

Sheplak, Scott

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**From:** Sheplak, Scott  
**Sent:** Wednesday, May 06, 2009 2:13 PM  
**To:** 'Lee, Diana'  
**Cc:** Holtom, Jonathan  
**Subject:** TECO-Big Bend flyash injection notification  
**Attachments:** Document

0570039-028-AV

<b>Tracking:</b>	<b>Recipient</b>	<b>Delivery</b>	<b>Read</b>
	'Lee, Diana'		
	Holtom, Jonathan Delivered: 5/6/2009 2:13 PM Read: 5/6/2009 3:48 PM		

Attached to this e-mail is an electronic copy of TECO's notification including the attachments.

My review of the submittal indicates that the proposed activity meets the criteria to be considered an "insignificant activity" under Rule 62-213.430(6), F.A.C. as included in Appendix I-1 item no. 21 of the current valid Title V air operation permit, permit no. 0570039-028-AV.

A professional engineer (P.E.) certified the emissions calculations used to show that the emissions criteria specified in Rule 62-213.430(6)(b), F.A.C. were met. This appears to be a one-time activity temporary in nature. TECO also provided a 7-day prior notice in accordance with Rule 62-213.410, F.A.C., *Changes Without Permit Revision*. If this were to become a permanent activity, I recommend permitting.

We can simply keep this submittal on file. The Permitting Action Tree ("PAT") number 13. also addresses situations like this.



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MAY 04 2009

BUREAU OF AIR REGULATION

May 1, 2009

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

Via FedEx  
Airbill No. 7975 5932 5341

**Re: Tampa Electric Company - Big Bend Station  
Title V Permit Number 0570039-028-AV  
Test Burn for EcoTherm®  
Notification of Change without Permit Revision**

Dear Ms. Vielhauer:

Tampa Electric Company (TEC) currently sells fly ash produced from combusting fuel in Big Bend Units 1-4 to Separation Technologies (ST). ST fly ash beneficiation process separates carbon in the ash and also removes ammonia from the Big Bend fly ash. This process produces two products: a low carbon, low ammonia product (ProAsh®) that is marketed to ready mix concrete producers as a cement substitute and a high carbon product, EcoTherm®, which has value as a fuel additive. TEC is evaluating the feasibility of blending the EcoTherm product into the coal combusted at Big Bend Power Station.

The purpose of this correspondence is to notify the Florida Department of Environmental Protection (Department) pursuant to 62-213.420 (2) F.A.C. that Tampa Electric Company (TEC) is planning a test burn of the high carbon by-product as a fuel additive to begin May 8, 2009. The activities relating to the test burn meet the criteria in Permit Condition I.21 to be defined as an insignificant activity.

For the test burn, EcoTherm® will be pugged to control dusting and transported by truck from the ST facility to Big Bend Power Station where it will be placed in the partially covered storage building in the coal field and fed into the boilers by entraining the EcoTherm® into the coal feed. No permit conditions become inapplicable as a result of this operation change. Pursuant to Permit Condition A.15 of the referenced permit, within 60 days of re-injecting fly ash in a boiler, TEC will conduct particulate matter emissions while fly ash collected by the electrostatic precipitator is being re-injected into the boiler at a rate which is representative of the maximum anticipated fly ash reinjection rate. Big Bend's projected test plan is to feed EcoTherm® to each individual boiler during which operational parameters will be monitored by plant personnel to determine the feasibility of a long term practice. After unit specific feasibility is determined, an extended test burn will be conducted to optimize the combustion of an EcoTherm® blend and evaluate longer term impacts.

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

(813) 228-4111

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Ms. Trina Vielhauer

May 1, 2009

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The Big Bend Station boilers have been approved to burn a variety of solid fuels including coal and coal/petcoke blends and has also received permit approvals to reinject fly ash. TEC has planned to combust, during this test burn, up to 10% by weight of the high carbon by-product material (EcoTherm®) with fuel at Big Bend.

The combustion of high carbon by-product material, EcoTherm® in the Big Bend boilers is considered exempt from permitting pursuant to Rule 62-210.300(3)(b)1., F.A.C., *Generic Emission Unit or Activity Exemption*. As described in previous submittals to the Department, the combustion of the ammoniated high carbon by-product material, EcoTherm®, will not cause any emission increases above the threshold of 5.0 tons per year (tpy).

The foregoing evaluation demonstrates that the operation is exempt from permitting under Rule 62-210.300(3)(b) F.A.C., meets the requirements of Permit Condition I.21, and constitutes an insignificant pollutant emitting activity under Rule 62-213.430(6), F.A.C. Therefore, this notice fulfills the requirements of 62-213.410, F.A.C. *Changes Without Permit Revision*. Calculations supporting the evaluation are included in Attachment A. A Professional Engineer's certification of this evaluation is included in Attachment B. Please contact me at (813) 228-1282 or Thuy Nguyen at (813) 228-4654 if you have any questions or comments regarding this permitting applicability assessment.

Sincerely,

A handwritten signature in black ink, appearing to read 'Byron Burrows', with a long horizontal line extending to the right.

Byron Burrows, P.E. BCEE  
Manager – Air Programs  
Environmental, Health & Safety

EHS/rk/JMW191

Enclosure

c/enc: Mr. David Lloyd, EPA Region IV  
Ms. Mara Grace Nasca, FDEP SW  
Mr. Al Linero, FDEP  
Ms. Diana Lee, EPCHC  
Mr. Tom Cerullo, ST  
Mr. Frank Hrach, ST

# Attachment A

## EMISSION INVENTORY WORKSHEET ECOTHERM® OR CARBON RICH COAL COMBUSTION PRODUCTS Tampa Electric Company Big Bend Station

### FUGITIVE PM/PM<sub>10</sub>

Activity types:

A - 25-30 Cubic Yard Truck Unloading in Partially Enclosed, Covered Storage Building

B - Hopper/Mixing Loading Inside Partially Enclosed Storage Building

C - Covered, Partially Enclosed Storage Building

D - Truck Traffic - Negligible -net truck traffic reduction

F - Conveyer/transfer - conveyor and one partially enclosed drop point

### INPUT DATA AND EMISSIONS CALCULATIONS

Activity	Material Transfer Rate (TPY) [TR]	Uncontrolled Emissions Factor (lb PM/Ton) [EF]	Estimated Control Efficiency [CE]	Controlled EF (lb/Ton)	Potential PM Emission Rates (TPY) [E]	Calculation Formula
A	14,000	0.995	80%	0.199	1.393	E=TR*EF*(1-CE)/2000
B	14,000	0.544	80%	0.1088	0.7616	E=TR*EF*(1-CE)/2000
C	14,000	1.98	80%	0.396	2.772	E=TR*EF*(1-CE)/2000
D	14,000	n/a		n/a	n/a	
F	14,000	n/a		n/a	n/a	
<b>Total</b>					<b>4.93</b>	

References:

AP-42 table 11.19.2.3

AP-42 table 11.12-2

UARG Coal Fugitive Table 3.2.28 - control efficiencies for fly ash handling (average of combination of water application and enclosure, as needed)


Attachment B

**TAMPA ELECTRIC COMPANY  
BIG BEND STATION**

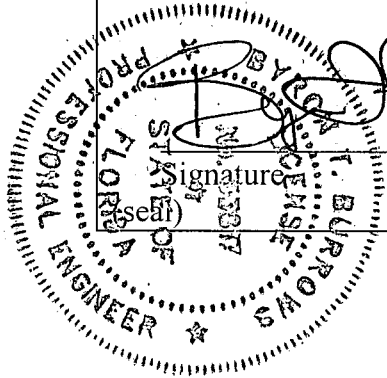
**Test Burn for EcoTherm®**

**Professional Engineer Certification**

1. Professional Engineer Name: Byron T. Burrows, PE Registration Number: 53817
2. Professional Engineer Mailing Address... Organization/Firm: Tampa Electric Company Street Address: PO Box 111 City: Tampa State: FL Zip Code: 33601
3. Professional Engineer Telephone Numbers... Telephone: (813) 228 - 1282 Fax: (813) 228 - 1308
4. Professional Engineer E-mail Address: <a href="mailto:btburrows@tecoenergy.com">btburrows@tecoenergy.com</a>
5. Professional Engineer Statement: <i>I, the undersigned, hereby certify that:</i> <i>(1) To the best of my knowledge, the information presented in the Tampa Electric Company (TEC) May 1, 2009 operation change without permit revision letter are true, accurate, and complete based on my review of material provided by TEC engineering and environmental staff; and</i> <i>(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or based solely upon the materials, information and calculations submitted with this certification.</i>

  
\_\_\_\_\_  
Signature

5/1/09  
Date



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