



TAMPA ELECTRIC

September 19, 2001

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BUREAU OF AIR REGULATION

Mr. Scott M. Sheplak, P.E.  
Florida Department of Environmental Protection  
111 South Magnolia Drive, Suite 4  
Tallahassee, Florida 32301

Via FedEx  
Airbill No. 7916 6016 8862

**Re: Tampa Electric Company  
Big Bend Station  
FDEP File No. 0570039-002-AV  
Notification of Use of  
Coal Treated with Binder**

Dear Mr. Sheplak:

As you know, based on correspondence with the Department and the Hillsborough County Environmental Protection Commission, Tampa Electric Company (TEC) has been firing solid fuel that has been treated with a binder that is used as a chemical dust suppressant. Recently, an asphalt-based binder has become available for use, and the Company intends to begin using this material for dust suppression. The types of solid fuel currently being used will remain the same, and as with the previous binder, the asphalt based binder will not affect emissions from the plant. The main environmental benefit of the binder application is minimized particulate emissions during solid fuel handling. An additional aspect of the treatment of the solid fuel with the binder product is it allows the producer of the fuel to qualify for a fuel tax credit. TEC intends to begin using the treated solid fuel in varying percentages of the overall fuel mix on or after October 1, 2001.

Information on the asphalt binder agent currently under evaluation for use in the treatment process for the fuel that TEC will receive is enclosed. Please note TEC is currently requesting authorization to use this material at Big Bend Station, but may request authorization to use this material at Gannon Station in the future. This binder may be used interchangeably with the other binders in use at Big Bend Station, and TEC requests concurrence from the Department that treating solid fuel with this material will not result in an adverse environmental impact.

TAMPA ELECTRIC COMPANY  
P. O. BOX 111 TAMPA, FL 33601-0111

(813) 228-4111

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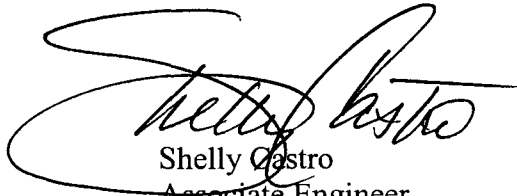
Mr. Scott M. Sheplak, P.E.

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Please feel free to telephone me at (813) 641-5033, if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Shelly Castro", written in a cursive style.

Shelly Castro  
Associate Engineer  
Environmental Affairs

Enclosure

EA/gm/SSC100

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



**Environmental Consulting & Technology, Inc.**

September 17, 2001

Ms. Shelly Castro  
Tampa Electric Company  
6944 U.S. Highway 41 North  
Apollo Beach, FL 33572-9200

**Re: Tampa Electric Company  
Big Bend and Gannon Stations  
Use of Coal Treated with Asphalt Emulsion Binder**

Dear Ms. Castro:

As requested, this letter provides a professional engineer certification with respect to several environmental issues concerning the use of coal treated with an asphalt emulsion binder. The coal binder will serve to reduce fugitive particulate matter emissions during coal handling and storage. This certification addresses the collateral issues of: (a) potential emissions of volatile organic compound (VOC) emissions, (b) binder combustion emissions, and (c) potential surface runoff contamination. Each of these issues are discussed in the following sections:

**A. Potential for VOC Emissions**

The coal binder (Asphalt Emulsion) is a material manufactured by Midwest Terminals of Toledo, Inc. The Material Safety Data Sheet (MSDS) indicates that the product is a light brown liquid emulsion comprised primarily of asphalt (from 45 to 65 percent by weight) and water (from 34.905 to 54.945 percent by weight). The binder will also contain minor amounts of tall oil (from 0.03 to 0.05 percent by weight) and caustic soda (from 0.025 to 0.045 percent by weight). The physical and chemical properties section of the MSDS shows a vapor pressure of approximately 22 mm Hg (0.425 psia) at 25°C (77°F) and a boiling point of 100°C (212°F) for the Asphalt Emulsion binder. Pure water at 25°C has the same boiling point and a vapor pressure of 23.8 mm Hg (0.460 psia). Accordingly, the non-water components of the Asphalt Emulsion binder do not contribute to the volatility to the material. The principal hydrocarbon component, asphalt, has a boiling point greater than 800°F and a vapor pressure less than 0.0001 mm Hg. VOC emissions due to evaporative losses from the Asphalt Emulsion binder will therefore be negligible.

**B. Coal Binder Combustion Emissions**

The Asphalt Emulsion material is a liquid emulsion comprised primarily of asphalt and

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water. The high combustion temperatures and residence times occurring in the Big Bend and Gannon Station coal-fired furnaces would be expected to result in essentially complete combustion of the Asphalt Emulsion binder to carbon dioxide (CO<sub>2</sub>) and water (H<sub>2</sub>O). The Asphalt Emulsion material also represents a very small portion of the total mass of coal fuel that is combusted in the Big Bend and Gannon Generating Station units.

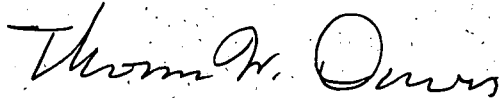
**C. Potential Surface Runoff Contamination**

The Asphalt Emulsion binder is an emulsion of asphalt and water. Once applied, the asphalt component of the Asphalt Emulsion binder would be expected to remain with the coal (due to its insolubility in water) and ultimately be oxidized in the Big Bend and Gannon Station boilers. Surface runoff from the treated coal handling and storage areas would therefore be expected to have negligible amounts of the water insoluble asphalt component of the Asphalt Emulsion binder.

Please contact me at (352) 332-6230, Ext. 351 if there are any questions regarding this certification.

Sincerely,

**ENVIRONMENTAL CONSULTING & TECHNOLOGY, INC.**

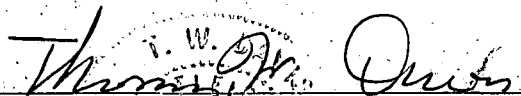


Thomas W. Davis, P.E.  
Principal Engineer

Professional Engineer Statement:

*I, the undersigned, hereby certify that:*

To the best of my knowledge, the emission estimates reported in this certification are true, accurate, and complete based upon reasonable techniques available for estimating emissions.



Signature  
Professional Engineer No. 36777

9/17/01  
Date

