas produced from a maximum of 70 percent (% by weight) petcoke and coal blends on December 13, 1999. Upon receipt of the authorization, TEC immediately began procuring petcoke fuel to facilitate the test burn. From February 7, 2000 through February 15, 2000, TEC successfully gasified a blend of 40% petcoke and 60% coal, per the authorization. A subsequent petcoke/coal blend syngas test burn was conducted from April 24, 2000 to April 26, 2000, in which TEC gasified a blend of 60% petcoke and 40% coal. The pollutant emissions from these performance tests were used to request a permit modification to combust syngas produced from a fuel blend containing no greater than 60% petcoke and 40% coal, which was authorized on November 17, 2000 through the Air Construction Permit No. 1050233-004-AC/PSD-FL-194E.

Due to the initial success of the petcoke test burn and the operational experience from firing approximately 55% petcoke and 45% coal for the past four years without triggering the Prevention of Significant Deterioration (PSD) threshold limits as defined in Table 62-212.400-2, TEC would like to test higher petcoke percentages at Polk Unit 1. This test burn is the first step in a process TEC is undertaking in an attempt to submit a construction permit application to FDEP in order to permanently be able to fire syngas produced from the gasification of up to 100% petcoke.

TAMPA ELECTRIC COMPANY
P. O. BOX 111 TAMPA, FL 33601-0111
(813) 228-4111

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HTTP://WWW.TAMPAELECTRIC.COM

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OUTSIDE HILLSBOROUGH COUNTY 1 (888) 223-0800

The main constituents of clean syngas are hydrogen, carbon monoxide, carbon dioxide and nitrogen. The syngas contains trace levels (i.e., at the ppm level) of hydrogen sulfide and carbonyl sulfide. These two sulfur compounds are the primary source of Heat Recovery Steam Generator (HRSG) stack SO_2 and H_2SO_4 mist emissions.

The concentration of these sulfur compounds in the clean syngas is largely independent of the originating fuel. Instead, the sulfur compound syngas concentrations depend on the performance of many plant systems, such as the acid gas removal system. For this reason, TEC has requested the test burn be conducted at a maximum of 6 percent by weight sulfur content instead of the currently permitted 3.5 percent by weight sulfur content to provide greater flexibility to accommodate the different types of petcoke fuels in the market. TEC does not anticipate this introduction of higher sulfur content petcoke will result in a significant increase in any regulated pollutant as defined in Table 212.400-2 F.A.C. The petcoke will be handled in the same manner as the petcoke/coal blend that is currently handled at the facility. Attachment 1 & 2 are provided for explanation of the material balances and associated SO_2 emissions. Attachment 1 provides a representative analysis of the petcoke under consideration for this test burn and an estimation of the fuel blend composition and the estimated emissions. Attachment 2 provides a material balance of the sulfur, mass flows, and SO_2 emissions associated with the gasification, acid gas removal, sulfuric acid plant, and combustion turbine processes. Two cases are provided; the first case is representative of the current fuel blend used at the Polk facility of up to 60% petcoke and 40% coal. The second case is the estimated parameters associated with the combustion of 100% Petcoke.

TEC will conduct applicable emissions testing of the CT during the combustion of petcoke produced syngas-firing to provide reasonable assurance emissions have not increased. TEC requests authorization to conduct the comparison test burn for a period of up to 150 days, as granted for the previous 2000 test burn. This duration will allow TEC to evaluate, in addition to the emissions from the CT, the impacts of the material on the fuel handling systems and other associated process equipment and the effects, if any, of firing syngas produced from the gasification of a higher petcoke percentage. TEC will conduct a baseline test burn to establish the representative emissions from Polk Unit 1 prior to the introduction of higher than 60% petcoke into the gasifier. Baseline testing will consist of sulfur dioxide (SO_2) and nitrogen oxides (NO_x) data collection through the use of Continuous Emissions Monitors (CEMs).

Following the baseline test, TEC will conduct a test burn of syngas produced from the gasification of up to 100% petcoke. Petcoke testing will last up to 90 days out of the 150 days window and will consist of sulfur dioxide (SO_2) and nitrogen oxides (NO_x) data collection through the use CEMs in the same fashion as was conducted during the 2000 test burn. Because of the intense gas cleaning steps involved in the gasification process, the sulfuric acid mist emissions are not expected to be affected by the firing of the syngas produced from the gasification of the petcoke.

The baseline and up to 100% petcoke test burns will be conducted under standard PPS operating conditions and, to the extent possible, at least 90% of the maximum permitted heat input. Data will be compiled and results reported to the FDEP within 60 days of the completion of the test burn. Any petcoke fuel stock that is on hand after the test burn will be consumed immediately

after the test burn is completed. TEC will procure enough petcoke on-site to supply the needs of the test burn, with perhaps a slight margin to compensate for unforeseen circumstances. TEC intends to begin the test burn upon receiving approval from FDEP. Approval of the facility Designated Representative will be provided in Attachment 3.

TEC appreciates the Department's cooperation and consideration in this matter. If you have any questions or comments pertaining to this request, please direct them to Raiza Calderon at (813) 228-4369.

Sincerely,

Laura R. Crouch
Manager - Air Programs
Environmental, Health, and Safety

EA/gm/RC187

c/enc: Mr. Jerry Kissel, FDEP SW District

Attachment 1
Polk Power Station Unit 1
Estimation of Fuel Blend Composition & Emissions

Example of Current Fuel - Up To 60% Petroleum Coke)

Heating Value	14,690	Wt % Dry Basis
% Sulfur	3.27	Wt % Dry Basis
Ash (%)	4.57	Wt % Dry Basis
Moisture Content (%)	9.51	Wt % As Received

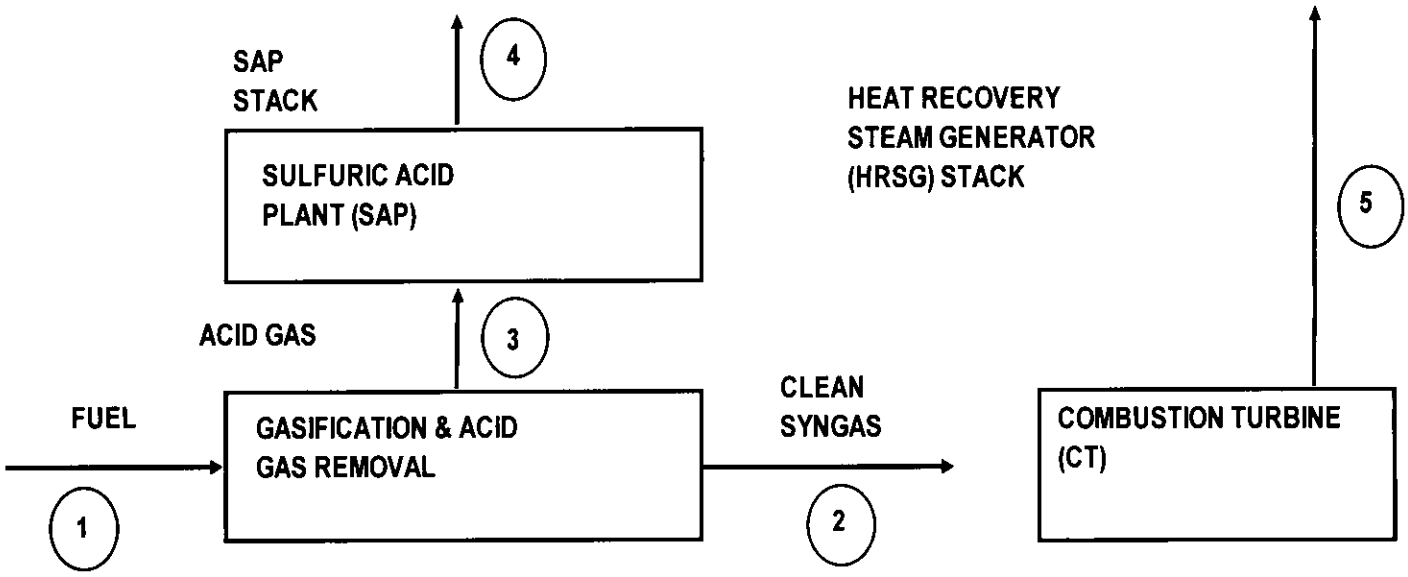
Test Fuel - Up To 100% Petroleum Coke

Heating Value (BTU/LB)	14,750	Wt % Dry Basis
% Sulfur	6.00	Wt % Dry Basis
Ash (%)	2.89	Wt % Dry Basis
Moisture Content (%)	9.24	Wt % As Received

Comparison of Facility SO2 Emissions

Current Fuel (LB/HR)		Test Fuel (LB/HR)
359		356

Attachment 2
Polk Power Station Unit 1
Material Balance



MATERIAL BALANCE PROJECTIONS
(All Flow Rates in Lb/Hr)

Stream Number	1	2	3	4	5
Stream Description	**Fuel (Dry Basis)**	**Clean Syngas**	**Acid Gas**	**Acid Plant Stack**	**HRSG Stack**
Current Fuel (Up to 60% Petroleum Coke					
Total Flow (LB/HR)	169,097	401,263	26,138	50,652	3,879,887
Sulfur (LB/HR)	5,538	165	5,373	14	165
Sulfur (as SO2)(LB/HR)	n/a	n/a	n/a	29	331
Test Fuel (Up To 100% Petroleum Coke)					
Total Flow (LB/HR)	170,930	386,263	45,738	60,000	3,909,887
Sulfur (LB/HR)	10,256	160	10,096	18	160
Sulfur (as SO2)(LB/HR)	n/a	n/a	n/a	36	320

Attachment 3
Polk Power Station Unit 1
Designated Representative Signature

Responsible Official Certification

I have reviewed the letter of request for authorization to conduct a petcoke test burn at Polk Power Station. I hereby certify that these documents are authentic and accurate to the best of my knowledge.

Signature: Mark Hornick
General Manager

Date: 7/6/04