



TAMPA ELECTRIC

December 26, 2002

Ms. Trina Vielhauer
Chief, Bureau of Air Regulation
Florida Department of
Environmental Protection
111 South Magnolia Avenue, Suite 4
Tallahassee, Florida 32301

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

Dear Ms. Vielhauer:

Tampa Electric Company (TEC) has received the Department of Environmental Protection's (Department) letter dated November 20, 2002 regarding TEC's request to handle, store, and burn a maximum of 2,100 tons of coal treated with an asphalt-based binder at our Big Bend Station. As noted in a letter sent to the Department dated September 17, 2002, TEC proposes to handle, store, and combust 2,100 tons of treated coal (containing 41 tons of asphalt-based binder on a dry binder basis) by blending the treated coal, up to a maximum of five percent by weight, with other solid fuels utilized at Big Bend Station. Following combustion of the blended 2,100 tons of treated coal, there will be no further use of the asphalt-based binder. Because the asphalt-based binder will reduce fugitive particulate matter emissions during coal handling and storage, TEC considers the asphalt-based binder to be a *chemical dust suppressant* and therefore authorized for use by our Title V permit per Appendix TV-3, Title V Conditions (version dated 04/30/99), Condition No. 58. This permit condition expressly authorizes the use of asphalt-based dust suppressants.

Your November 20, 2002 letter indicates the Department does not consider use of the asphalt-based binder to be a *chemical dust suppressant* in the context of Appendix TV-3, Title V Conditions (version dated 04/30/99), Condition No. 58, but rather would constitute a *modification* subject to Department permitting procedures. Although TEC does not concur with the Department that the asphalt-based binder is not a *chemical dust suppressant*, TEC notes that the handling, storage, and combustion of the 2,100 tons of treated coal is also: (1) exempt from Department air construction permit requirements, and (2) an *insignificant activity* under the Department's Title V permit regulations. Each of these permitting issues is discussed in the following sections.

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BUREAU OF AIR REGULATION

Via FedEx

Airbill No. 7915 0196 8325

Air Construction Permit Requirements

Unless exempt from permitting pursuant to Rule 62-210.300(3)(a), F.A.C. or Rule 62-210.300(3)(b), F.A.C., or by Rule 62-4.040, F.A.C., an air construction permit is required for any "modification" of an existing facility prior to the beginning of construction or modification, pursuant to Rule 62-210.300(1)(a), F.A.C. *Modification* is defined by Rule 62-210.200(169) generally as:

“any physical change in, change in the method of operation, or addition to a facility which would result in an increase in the actual emissions of any air pollutant subject to regulation under the Act, including any not previously emitted, from any emissions unit or facility”.

Although use of the asphalt-based binder would appear to be presently authorized by Appendix TV-3, Title V Conditions (version dated 04/30/99), Condition No. 58, and therefore would not represent a change in the method of operation, the handling, storage, and combustion of 2,100 tons of the asphalt-based binder treated coal would also be exempt from permitting pursuant to Rule 62-210.300(3)(b)1., F.A.C., *Generic Emission Unit Exemption*. This rule provides for an exemption from the requirement to obtain an air construction permit if the proposed emission unit or activity meets the following criteria:

- 1) The pollutant-emitting activity must not be subject to any unit-specific applicable requirement;
- 2) Potential emissions from the pollutant-emitting activity must not equal nor exceed 500 pounds per year (lb/yr) of lead and lead compounds expressed as lead, 1,000 lb/yr of any hazardous air pollutant (HAP), 2,500 lb/yr of total HAPs, and 5.0 tons per year (tpy) of any other regulated pollutant;
- 3) Emissions from the pollutant-emitting activity, in combination with the emissions of other units and activities at the facility, would not cause the facility to emit or have the potential to emit any pollutant in such amount as to make the facility a Title V source;
- 4) For a proposed new emission unit at an existing source, emissions of such unit, in combination with the emissions of any other proposed new or modified units and activities at the facility, would not result in a modification subject to the preconstruction review requirements of Rule 62-204.800(10)(d)2., 62-212.400 or 62-212.500, F.A.C.; and
- 5) For a proposed new pollutant-emitting activity, such activity would not constitute a modification of any existing non-exempt emissions unit at a non-Title V source or any existing non-insignificant emissions unit at a Title V source.

The activity at issue is the handling, storage and combustion of 2,100 tons of coal treated with an asphalt-based binder *in lieu of* 2,100 tons of coal that are not so treated. Such an activity will not be subject to any unit-specific applicable requirement. Note that TEC will continue to comply with all existing Big Bend Station fuel yard and combustion unit applicable requirements, and the handling, storage and combustion of 2,100 tons of treated coal in place of untreated coal. Potential emissions resulting from the handling, storage, and combustion of 2,100 tons of coal treated with an asphalt-based binder will be well below the emission thresholds listed above in permit exemption criteria (2). A detailed assessment of potential emission rates is provided in

Attachment A. Permit exemption criteria (3) above is not applicable since the Big Bend Station is presently a Title V source. The available data indicates that any emissions reasonably anticipated from the handling, storage and combustion of 2,100 of treated coal in place of 2,100 tons of untreated coal will be negligible and *de minimis* at most. Any emissions from this proposed activity will be well below the significance thresholds set forth in Rule 62-212.400. Therefore, the proposed activity of handling, storage and combustion of 2,100 of binder-treated coal in place of 2,100 tons of untreated coal meets the exemption criteria and is not required to obtain an air construction permit.

Major Source Operation (Title V) Permit Requirements

If a new activity or unit at a Title V source meets the generic exemption criteria above, it can be treated as "insignificant" for Title V purposes and listed as such in the Title V permit.

Per Rule 62-213.430(6)(a), F.A.C., *Insignificant Emissions Units or Pollutant-Emitting Activities*:

"Emissions units or activities which are added to a Title V source after issuance of a permit under this chapter shall be incorporated into the permit at its next renewal, provided such emissions units or activities have been exempted from the requirement to obtain an air construction permit and also qualify as insignificant pursuant to this rule."

Rule 62-213.430(6)(b), F.A.C. contains the following three criteria for the activity to be considered "insignificant":

- 1) The pollutant-emitting activity must not be subject to any unit-specific applicable requirement;
- 2) Emissions from the pollutant-emitting activity, in combination with other units and activities proposed as insignificant, would not cause the facility to exceed any major source threshold(s) as defined in subparagraphs 62-213.420(3)(c)1., F.A.C., unless it is unless it is acknowledged in the permit application that such units or activities would cause the facility to exceed such threshold(s); and
- 3) Potential emissions from the pollutant-emitting activity must not equal nor exceed 500 lb/yr of lead and lead compounds expressed as lead, 1,000 lb/yr of any HAP, 2,500 lb/yr of total HAPs, and 5.0 tpy of any other regulated pollutant.

Note that criteria (1) and (3) above are identical to criteria contained in the *Generic Emissions Unit Exemption*; see Rule 62-210.300(3)(b)1a., F.A.C. and Rule 62-210.300(3)(b)1b., F.A.C. As noted previously, the handling, storage and combustion of 2,100 tons of coal treated with an asphalt-based binder will not be subject to any unit-specific applicable requirement, and potential emissions will be well below the emission thresholds listed above in criteria (3). Criteria (2) above is not applicable since Big Bend Station presently exceeds major source thresholds as defined in subparagraphs 62-213.420(3)(c)1., F.A.C.

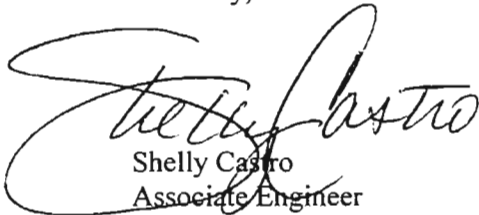
Therefore, the proposed handling, storage and combustion of 2,100 tons of treated coal in place of 2,100 tons of untreated coal will constitute an "insignificant activity" for Title V purposes.

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In conclusion, TEC continues to believe that the asphalt-based binder should be considered a *chemical dust suppressant* and therefore authorized for use by TEC Title V permit per Appendix TV-3, Title V Conditions (version dated 04/30/99), Condition No. 58. Alternatively, the handling, storage and combustion of 2,100 tons of coal treated with an asphalt-based binder in place of 2,100 tons of untreated coal is also considered to be exempt from air source construction permit requirements pursuant to Rule 62-210.300(3)(b)1., F.A.C., *Generic Emission Unit Exemption* and to constitute an *insignificant activity* pursuant to Rule 62-213.430(6)(b), F.A.C.

TEC would appreciate the Department's review of the permitting issues addressed in this letter and receiving a determination of permitting requirements for the proposed handling, storage and combustion of 2,100 tons of coal treated with an asphalt-based binder at our Big Bend Station. Please contact me at (813) 641-5033 if you have any questions.

Sincerely,



Shelly Castro
Associate Engineer
Environmental Affairs

EA/bmr/SSC141

Enclosures

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

Attachment A
Tampa Electric Company - Big Bend Station
Asphalt-Based Binder Emission Estimates

The asphalt-based 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 asphalt-based binder is a liquid emulsion comprised primarily of asphalt and water. The high temperature combustion temperatures and combustion residence times occurring in Tampa Electric Company's Big Bend Station coal-fired units would be expected to result in essentially complete combustion of the binder hydrocarbons to carbon dioxide (CO₂) and water (H₂O).

Big Bend Station is a base-load power generation facility. Use of the asphalt-based binder treated coal will not change the thermal efficiency or the utilization rate of Big Bend Station boilers. Accordingly, the asphalt-based binder treated coal will **displace** (on a heat input basis) coal that otherwise would have been combusted at Big Bend Station to meet power demands.

Emissions data for the asphalt-based binder and typical coal burned at Big Bend Station are provided on Table A. Note that the asphalt-based binder, on a comparable dry basis, has a slightly higher heat content and lower sulfur and ash contents than the typical coal. Accordingly, 2,100 tons of the asphalt-based binder treated coal will displace approximately 2,113 tons of coal while generating slightly **lower** SO₂ and PM/PM₁₀ emissions. Similarly, emissions of the remaining criteria pollutants and hazardous air pollutants (HAPs) will remain unchanged or slightly lower due to the use of the asphalt-based treated coal.

Table 1A also provides the composition of typical coal in comparison to the asphalt-based treated coal and a 95 / 5 percent blend of coal and asphalt-based treated coal. These compositions indicate that typical coal and a 95 / 5 percent blend of coal and asphalt-based treated coal will have essentially the same characteristics and therefore will have essentially the same emission rates.

The amount of asphalt-based binder that TEC proposes to burn also represents a very small portion of the total mass of coal fuel that is combusted in Big Bend Station Units 1 through 4. In 2001, a total of 4,104,032.7 tons of coal was burned at the Big Bend Station. The planned combustion of 2,100 tons of treated coal therefore represents only 0.05 percent of Big Bend Station's coal consumption during 2001. The asphalt-based binder material comprises 1.97 weight per cent of the treated coal on a dry basis. Accordingly, the amount of dry asphalt-based binder contained in the 2,100 tons of treated coal is 41.4 tons or only 0.001 percent of Big Bend Station's coal usage in 2001.

In conclusion, the handling, storage, and combustion of 2,100 tons of asphalt-based binder treated coal use will result in potential emissions that are less than 500 pounds per year (lb/yr) of lead and lead compounds expressed as lead, 1,000 lb/yr of any hazardous air pollutant (HAP), 2,500 lb/yr of total HAPs, and 5.0 tons per year (tpy) of any other regulated pollutant. Note this conclusion is valid even if no coal displacement is assumed and even if no consideration is given to the pollutant removal efficiencies of the existing control systems; i.e., if zero percent PM/PM₁₀ and SO₂ control efficiency is assumed for the existing electrostatic precipitators (ESPs) and flue gas desulfurization (FGD) control systems, respectively.

**Table A. TEC Big Bend Station
Asphalt-Based Binder Emission Estimates**

A. Coal and Asphalt-Based Binder Data

Parameter	Units	Coal	Asphalt-Based Binder
Heat Content	Btu/lb, HHV, dry	13,000	17,186
Sulfur	weight %, dry	3.00	2.54
Ash	weight %, dry	9.00	0.10
Moisture	weight %, avg.	9.00	44.93
Blend	weight %	95.0	5.0
Binder Density	lb/gal	N/A	8.35
Binder Use	gal/ton coal	N/A	8.74
	lb(wet)/ton coal	N/A	72.98
	lb(dry)/ton coal	N/A	40.19
	ton(wet)/2,100 ton treated coal	N/A	75.12
	ton(dry)/2,100 ton treated coal	N/A	41.37

B. Coal and Asphalt-Based Binder Blend Calculations

Basis: One ton of fuel, dry					
Parameter	Units	Coal	Asphalt-Based Treated Coal	95 / 5 % Coal Treated Coal Blend	Fraction (Treated Coal / Coal)
Coal	lb	2,000.00	1,960.60	1,998.03	N/A
Asphalt Binder	lb	0.00	39.40	1.97	N/A
Total	lb	2,000.00	2,000.00	2,000.00	N/A
Coal	weight %	100.00	98.03	99.90	N/A
Asphalt Binder	weight %	0.00	1.97	0.10	N/A
Total	weight %	100.00	100.00	100.00	N/A
Heat Content	Btu/lb, HHV, dry	13,000.00	13,082.47	13,004.12	1.01
Sulfur	weight %, dry	3.00	2.99	3.00	1.00
Ash	weight %, dry	9.00	8.82	8.99	0.98

Basis: 2,100 ton of treated coal, dry					
Parameter	Units	2,113 tons Coal	41.4 tons Asphalt-Based Binder	2,100 tons Asphalt-Based Treated Coal	Difference Treated Coal - Coal
SO ₂	lb/ton, uncontrolled	120.00	101.68	119.64	-0.361
	ton, uncontrolled	126.78	2.10	125.62	-1.159
	FGD Control Eff.	90.0	90.0	90.0	0.000
	lb/ton, controlled	12.0	10.2	12.0	-0.036
	ton, controlled	12.7	0.2	12.6	-0.116
PM/PM ₁₀	lb/ton, uncontrolled (AP-42)	90.00	6.65	88.25	-1.753
	ton, uncontrolled	95.09	0.14	92.66	-2.426
	ESP Control Eff.	95.0	95.0	95.0	0.000
	lb/ton, controlled	4.5	0.3323	4.4	-0.088
	ton, controlled	4.8	0.0069	4.6	-0.121

Sources: ECT, 2002.
TEC, 2002.

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Material Safety Data Sheet
 May be used to comply with
 OSHA's Hazard Communication Standard
 29 CFR 1900.1200. Standard must be
 consulted for specific requirements

U.S. Department of Labor
 Occupational Safety and Health Administration
 (Non-Mandatory Form)
 Form Approved
 OMB No. 1218-0072

IDENTITY (As Used on Label and List)**Asphalt Emulsion****Section 1**

Manufacturer's Name Midwest Terminals of Toledo Inc.	Emergency Telephone Number 419-367-1028
Address 2633 Sunset Lane Henderson, KY 42420	Telephone Number for Information 270-830-6560
	Date Prepared 7/23/01
	Signature of Preparer (optional) Robin Keller

Section 2 - Identity Information

Hazardous Components	CAS Number	OSHA PEL	ACGIH TLV	Other Limits	% (optional)
Petroleum Hydrocarbon	68476-33-5		5mg/m ³ (fumes)		
Tail Oil	N/A	N/A	N/A	N/A	N/A

Section 3 - Physical / Chemical Characteristics

Boiling Point	212°F	Specific Gravity (H ₂ O=1)	0.96-1.05
Vapor Pressure (mm HG)	approx. 22 @ 77°F	Melting Point	N/A
Vapor Density (Air=1)	>1	Evaporation Rate (Butyl Acetate=1)	similar to water
Solubility in Water	moderately to completely	Appearance and Odor	Light brown liquid, minimal odor

Section 4 - Fire and Explosion Hazard Data

Flash Point (Method Used) Not Applicable as an Emulsion	Flammable Limits LEL UEL
Extinguishing Media If water is evaporated, treat as with an asphalt / oil fire. Use dry chemical foam CO ₂ .	
Special Fire Fighting Procedure Do not enter confined fire area without full bunker gear and NIOSH approved, self-contained breathing apparatus.	
Unusual Fire and Explosion Hazards Emulsion may foam if heated to 212°F. If materials in excess of 212°F are added to the emulsion, foaming can occur.	

OSHA 174, Sept 1985

Section 5 - Reactivity Data			
Stability	Unstable	Stable	X
Conditions to Avoid			
Incompatibility (Materials to Avoid)			
Strong Oxidizers			
Hazardous Decomposition or Byproducts			
If burning, carbon monoxide, hydrogen sulfide, hydrocarbons			
Hazardous Polymerization	May Occur	Will Not Occur	X
Conditions to Avoid			
Section 6 - Health Hazard Data			
Routes of Entry	Inhalation? X	Skin? X	Ingestion? X
Health Hazards (Acute and Chronic)			
Inhalation - continued exposure may lead to nausea, dizziness, headache			
Skin - thermal burns can result from hot emulsion. Repeated contact can cause dermatitis			
Ingestion - relatively non toxic			
Carcinogenicity	NTP	IARC X	OSHA
In regards to fumes from hot asphalt, the International Agency for Research on Cancer has found that there is limited evidence of carcinogenicity for undiluted steam-refined asphalts in laboratory animals, but inadequate evidence of carcinogenicity for undiluted steam refined asphalts in humans. Hot asphalt fumes would only be encountered if the water from the emulsion has first been evaporated.			
Signs and Symptoms of Exposure			
Medical Conditions Generally Aggravated by Exposure			
Emergency and First Aid Procedures			
Skin - Wash with soap and water or hand cleaner			
Eyes - Flush with water. Call physician immediately			
Ingestion - Consult physician immediately			
Section 7 - Precautions for Safe Handling and Use			
Steps to be Taken in Case Material is Released or Spilled			
Dike or absorb emulsion/hydrocarbon. Earth, sand or dust are good absorbents. Contact local authorities if emulsified hydrocarbon enters sewer or water source.			
Waste Disposal Method			
Dispose of in accordance with local, state or federal regulations.			
Precautions to be taken in Handling and Storing			
Cover face and skin when opening tanks or drums in case the emulsified hydrocarbon is under pressure. Make sure heaters are fully submerged in liquid.			
Other Precautions			
Avoid pressurizing, torching, welding, grinding empty containers. Do not expose empty containers to heat, sparks or any type of ignition.			
Section 8 - Control Measures			
Respiratory Protection			
Not required under normal conditions			
Ventilation	Local Exhaust Special	Use if in enclosed area	
	Mechanical (General) Other		
Protective Gloves	Eye Protection		
Insulated gloves to prevent thermal burn	Faceshield or goggles		
Other protective Clothing or Equipment			
Long sleeve shirts and full length pants			
Work / Hygienic Practices			
Use good practice associated with any thermally hot material			



Environmental Consulting & Technology, Inc.

August 19, 2002

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

**Re: Tampa Electric Company - Big Bend Station
Use of Coal Treated with Asphalt Emulsion Binder**

Dear Ms. Castro:

Tampa Electric Company (TEC) previously submitted correspondence to the Florida Department of Environmental Protection (FDEP) regarding the use of an asphalt-based coal binder to reduce fugitive particulate matter emissions during coal handling and storage; reference correspondence to Mr. Scott Sheplak dated September 19, 2001 and April 23, 2002. In a letter to TEC dated May 3, 2002, the Department expressed concerns that the coal binder would have the potential to increase actual emission rates and therefore could possibly trigger PSD New Source Review.

TEC now proposes to burn a maximum of 2,100 tons of coal that has been treated with the asphalt-based binder during the remainder of 2002 as a one time event. The treated coal will be blended up to a maximum of five percent by weight with other solid fuels used at the Big Bend Station and combusted in Units 1 through 4. Following combustion of this amount of treated coal, there will be no further use of the asphalt-based binder.

As requested, this letter provides a professional engineer certification with respect to the Department's concern regarding potential emission rate increases and fuel heat content:

A. Potential for Emission Increases

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 asphalt-based binder is a liquid emulsion comprised primarily of asphalt and water. The high temperature combustion temperatures and combustion residence times occurring in the Big Bend Station coal-fired units would be expected to result in essentially complete combustion of the binder hydrocarbons to carbon dioxide (CO₂) and water (H₂O).

The amount of asphalt-based binder that TEC proposes to burn also represents a very small portion of the total mass of coal fuel that is combusted in the Big Bend Station units. In 2001, a total of 4,104,032.7 tons of coal was burned at the Big Bend Station. The planned combustion of 2,100 tons of treated coal therefore represents only 0.05 percent of the Big Bend Station's coal consumption during 2001. The asphalt-based binder material comprises 3.5 weight per cent of the treated coal. Accordingly, the amount of asphalt-based binder contained in the 2,100 tons of treated coal is 73.5 tons or only 0.0018 percent of the Big Bend Station's coal usage in 2001.

3701 Northwest
98th Street
Gainesville, FL
32606

(352)
332-0444

FAX (352)
332-6722

The sulfur content of the asphalt-based binder is 1.4 weight percent. This sulfur content is *lower* than the parent coal sulfur level of approximately 2.5 weight percent. As noted above, the asphalt-based binder comprises 3.5 weight percent of the treated coal. The treated coal will therefore have an average sulfur content of 2.46 weight percent. Based on the proposed maximum five percent blend proposed, the aggregate sulfur content of the 95/5 percent coal/treated coal blend will be 2.498 weight percent. Accordingly, there will no significant difference in the sulfur content of the untreated coal and the coal/treated coal blend.

Because the untreated coal and the coal/treated coal blend will have essentially the same characteristics, no change in short-term emission rates would be expected. Annual emission rates changes were estimated based on the efficiencies of the Big Bend Station air pollution control systems and conservatively assuming no displacement of untreated coal due to use of the asphalt-based binder. The Big Bend Station air pollution control systems include electrostatic precipitators (ESPs) for particulate matter (PM) abatement and wet flue gas desulfurization (FGD) systems for controlling SO₂ emissions. As mentioned previously, a maximum of 2,100 tons of treated coal containing 73.5 tons of asphalt-based binder is proposed to be burned at the Big Bend Station. Assuming a conservative 90 percent SO₂ control efficiency for the FGD systems, SO₂ emissions associated with combustion of the asphalt-based binder are estimated at 0.2 tons [73.5 tons binder x (1.4 ton S / 100 ton binder) x (2 ton SO₂ / ton S) x (0.10) = 0.2 ton SO₂].

As noted above, the asphalt-based binder is composed primarily of asphalt and water. Asphalt is a low volatility material that is the final product of crude oil distillation. Estimates of potential changes in PM emissions were approximated using AP-42 emission factors for No. 6 fuel oil. For a sulfur content of 1.4 weight percent, the AP-42 PM emission factor for No. 6 oil is 16.09 lb per 1,000 gallons. Using the asphalt-based binder density of 8.35 lb/gal, the 73.5 tons of asphalt-based binder will have a volume of 17,604.8 gallons resulting in 283.3 lb of PM emissions prior to the ESP control systems. Assuming a conservative 95 percent PM control efficiency for the ESP systems, PM emissions associated with combustion of the asphalt-based binder are estimated at 0.007 tons [73.5 tons binder x (2,000 lb binder / ton binder) x (1 gal / 8.35 lb) x (16.09 lb PM / 1,000 gal) x (0.05) x (ton PM / 2,000 lb PM) = 0.007 ton PM].

Emissions of NO_x and CO from Big Bend Station Units 1 – 4 are primarily influenced by boiler operating parameters such as air-to-fuel ratio, combustion residence time, combustion zone temperatures, etc. These boiler operating parameters will not change due to the combustion of the coal/ treated coal fuel blend in Units 1 – 4. Accordingly, no change in NO_x and CO emissions would be expected due to the combustion of the blended asphalt-based binder treated coal.

Based on the above analysis, it is concluded that any emission increases associated with the combustion of the proposed 2,100 tons of asphalt-based binder treated coal will be well below the PSD significant emission rate increase thresholds.

B. Fuel Heat Content

The heat content of the asphalt-based binder is 17,186 British thermal units per pound (Btu/lb), higher heating value. As noted above, the asphalt-based binder comprises 3.5 weight percent of the treated coal. The average heat content of coal combusted at the Big Bend Station is approximately

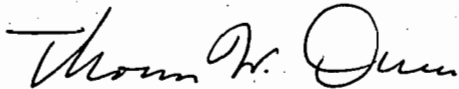
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12,000 Btu/lb, HHV. The treated coal will therefore have an average heat content of 12,181.5 Btu/lb. Based on the proposed maximum five percent blend, the aggregate heat content of the 95/5 percent coal/treated coal blend will be 12,009 Btu/lb. Accordingly, there will no significant difference in the heat content of the untreated coal and the coal/treated coal blend.

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

Sincerely,

ENVIRONMENTAL CONSULTING & TECHNOLOGY, INC.

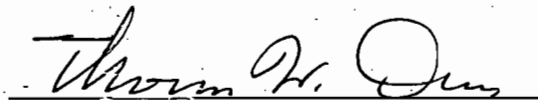


Thomas W. Davis, P.E.
Principal Engineer

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

8/19/02
Date