

~~file~~

Sheplak, Scott

From: Sheplak, Scott
Sent: Friday, July 27, 2007 12:06 PM
To: Linero, Alvaro
Subject: TECO-Big Bend Notifications

0570039-02B-AV

1. One-time petcoke shipment by truck to TECO Big Bend. TECO request dated July 3, 2007.

In my opinion this does qualify as an "insignificant activity" under Title V. TECO notified us prior to the activity. No change to the current TV permit is required. We can simply keep this on file {see Permitting Action Tree (PAT) item 13.}.

If they want this to be a permanent activity, I recommend permitting.

7/27/2007

-Gle-

Sheplak, Scott

From: Lee, Diana [Lee@epchc.org]
Sent: Tuesday, July 10, 2007 11:13 AM
To: Linero, Alvaro; Sheplak, Scott
Cc: Woodard, Sterlin
Subject: TECO Petcoke Handling Notification
Attachments: TEC Petcoke coal yard 7-07.xls; EPC Comments on TECO's Petcoke Handling 7-07.doc

Al, Scott,

Attached are our comments for your consideration in the review of TECO's notification relating to the transport via truck and handling of petcoke at TECO's Big Bend Station. Also, I attached a spreadsheet showing our calculations. If you have any questions, please let me know.

Thank you,

Diana M. Lee, P.E.
Chief, Air Permitting

8/13/2007

MEMORANDUM

DATE: July 10, 2007

TO: Al Linero, P.E. - FDEP
Scott Sheplak, P.E.

FROM: Diana M. Lee, P.E.

SUBJECT: Tampa Electric Notification of Petcoke Handling at TECO Big Bend

Below are our questions and comments regarding Tampa Electric Company (TEC's) notification relating to the transport via truck and handling of petcoke at TECO's Big Bend Station for use at TECO's Polk Power Station as part of our review. This notification was received on the evening on July 3, 2007.

1. In accordance with TEC's notification, petcoke will be brought in by truck at frequent intervals and stored in the fuel yard. The petcoke will be blended with coal in the fuel yard by simultaneously loading the fuels onto the existing conveyor system, using portable conveyors, which will then transfer the fuel blend to Polk using the existing transloading system in the fuel yard. TEC does not provide information on the number of portable conveyors that will be utilized for this operation, and it does not appear that it was identified in TEC's AC permit application, dated February 7, 2006, for coal, petcoke or slag transloading project. Pursuant to Rule 62-4.070(1), F.A.C., TEC should provide information, including a diagram, on this portable conveying system identifying all the drop points. Also, is this portable conveying system already in use or is it only going to be used for this type of operation?

2. In the notification, TEC stated that an estimated amount of petcoke purchased and delivered by truck will be no more than 18,000 tons per year. TEC states that this operation will not cause exceedance of any throughput limits. TEC's permit 0570039-025-AC states that a maximum annual transloading rate shall not exceed 150,000 tons per year for each material transloaded at Big Bend. Is TEC's request that the 18,000 tons of

petcoke be considered as part of the permitted limit of 150,000 tons/year or will this amount be in addition to the permitted limit of petcoke?

3. According to the notification, emissions from this activity, in combination with the emissions of the other units and activities of the facility, will not cause the facility to exceed any major source threshold either alone, or in combination with emissions from all other insignificant sources, thus not constituting a modification of any emissions unit at Big Bend. TEC only considered truck traffic and truck unloading in their estimation of PM emissions. In addition, the emissions estimates for the truck unloading into the storage pile were calculated using EPA's AP-42 Chapter 13, Section 13.2.4 continuous drop equation, which resulted a total PM of 0.0008 tons per year, using a material moisture content of 6.5% and control efficiency (CE) of 90%. EPC staff believes that using the emission factor equations in AP-42 Chapter 11 Mineral Product Industry, Section 11.9, Table 11.9-1 Truck Unloading, July 1998, are more representative of the emissions at Big Bend's coal yard. Using the emissions factor equation in Table 11.9-1, the PM emissions from the truck unloading activity (see attached spreadsheet) result in 0.22 tons/year, using a moisture content of 6.5 and a CE of 80%. Pursuant to Rule 62-4.070(1), F.A.C., TEC should re-evaluate the PM emissions using the emission factor equations in AP-42 Chapter 11, Section 11.9 and with any additional transfer or drop points (i.e. front-end-loader from pile to truck, conveyor transfers, etc.), and also considering Items 1 and 2 above. Also, TEC should specify if the petcoke will have dust suppressant prior to arriving at Big Bend, as they did not provide this information, and this would affect the control efficiency value.

EPC Calculations

Emission Estimation Algorithm

TSP <= 30 micrometers

$$E = 1.16 / M^{1.2} \times TR \times [(1 - (CE / 100))] \times (1 \text{ ton} / 2,000 \text{ lb})$$

PM 10 Emissions = 0.75 x (TSP <= 15 micrometers)

$$E = 0.75 \times 0.119 / M^{0.9} \times TR \times [(1 - (CE / 100))] \times (1 \text{ ton} / 2,000 \text{ lb})$$

E = PM/PM₁₀ emission rate; tons per year (tpy)

M = fuel moisture content; weight percent (%) 6.50

CE = control efficiency; percent (%) 80

Source: Chapter 11 Mineral Product Industry, Section 11.9, Table 11.9-1 Truck Unloading, AP-42, July 1998.

| Transfer Points | Control | | | |
|-------------------------------------|----------------|------------------|--------------|------------------------|
| | Efficiency (%) | Throughput (tpy) | PM (tpy) | PM ₁₀ (tpy) |
| 1 Truck Unloading onto Storage Pile | 80 | 18,000 | 0.221 | 0.030 |
| Totals | | | 0.221 | 0.030 |

Front-End Loader from Petcoke Pile to Trucks?
Additional drop points?

Sheplak, Scott

-file-

From: Byron Burrows [btburrows@tecoenergy.com]
Sent: Monday, July 09, 2007 5:42 PM
To: Linero, Alvaro; Sheplak, Scott; Diana Lee
Cc: Vielhauer, Trina; Joshua Ellwein; Laurie Pence; Sharon Good
Subject: Petcoke Truck Unloading at TEC Big Bend Station

This is to follow up on a teleconference between myself, Laurie Pence, and Scott Sheplak and provide clarification to our Notification of Change Without Permit Revision dated July 3, 2007. The notification letter describes our request to transport and unload 18,000 tons of petcoke via truck unloading and processes that are currently permitted at Big Bend Station. Based on concerns expressed by Scott regarding whether or not the notification is the proper method of accommodating our request, we offer the following clarifications:

- We intend this to be a one-time operation and do not need to permanently incorporate this activity into the permit.
- Note that the proposed truck unloading operation does not impact the quantity of fuel Polk Power Station will consume and the associated permitted processes will not exceed allowable throughput limits. Since the petcoke to be brought in by truck is offsetting the need to unload petcoke by barge, any emission increase related to the truck unloading operation would be offset by a comparable emission decrease associated with avoided barge unloading.

We believe that the notification of change without permit revision is appropriate in this case and would provide an alternate method of transloading petcoke should the need arise in the future. However, our primary objective is to accommodate this one-time purchase of petcoke to support Polk Power Station operation. Please feel free to call me or Laurie Pence at 813.228.4457 if you have any additional questions.

Thanks,

Byron

Byron T. Burrows, P.E. BCEE
Manager, Air Programs
Tampa Electric Company
P.O. Box 111
Tampa, FL 33601-0111
Ph - 813.228.1282
Mob - 813.230.3445
Fax - 813.228.1308
btburrows@tecoenergy.com

7/10/2007



TAMPA ELECTRIC

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JUL 05 2007

BUREAU OF AIR REGULATION

July 3, 2007

Ms. Trina Vielhauer
Florida Department of Environmental Protection
Division of Air Resource Management
111 South Magnolia, Suite 4
Tallahassee, FL 32301

Via FedEx
Airbill No. 792515568923

Re: Tampa Electric Company (TEC)
Big Bend Station
Title V Permit Number 0570039-023-AV
Notification of Change Without Permit Revision

Dear Ms. Vielhauer,

The purpose of this correspondence is to notify the Florida Department of Environmental Protection (Department) pursuant to 62-213.410 (2) F.A.C. that Tampa Electric Company (TEC) intends to transport petcoke via truck to Big Bend Station for use at our Polk Power Station in Polk County. Beginning no earlier than July 10, 2007, TEC plans to transport, store and blend the petcoke in the fuel yard at Big Bend Station.

The petcoke will be brought in by truck at frequent intervals and stored in the fuel yard. When the petcoke is needed, Big Bend Station will blend petcoke and coal stored in the fuel yard by simultaneously loading the fuels onto the existing conveyor system, using portable conveyors, which will then transfer the petcoke blend to Polk using the existing transloading system in the fuel yard. It is estimated that the amount of petcoke purchased and delivered by truck will be no more than 18,000 tons per year. With the exception of truck unloading, all of the operations associated with this project are covered under the current permit. This operation will not cause exceedance of any throughput limits. Particulate matter is the only affected pollutant. Emission estimates based on the actual throughput will be included in the Annual Operating Report. The additional truck traffic and truck unloading activity were evaluated to demonstrate that the project qualifies for a generic exemption and as an insignificant activity. The results of the emission calculations (attached) show that the emissions will be less than two tons. No permit conditions become applicable or not applicable as a result of this operation change.

TEC asserts that this operation qualifies for a generic exemption from permitting requirements pursuant to the provisions of Rule 62-210.300(3)(b), Florida Administrative Code (F.A.C.). The activity is not subject to any unit specific applicable requirement. The activity will not result in the emission of lead or any hazardous air pollutants, and the activity will fall well below the 5 ton per year threshold for fugitive emissions of particulate matter. Emissions from this activity, in combination with the emissions of other units and activities of the facility, will not cause the

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Ms. Trina Vielhauer

July 3, 2007

Page 2 of 2

facility to exceed any major source threshold either alone, or in combination with emissions from all other insignificant sources. This activity does not constitute a modification of any emissions unit at Big Bend Station.

TEC asserts the activity also qualifies as an insignificant emissions activity pursuant to Rule 62-213.430(6), F.A.C. As noted above, the activity is not subject to any unit specific applicable requirement, no lead or hazardous air pollutants are emitted, and the activity will not exceed any major source thresholds, by itself or in combination with emissions from all other insignificant sources. The emissions are well below the 5 ton per year threshold for fugitive emissions. We understand that a description of this activity will be incorporated into the Title V permit at the next renewal and we will attach a copy of this operation change to our Title V permit.

The foregoing evaluation demonstrates that the operation is exempt from permitting under Rule 62-210.300(3)(b) F.A.C., 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 (2), F.A.C. Changes Without Permit Revision. Enclosed are the emissions calculations and professional engineer's certification.

If you have any questions or need additional information, please contact Laurie Pence or me at (813) 228-4457.

Sincerely,

A handwritten signature in black ink, appearing to read 'Byron T. Burrows', with a long horizontal flourish extending to the right.

Byron T. Burrows, P.E.
Manager - Air Programs
Environmental, Health & Safety

EHS/rk/LAP302

Enclosures

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

Tampa Electric Company - Big Bend Station
Petroleum Coke Truck Delivery PM/PM₁₀ Emission Estimates

| Emission Point Description | Emission Point ID | Potential Emission Rates | | | |
|-------------------------------|-------------------------|--------------------------|--------------|------------------|--------------|
| | | PM | | PM ₁₀ | |
| | | (lb/hr) | (tpy) | (lb/hr) | (tpy) |
| Truck Delivery of Petcoke | TRKPET-1 | 0.0090 | 0.0008 | 0.0043 | 0.0004 |
| Petcoke Trucks (Empty) | PET-01a | 3.056 | 0.267 | 0.594 | 0.052 |
| Petcoke Trucks (Full) | PET-01b | 12.679 | 1.109 | 2.472 | 0.216 |
| Totals | | 15.744 | 1.378 | 3.071 | 0.269 |

Source: ECT, 2007.

| EMISSION INVENTORY WORKSHEET | | | | | | | | Truck Petcoke Delivery | |
|--|--|--|----------|--|------------------------|--|-----------------------------|---------------------------|------|
| Tampa Electric Company - Big Bend Station | | | | | | | | | |
| EMISSION SOURCE TYPE | | | | | | | | | |
| FUGITIVE PM - MATERIAL TRANSFER (DROPS) | | | | | | | | Figure: | |
| FACILITY AND SOURCE DESCRIPTION | | | | | | | | | |
| Emission Source Description: | | Fugitive PM - One-Time Truck Delivery of Petcoke | | | | | | | |
| Emission Control Method(s)/ID No.(s): | | Moist material | | | | | | | |
| Emission Point ID: | | TRKPET-1 | | | | | | | |
| EMISSION ESTIMATION EQUATIONS | | | | | | | | | |
| PM Emission (lb/hr) = 0.74 x 0.0032 x [(Wind Speed/5) ³ / (Material Moisture Content/2) ²] ¹ x Material Handled (ton/hr) | | | | | | | | | |
| PM Emission (ton/yr) = 0.74 x 0.0032 x [(Wind Speed/5) ³ / (Material Moisture Content/2) ²] ¹ x Material Handled (ton/yr) x (1 ton/2,000 lb) | | | | | | | | | |
| Source: Section 13.2.4, AP-42, November 2006. | | | | | | | | | |
| INPUT DATA AND EMISSIONS CALCULATIONS | | | | | | | | | |
| Mean Wind Speed: | | 8.6 mph | | Material Moisture Content: | | 6.5 weight % | | | |
| Material Transfer Point | Source ID | Material Transfer Rates | | Uncontrolled Emission Factor (lb PM/ton) | Control Efficiency (%) | Controlled Emission Factor (lb PM/ton) | Potential PM Emission Rates | | |
| | | (ton/hr) | (ton/yr) | | | | (lb/hr) | (ton/yr) | |
| New Equipment Truck Delivery of Petcoke to Existing Storage Pile | TRKPET-1 | 98 | 18,000 | 0.000920 | 90.0 | 0.000092 | 0.0090 | 0.0008 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| SOURCES OF INPUT DATA | | | | | | | | | |
| Parameter | Data Source | | | | | | | | |
| Mean Wind Speed, mph | Climate of the States (Tampa, FL), Third Edition, 1985. | | | | | | | | |
| Material Moisture Content | TEC, 2007. | | | | | | | | |
| Material Transfer Point Identification | TEC, 2007. | | | | | | | | |
| Material Transfer Rates | TEC, 2007. | | | | | | | | |
| Control Efficiency | Table 3.2.17-2, Workbook on Estimation and Dispersion Modeling for Fugitive Particulate Sources, UARG, September 1981. | | | | | | | | |
| NOTES AND OBSERVATIONS | | | | | | | | | |
| Hourly transfer rates based on 4 trucks per hour; each truck contains 24.5 tons of petcoke. | | | | | | | | | |
| DATA CONTROL | | | | | | | | | |
| Data Collected by: | L. Pence | | | | Date: | | | | 6/07 |
| Evaluated by: | T. Davis | | | | Date: | | | | 6/07 |
| Data Entered by: | T. Davis | | | | Date: | | | | 6/07 |

| EMISSION INVENTORY WORKSHEET | | | | | | | Truck Petcoke Delivery | | | | |
|---|--|-------------------------|--|---|------------------------|---|---|----------|--------------|--|--|
| EMISSION SOURCE TYPE | | | | | | | | | | | |
| FUGITIVE PM ₁₀ - MATERIAL TRANSFER (DROPS) | | | | | | | Figure: | | | | |
| FACILITY AND SOURCE DESCRIPTION | | | | | | | | | | | |
| Emission Source Description: | | | Fugitive PM ₁₀ - One-Time Delivery of Petcoke | | | | | | | | |
| Emission Control Method(s)/ID No.(s): | | | Moist material | | | | | | | | |
| Emission Point ID: | | | TRKPET-1 | | | | | | | | |
| EMISSION ESTIMATION EQUATIONS | | | | | | | | | | | |
| PM ₁₀ Emission (lb/hr) = 0.35 x 0.0032 x [(Wind Speed/5) ³ / (Material Moisture Content/2) ⁴] x Material Handled (ton/hr) | | | | | | | | | | | |
| PM ₁₀ Emission (ton/yr) = 0.35 x 0.0032 x [(Wind Speed/5) ³ / (Material Moisture Content/2) ⁴] x Material Handled (ton/yr) x (1 ton/2,000 lb) | | | | | | | | | | | |
| Source: Section 13.2.4, AP-42, November 2006. | | | | | | | | | | | |
| INPUT DATA AND EMISSIONS CALCULATIONS | | | | | | | | | | | |
| Mean Wind Speed: | | | 8.6 mph | | | Material Moisture Content: | | | 6.5 weight % | | |
| Material Transfer Point | Source ID | Material Transfer Rates | | Uncontrolled Emission Factor (lb PM ₁₀ /ton) | Control Efficiency (%) | Controlled Emission Factor (lb PM ₁₀ /ton) | Potential PM ₁₀ Emission Rates | | | | |
| | | (ton/hr) | (ton/yr) | | | | (lb/hr) | (ton/yr) | | | |
| New Equipment | | | | | | | | | | | |
| Truck Delivery of Petcoke to Existing Storage Pile | TRKPET-1 | 98 | 18,000 | 0.000435 | 90.0 | 0.000044 | 0.0043 | 0.0004 | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| SOURCES OF INPUT DATA | | | | | | | | | | | |
| Parameter | Data Source | | | | | | | | | | |
| Mean Wind Speed, mph | Climate of the States (Tampa, FL), Third Edition, 1985. | | | | | | | | | | |
| Material Moisture Content | TEC, 2007. | | | | | | | | | | |
| Material Transfer Point Identification | TEC, 2007. | | | | | | | | | | |
| Material Transfer Rates | TEC, 2007. | | | | | | | | | | |
| Control Efficiency | Table 3.2.17-2, Workbook on Estimation and Dispersion Modeling for Fugitive Particulate Sources, UARG, September 1981. | | | | | | | | | | |
| NOTES AND OBSERVATIONS | | | | | | | | | | | |
| Hourly transfer rates based on 4 trucks per hour; each truck contains 24.5 tons of petcoke. | | | | | | | | | | | |
| DATA CONTROL | | | | | | | | | | | |
| Data Collected by: | L. Pence | | | | | | Date: | 6/07 | | | |
| Evaluated by: | T. Davis | | | | | | Date: | 6/07 | | | |
| Data Entered by: | T. Davis | | | | | | Date: | 6/07 | | | |

| EMISSION INVENTORY WORKSHEET | | | | | | PET-01a,b | |
|--|--|--|------------------|-----------------------------------|------------------------|-----------------------------|--------------|
| Tampa Electric Company - Big Bend Station | | | | | | Petcoke Trucks | |
| EMISSION SOURCE TYPE | | | | | | | |
| FUGITIVE PM - TRUCK TRAFFIC ON PAVED ROADS | | | | | | | |
| FACILITY AND SOURCE DESCRIPTION | | | | | | | |
| Emission Source Description: | | Fugitive PM - One-Time Truck Delivery of Petcoke; Truck Traffic on Paved Roads | | | | | |
| Emission Control Method(s)/ID No.(s): | | Watering, As Necessary | | | | | |
| Emission Point ID: | | PET-01a,b | | | | | |
| EMISSION ESTIMATION EQUATIONS | | | | | | | |
| PM Emission (lb/hr) = ((0.082 x ((Silt Loading Factor/2) ^{0.65}) x ((Truck Weight/3) ^{1.50}) - 0.00047) x (1 - ("Wet" Days/1,460)) x Vehicle Miles Traveled (VMT)/hr | | | | | | | |
| PM Emission (ton/yr) = ((0.082 x ((Silt Loading Factor/2) ^{0.65}) x ((Truck Weight/3) ^{1.50}) - 0.00047) x (1 - ("Wet" Days/1,460)) x Vehicle Miles Traveled (VMT)/yr x (1 ton/2,000 lb) | | | | | | | |
| Source: Section 13.2.1, AP-42, November 2006. | | | | | | | |
| INPUT DATA AND EMISSIONS CALCULATIONS | | | | | | | |
| Controlled Silt Loading Factor: | | 0.97 | g/m ² | Mean Annual Number of "Wet" Days: | | 100 | |
| Operating Hours: | | 10 | hr/dy | 5 | dy/wk | 4 wk/yr | |
| Petcoke Shipped by Truck: | | 18,000 | ton/yr | Truck Travel Distance (one way): | | 6,864 ft | |
| Hourly Truck Count: | | 4 | trucks/hr | Annual Truck Count: | | 735 trucks/yr | |
| Truck Traffic Type | Source ID | Vehicle Miles Traveled | | Vehicle Weight (ton) | Control Efficiency (%) | Potential PM Emission Rates | |
| | | (VMT/hr) | (VMT/yr) | | | (lb/hr) | (ton/yr) |
| Petcoke Trucks (Empty) | PET-01a | 5.458 | 955 | 15.5 | 90.0 | 3.056 | 0.267 |
| Petcoke Trucks (Full) | PET-01b | 5.458 | 955 | 40.0 | 90.0 | 12.679 | 1.109 |
| Totals | | | | | | 15.74 | 1.377 |
| SOURCES OF INPUT DATA | | | | | | | |
| Parameter | Data Source | | | | | | |
| Controlled Silt Loading Factor | Based on factor for iron and steel production and overall 90% control efficiency, ECT, 2003. | | | | | | |
| Mean Annual Number of "Wet" Days | Figure 13.2.1-2, Section 13.2.1, AP-42, November 2006. | | | | | | |
| Vehicle Miles Traveled, VMT | TEC, 2007. | | | | | | |
| Truck Weights, ton | TEC, 2007. | | | | | | |
| Control Efficiency | Estimated, ECT 2007. | | | | | | |
| NOTES AND OBSERVATIONS | | | | | | | |
| DATA CONTROL | | | | | | | |
| Data Collected by: | L. Pence | | | Date: | 6/07 | | |
| Evaluated by: | T. Davis | | | Date: | 6/07 | | |
| Data Entered by: | T. Davis | | | Date: | 6/07 | | |

| EMISSION INVENTORY WORKSHEET | | | | | | | PET-01a,b | | |
|--|--|------------------------|--|----------------------|-----------------------------------|---|-----------------------|--|-----------|
| Tampa Electric Company - Big Bend Station | | | | | | | Petcoke Trucks | | |
| EMISSION SOURCE TYPE | | | | | | | | | |
| FUGITIVE PM₁₀ - TRUCK TRAFFIC ON PAVED ROADS | | | | | | | | | |
| FACILITY AND SOURCE DESCRIPTION | | | | | | | | | |
| Emission Source Description: | | | Fugitive PM ₁₀ - One-Time Truck Delivery of Petcoke; Truck Traffic on Paved Roads | | | | | | |
| Emission Control Method(s)/ID No.(s): | | | Watering, As Necessary | | | | | | |
| Emission Point ID: | | | PET-01a,b | | | | | | |
| EMISSION ESTIMATION EQUATIONS | | | | | | | | | |
| PM ₁₀ Emission (lb/hr) = ((0.016 x [(Silt Loading Factor/2) ^{0.85}] x [(Truck Weight/3) ^{1.50}] - 0.00047) x (1 - ("Wet" Days/1,460)) x Vehicle Miles Traveled (VMT)/hr | | | | | | | | | |
| PM ₁₀ Emission (ton/yr) = ((0.016 x [(Silt Loading Factor/2) ^{0.85}] x [(Truck Weight/3) ^{1.50}] - 0.00047) x (1 - ("Wet" Days/1,460)) x Vehicle Miles Traveled (VMT)/yr x (1 ton/2,000 lb) | | | | | | | | | |
| Source: Section 13.2.1, AP-42, November 2006. | | | | | | | | | |
| INPUT DATA AND EMISSIONS CALCULATIONS | | | | | | | | | |
| Controlled Silt Loading Factor: | | | 0.97 | g/m ² | Mean Annual Number of "Wet" Days: | | 100 | | |
| Operating Hours: | | | 10 | hr/dy | 5 | dy/wk | 4 | | wk/yr |
| Petcoke Shipped by Truck: | | | 18,000 | ton/yr | Truck Travel Distance (one way): | | 6,864 | | ft |
| Hourly Truck Count: | | | 4 | trucks/hr | Annual Truck Count: | | 735 | | trucks/yr |
| Truck Traffic Type | Source ID | Vehicle Miles Traveled | | Vehicle Weight (ton) | Control Efficiency (%) | Potential PM ₁₀ Emission Rates | | | |
| | | (VMT/hr) | (VMT/yr) | | | (lb/hr) | (ton/yr) | | |
| Petcoke Trucks (Empty) | PET-01a | 5.458 | 955 | 15.5 | 90.0 | 0.594 | 0.052 | | |
| Petcoke Trucks (Full) | PET-01b | 5.458 | 955 | 40.0 | 90.0 | 2.472 | 0.216 | | |
| Totals | | | | | | 3.07 | 0.268 | | |
| SOURCES OF INPUT DATA | | | | | | | | | |
| Parameter | Data Source | | | | | | | | |
| Controlled Silt Loading Factor | Based on factor for iron and steel production and overall 90% control efficiency, ECT, 2003. | | | | | | | | |
| Mean Annual Number of "Wet" Days | Figure 13.2.1-2, Section 13.2.1, AP-42, November 2006. | | | | | | | | |
| Vehicle Miles Traveled, VMT | TEC, 2007. | | | | | | | | |
| Truck Weights, ton | TEC, 2007. | | | | | | | | |
| Control Efficiency | Estimated, ECT 2007. | | | | | | | | |
| NOTES AND OBSERVATIONS | | | | | | | | | |
| DATA CONTROL | | | | | | | | | |
| Data Collected by: | L. Pence | | | | Date: | 6/07 | | | |
| Evaluated by: | T. Davis | | | | Date: | 6/07 | | | |
| Data Entered by: | T. Davis | | | | Date: | 6/07 | | | |

**TAMPA ELECTRIC COMPANY
BIG BEND STATION**

PETCOKE TRANSLOADING

Professional Engineer Certification

Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

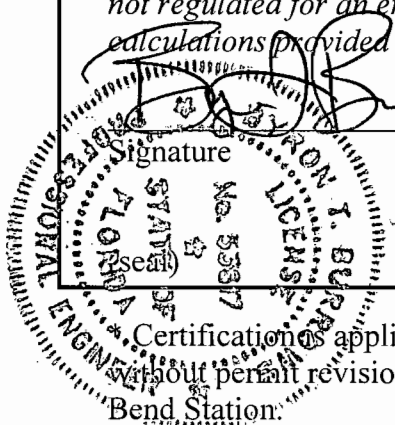
(1) To the best of my knowledge, the information presented by Tampa Electric Company (TEC) to the Department regarding the storage and handling of petcoke at the TEC Big Bend Station is true, accurate, and complete based on my review of material provided by TEC engineering and environmental staff; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this submittal are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of air pollutants not regulated for an emissions unit, based solely upon the materials, information and calculations provided with this certification.

Signature

Date

7/3/07



Certification is applicable to the Tampa Electric Company notification of change without permit revision to the Department regarding the handling of petcoke at its Big Bend Station.

-Gle-

Sheplak, Scott

From: Sheplak, Scott
Sent: Monday, August 13, 2007 12:32 PM
To: Linero, Alvaro
Subject: TECO-Big Bend Notifications - Polk Power Station

~~115-0238-0116-AV~~

1. One-time Raw Coal Residual Handling and Storage Activity. TECO request dated July 25, 2007.

In my opinion this qualifies as an "insignificant activity" under Title V. TECO notified us prior to the activity. No change to the current TV permit is required. We can simply keep this on file {Also, see PAT item 13.}.

If they want this to be a permanent activity, I recommend permitting.



RECEIVED

JUL 26 2007

July 25, 2007

BUREAU OF AIR REGULATION

Ms. Trina Vielhauer
Florida Department of Environmental Protection
Division of Air Resource Management
111 South Magnolia, Suite 4
Tallahassee, FL 32301

Via FedEx
Airbill No. 7925 2713 3336

**Re: Tampa Electric Company (TEC)
Polk Power Station
Title V Permit Number 1050233-016-AV
Notification of Insignificant Emissions and
Request for Generic Exemption-Raw Coal Residual Handling and Storage**

Dear Ms. Vielhauer,

The purpose of this correspondence is to notify the Florida Department of Environmental Protection (Department) that Tampa Electric Company (TEC) intends to transport approximately 15,000 tons of raw coal residual via truck from an off-site location in Mulberry, Florida to the Polk Power Station (PPS). Following temporary storage at PPS, TEC plans to transport the raw coal residue by truck to the Big Bend Station for combustion in Units 1, 2, 3, and 4. A portion of the raw coal residual may also be reintroduced into the PPS fines recirculating system. TEC plans to commence the off-site raw coal residual transport and storage activities no earlier than July 26, 2007.

TEC was issued an air construction permit (0570039-012-AC) on October 4, 2001 that allowed the Big Bend Station to fire approximately 100,000 tons, at a rate of 200 tons per day, of raw coal residual stored at the PPS. Raw coal residual is a by-product of the PPS gasification process. This air construction permit became part of the existing Big Bend Station Title V permit and is regulated under Permit Condition A.2.d and Subsection O.

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

(813) 228-4111

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POLK COUNTY (863) 299-0800
ALL OTHER COUNTIES 1 (888) 223-0800

In late 2001 and early 2002, TEC sent approximately 25,000 tons of PPS raw coal residual to the C&J Global facility in Mulberry, Florida for beneficial reuse. All of the raw coal residual was not beneficially reused as expected. Therefore, TEC is cooperating with the current owner of the material to remove and beneficially reuse as much of the approximately 25,000 tons of raw coal residual on the site as possible. TEC plans to transport approximately 10,000 tons of raw coal residual from the C&J Mulberry facility directly to Big Bend Station and fire it in Units 1, 2, 3 and 4 commencing this week. The raw coal residual will be stored in an enclosed facility at Big Bend Station as required by Subsection O of the Title V permit. Notification of this activity was previously provided to the Department in correspondence from TEC dated July 10, 2007.

TEC plans to transport the remaining 15,000 tons from the C&J Mulberry facility to the PPS for storage on the lined slag storage pile for subsequent transport to the Big Bend Station for combustion in Units 1, 2, 3, and 4. In preparation for removal and processing of this material, representative samples of the raw coal residual from the C&J Global facility were collected and analyzed for the four RCRA hazard characteristics – Ignitability, Corrosivity, Reactivity and TCLP Toxicity. All results were either negative or below concentration levels which would cause the material to be classified as hazardous if disposed. A summary of the analytical results was included with the TEC July 10, 2007 Department notification. In order to make room for the raw coal residual being transported from Mulberry, TEC also plans to transport approximately 10,000 tons of the existing raw coal residual currently at Polk Power Station to Big Bend Station for combustion in Units 1, 2, 3, and 4.

Therefore, a total of approximately 15,000 tons of raw coal residual will be transported from the C&J Mulberry facility to PPS for temporary storage, and a total of approximately 25,000 tons (less the amount reintroduced in the PPS circulating fines system) of the raw coal residual will be transported from PPS to Big Bend Station. This material handling and transporting operation will be a one time only event.

The one-time PPS raw coal residual transport and storage activity described above qualifies for a generic exemption from permitting requirements pursuant to the provisions of Rule 62-210.300(3)(b)1., Florida Administrative Code (F.A.C.). The activity is not subject to any unit specific applicable requirement. The activity will not result in the emission of lead or any hazardous air pollutants, and the activity's particulate matter (PM) potential emissions will fall well below the 5 ton per year threshold for regulated pollutants. The PPS is currently a major Title V source as defined by 62-210.200(193), F.A.C. Accordingly, emissions from the proposed activity will not have any effect on the current major source status of the PPS.

Ms. Trina Vielhauer
July 25, 2007
Page 3 of 3

The one-time raw coal residual transport and storage activity planned for the PPS also qualifies as an insignificant emissions activity pursuant to Rule 62-213.430(6), F.A.C. As noted above, the activity is not subject to any unit specific applicable requirement, no lead or hazardous air pollutants are emitted, and the activity will not exceed any major source thresholds, by itself or in combination with emissions from all other insignificant sources. The activity's potential emissions are well below the 5 ton per year threshold for regulated pollutants. We understand that a description of this activity will be incorporated into the Title V permit at the next renewal and we will attach a copy of this operational change to our Title V permit.

In summary, the foregoing evaluation demonstrates that the one-time raw coal residual transport and storage activity planned for the PPS is exempt from permitting under Rule 62-210.300(3)(b) F.A.C., and constitutes an insignificant pollutant emitting activity under Rule 62-213.430(6), F.A.C. Enclosed are the emissions calculations and professional engineer's certification.

If you have any questions or need additional information, please contact Joshua Ellwein or me at (813) 228-4457.

Sincerely,



Byron T. Burrows, P.E.
Manager - Air Programs
Environmental, Health & Safety

EHS/rfk/JDE122

Enclosures

c/enc: Ms. Mara Grace Nasca, FDEP SW
Mr. David Lloyd, EPA Region IV
Mr. Al Linero, FDEP

**TAMPA ELECTRIC COMPANY
POLK POWER STATION**

SLAG TRANSLOADING

Professional Engineer Certification

Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

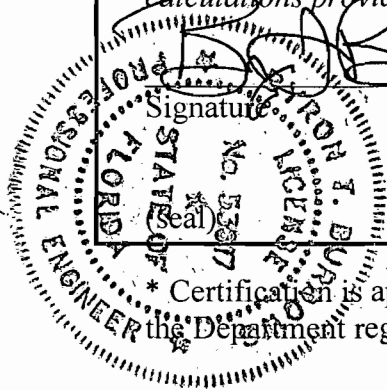
(1) To the best of my knowledge, the information presented by Tampa Electric Company (TEC) to the Department regarding the transloading of slag at the TEC Polk Power Station is true, accurate, and complete based on my review of material provided by TEC engineering and environmental staff; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this submittal are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of air pollutants not regulated for an emissions unit, based solely upon the materials, information and calculations provided with this certification.

Signature

Date

7/25/07



* Certification is applicable to the Tampa Electric Company generic exemption request to the Department regarding the transloading of slag at Polk Power Station.

Emission Estimation Summary

Tampa Electric Company
Polk Power Station
Slag Handling Operation

| | Emissions | |
|-------------------|-------------|---------------------------|
| | PM (tpy) | PM ₁₀ (tpy) |
| Truck Traffic | 2.9 | 0.56 |
| Material Handling | 0.0013 | 0.00060 |
| Totals | 2.9 | 0.6 |

Emission Estimation Worksheet

**Tampa Electric Company
Polk Power Station
Slag Handling Operation
Truck Traffic Emissions**

Emission Estimate Equations:

$$E_{est} = \left[k \left(\frac{sL}{2} \right)^{0.65} \left(\frac{W}{3} \right)^{1.5} - C \right] \left(1 - \frac{P}{4N} \right)$$

PM/PM₁₀ Emission (lb/hr) = E x Vehicle Miles Traveled (VMT)/hr

PM/PM₁₀ Emission (ton/yr) = E x Vehicle Miles Traveled (VMT)/yr/2000

where:

E = PM/PM₁₀ emission rate; tons per year (lb/VMT)

sL=road surface silt loading - controlled (g/m²)

C=emission factor for 1980's vehicle fleet exhaust, brake wear, & tire wear

P=number of wet days with at least 0.01 inch of precipitation during the averaging period

N=number of days in averaging period

k = empirical constant; dimensionless

s = surface material silt content; percent (%)

W = mean vehicle weight; tons

VMT = vehicle miles traveled

CE = control efficiency; percent

Source: Section 13.2.1, Eqn. (1), AP-42, Nov 2006

| INPUT | | |
|----------------------------|----------------|-------------|
| sL | 0.97 | g/m2 |
| k (PM) | 0.082 | |
| k (PM₁₀) | 0.016 | |
| C | 0.00047 | |
| P | 100.0 | |
| N | 365.0 | |
| W (full) | 40.0 | tons |
| W (empty) | 15.5 | tons |
| CE | 90.0 | % |

| | VMT (mi/hr) | VMT (mi/yr) | PM (lb/hr) | PM (ton/yr) | PM ₁₀ (lb/hr) | PM ₁₀ (ton/yr) |
|-------------------------|----------------|----------------|---------------|----------------|-----------------------------|------------------------------|
| Polk Fuel Trucks, Full | 6 | 2,000 | 13.941 | 2.323 | 2.720 | 0.453 |
| Polk Fuel Trucks, Empty | 6 | 2,000 | 3.363 | 0.560 | 0.656 | 0.109 |
| Totals | | | 17.30 | 2.88 | 3.38 | 0.56 |

Basis:

1 mile from gate to yard

25 tons/truck

25,000 tons transferred to and from PPS

Emission Estimation Worksheet

Tampa Electric Company
 Polk Power Station
 Slag Handling Operation
 Material Handling Emissions

$$E = k \times 0.0032 \times \left[\frac{(U / 5)^{1.3}}{(M / 2)^{1.4}} \right] \times TR \times [(1 - (CE / 100))] \times (1 \text{ ton} / 2,000 \text{ lb})$$

where:

- E = PM/PM₁₀ emission rate; tons per year (tpy)
- k = particle size multiplier; dimensionless
- U = mean wind speed, miles per hour (mph)
- M = fuel moisture content; weight percent (%)
- TR = transfer rate; tons per year (tpy)
- CE = control efficiency; percent (%)

Source: Section 13.2.4, Eqn. (1), AP-42, January 1995.

| 2007 Data | |
|-----------------------|----------|
| k (PM) | 0.74 |
| k (PM ₁₀) | 0.35 |
| U | 8.60 mph |
| M | 12.00 % |

| Transfer Point | Emission Point ID | Control Efficiency (%) | Maximum Throughput (tph) | Throughput (tpy) | Emissions | | Emissions | |
|------------------------------------|-------------------|------------------------|--------------------------|------------------|----------------|------------------------|------------|--------------------------|
| | | | | | PM (tpy) | PM ₁₀ (tpy) | PM (lb/hr) | PM ₁₀ (lb/hr) |
| Truck Unload | | 90 | 150 | 15,000 | 0.00029 | 0.000138 | 0.00585 | 0.0028 |
| Front-End Loader Pile Manipulation | | 90 | 150 | 25,000 | 0.00049 | 0.000231 | 0.00585 | 0.0028 |
| Truck Loading | | 90 | 150 | 25,000 | 0.00049 | 0.000231 | 0.00585 | 0.0028 |
| Totals | | | | | 0.00127 | 0.00060 | | |

Notes:

1. Assumes minimal pile manipulation
2. Assumes sprinklers used as needed to assure adequate material moisture
3. Minimizing all drop heights