



TAMPA ELECTRIC

October 18, 2000

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BUREAU OF AIR REGULATION

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

Via FedEx  
Airbill No. 7903 8371 3550

Re: Tampa Electric Company  
Big Bend Station  
FDEP Files No. 0570039-002-AV  
Notification of Use of Coal Treated with Binder  
Additional Information/ PE Certification

Dear Mr. Sheplak:

As you know, Tampa Electric Company (TEC) recently notified the Department of the intended use of coal treated with a latex binder, as well as two other potential binders. Based on conversations with Jonathan Holtom, additional information, signed and sealed by a Professional Engineer, was requested. Please find enclosed the requested additional information regarding the binder LATEX DL 298NA. At this time, this is the only product that TEC is proposing to have coal treated with prior to delivery.

TEC is requesting a written response from the Department confirming our ability to use coal treated with the above referenced binder. TEC intends to begin the use of this fuel on, or after November 1, 2000. Please feel free to telephone me at (813) 641-5033, if you have any questions.

Sincerely,

Jamie Hunter  
Consulting Engineer  
Environmental Affairs

EP\gmJJH937

Enclosure

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



**Environmental Consulting & Technology, Inc.**

October 17, 2000

Mr. Jamie Hunter  
Consulting Engineer  
Tampa Electric Company  
6944 U.S. Highway 41 North  
Apollo Beach, FL 33572-9200

**Re: Tampa Electric Company  
Big Bend Station  
FDEP File No. 0570039-002-AV  
Use of Coal Treated with Binder  
Response to Request for Additional Information**

Dear Mr. Hunter:

In response to a request by the Florida Department of Environmental Protection (FDEP), this letter provides a professional engineer certification with respect to several environmental issues concerning the use of coal treated with a 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 (LATEX DL 298NA) is a latex material manufactured by the Dow Chemical Company. The Material Safety Data Sheet (MSDS) indicates that the product is a milky white liquid emulsion comprised of a proprietary carboxylated styrene/butadiene polymer (from 40 to 62 percent by weight) and water (from 38 to 60 percent by weight). The physical and chemical properties section of the MSDS shows a vapor pressure of 17.5 mm Hg (0.338 psia) at 20°C (68°F) and a boiling point of 100°C (212°F) for the latex polymer/water product. Pure water at 20°C has the same vapor pressure and boiling point. Accordingly, the latex polymer component of the LATEX DL 298NA polymer/water mixture does not contribute to the volatility to the product. VOC emissions due to evaporative losses from the binder will therefore be negligible.

**B. Coal Binder Combustion Emissions**

The LATEX DL 298NA material is a liquid emulsion comprised of a polymerized hydrocarbon (i.e., carboxylated styrene/butadiene polymer) and water. The high temperature

3701 Northwest  
98<sup>th</sup> Street  
Gainesville, FL  
32606

(352)  
332-0444

FAX (352)  
332-6722

Mr. Jamie Hunter  
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combustion temperatures and combustion residence times occurring in the Big Bend coal-fired units would be expected to result in essentially complete combustion of the LATEX DL 298NA material to carbon dioxide (CO<sub>2</sub>) and water (H<sub>2</sub>O). The LATEX DL 298NA material also represents a very small portion of the total mass of coal fuel that is combusted in the Big Bend units.

**C. Potential Surface Runoff Contamination**

The LATEX DL 298NA MSDS indicates that the polymer component of the LATEX DL 298NA material is insoluble in water. Once applied, the polymer component of the LATEX DL 298NA material would be expected to remain with the coal (due to its insolubility in water) and ultimately be oxidized in the Big Bend boilers. Surface runoff from the treated coal handling and storage areas would therefore be expected to have negligible amounts of the water insoluble polymer component of the LATEX DL 298NA binder material.

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

10/17/00  
Date