



July 31, 2009

Mr. Scott Sheplak, P.E.  
DEP - Title V Section  
Mail Station #5505  
2600 Blair Stone Road  
Tallahassee, FL 32399

**Via email:**  
[Scott.Sheplak@dep.state.fl.us](mailto:Scott.Sheplak@dep.state.fl.us)

**Re: Additional Information, File Number 1050233-026-AV  
Title V Air Operation Permit Renewal Application  
Polk Power Station**

Dear Mr. Sheplak:

On July 13, 2009, Tampa Electric Company (Tampa Electric) received a Request for Additional Information letter from the Florida Department of Environmental Protection (Department). In order for the continued processing of Tampa Electric's Title V air operation permit renewal application for Polk Power Station (Polk), the Department has specifically requested additional information to supplement the permit application. Please find below the Departments request immediately followed by Tampa Electric's response.

***Department Request #1***

Compliance Testing (Demonstration) Reports/Records. Title V air operation permit renewal applications require a compliance report/record to be attached to the application or a reference may be made to a previously submitted compliance report/record in the application (see item 6. on page 27 of the hard copy of the application form). This information was blank for each emissions unit in the submitted EPSAP version of the application. Please provide the Compliance Testing (Demonstration) Reports/Records for each emissions unit. Simply referencing each compliance test date is adequate and preferred.

***Tampa Electric Response #1***

STACK TESTING SCHEDULE	E.U. ID#	Pollutant	DATE OF TEST	REPORT MAIL DATE
PLK 1 (HRSG) OIL	001	Not Required to Test	Rule 62-297.310(7)(a)	2008 Oil Fired Hours: 264.45 (AOR)
PLK 1 (HRSG) SYNGAS	001	CO	12/15/2008	01/29/2009

	001	SAM, NOX, SO2	12/15-16/2008	01/29/2009
	001	VE	12/16/2008	01/29/2009
	001	VOC	04/16/2009	05/29/2009
PLK AUX BOILER	003	VE, NOX	03/16/2009	04/28/2009
SULFURIC ACID PLANT	004	SO2, SAM	01/14/2009	02/27/2009
	004	VE	12/10/2008	01/23/2009
Solid Fuel Handling System	005	VE	07/24/2008	07/25/2008
PLK 2 NATURAL GAS	009	CO, NOX, VE	09/03/2008	10/18/2008
PLK 2 OIL	009	Not Required to Test	Rule 62-297.310(7)(a)	2008 Oil Fired Hours: 0.33 (AOR)
PLK 3 NATURAL GAS	010	CO, NOX, VE	09/04/2008	10/19/2008
PLK 3 OIL	010	Not Required to Test	Rule 62-297.310(7)(a)	2008 Oil Fired Hours: 10.22 (AOR)
PLK 4 NATURAL GAS	011	CO, NOX, VE	04/22/2008	06/03/2008
PLK 5 NATURAL GAS	012	CO, NOX, VE	05/08/2008	06/09/2008

Additionally, Tampa Electric has currently submitted a stack test notification for the semi-annual stack testing of SAM as required by Permit No. 1050233-021-AC for E.U. 001.

***Department Request #2***

Risk Management Plan (RMP). As part of this renewal application, a copy of the cover letter submitting the RMP dated June 18, 2004, was provided. This cover letter indicated another RMP would be submitted (renewed) in 5 years. Has a new RMP been submitted? If so, please provide a copy of the transmittal letter.

***Tampa Electric Response #2***

40 Code of Federal Regulations (CFR) Part 68, Chemical Accident Prevention Provisions, is applicable to an owner or operator of a stationary source that has more than a threshold quantity of a regulated substance in a process, as determined under §68.115. Hydrogen and propane contained in processes at the Polk Power Station each exceeds the 40 CFR Part 68 threshold quantity of 10,000 pounds. However, since these two flammable substances are used as fuels they do not trigger applicability to 40 CFR Part 68.

On March 13, 2000, EPA published a final rule modifying the 40 CFR Part 68 regulations to exclude flammable substances when used as a fuel, or held for sale as a fuel at a retail facility. At the PPS, hydrogen is present as a component of syngas burned in the integrated gasification combined cycle (IGCC) Unit 1 combustion turbine. Propane at the PPS is used as a fuel for the flare pilots and sulfuric acid plant conversion furnace. EPA uses the common definition of fuel as "a material used to produce heat or power by burning." Since hydrogen is used to produce power, and propane is used to produce heat sufficient to initiate or maintain combustion of gases by the flare and to produce heat for the sulfuric acid plant conversion furnace, both substances qualify under the fuel exemption.

Thus, on June 4, 2009, Polk submitted to the EPA a form requesting withdrawal of the facility from the RMP. A copy of which is included with this letter.

***Department Request #3***

Compliance Plan for Permit No. 1050233-021-AC/PSD-FL-194H. You had requested inclusion of the terms and conditions of Permit No. 1050233-021-AC/PSD-FL-194H, Petcoke Increase Project, in this permit renewal. Have all of the construction and/or the modifications under this permit been completed? Also, has compliance with all terms and conditions of this permit been demonstrated? If not, a compliance plan is required. The compliance plan needs to cite the specific activities not yet complete along with milestones (dates) to complete each specific activity.

***Tampa Electric Response #3***

Polk Power Station has completed all plant equipment modifications and submitted a summary of all modifications to the Department in a letter dated August 13, 2008.

All of the terms and conditions of Permit No. 1050233-021-AC/PSD-FL-194H have not been demonstrated, thus a compliance plan outline is listed below citing specific activities not yet completed. Additionally, language from Permit No. 1050233-021-AC/PSD-FL-194H has been identified in the compliance plan below that should be included in Polk's Title V Air Operation Permit.

- i. Subsequent Testing: Emissions testing shall be conducted while gasifying and firing a coal/petroleum coke blend containing the highest blended fuel ratio at which that the plant wishes to be allowed to operate (up to 85% petroleum coke / 15% coal and 4.7% sulfur, by weight).

1. Combustion Turbine Unit 1:
  - a. Semi-Annual: SAM (period of five years and consist of at least six test runs)
- ii. SAM Emissions Monitor Report: Prior to the expiration date of this permit, the permittee shall submit a report detailing the potential options for continuous SAM emissions monitoring. Upon installation of an approved SAM CEMS or other approved monitoring protocol, the semi-annual SAM compliance tests required in Specific Condition 7 may be discontinued.
  1. Expect to finish report after Aug SAM testing. Complete by 1/1/10
- iii. PSD Applicability Monitoring and Reporting Requirements:
  - a. The permittee shall monitor the emissions of SO<sub>2</sub> and SAM; and, using the most reliable information available, calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change, beginning with the first full calendar year following the year in which the change occurred. Emissions shall be computed in accordance with Rule 62-210.370, F.A.C.
    1. The first full year in which the change occurred, therefore SO<sub>2</sub> and SAM PSD Applicability Reporting will begin in 2010 for the calendar year 2009 with this condition satisfied after reporting calendar year 2014 in 2015.
    2. The permittee shall report to the Department within 60 days after the end of each year during which records must be generated under subparagraph 62-212.300(1)(e)1., F.A.C., setting out the unit's annual emissions during the calendar year that preceded submission of the report. The report shall contain the following:
      1. The name, address and telephone number of the owner or operator of the major stationary source;
      2. The annual emissions as calculated pursuant to subparagraph 62-212.300(1)(e)1., F.A.C.;
      3. If the emissions differ from the preconstruction projection, an explanation as to why there is a difference; and,
      4. Any other information that the owner or operator wishes to include in the report.
- iv. Computation of Emissions:

Need to include the emission computation hierarchy and applicability in the TV permit as outlined in 1050233-021-AC, Section 3: Emission Unit Specific Condition 15.

#### ***Department Request #4***

Flare. In the requested changes document, a request was made to add a "flare" to the emissions unit description of the Solid Fuel Gasification System (E. U. ID No. -006). PSD-FL-194 does not appear to mention a flare. The Technical Evaluation & Preliminary Determination for PSD-FL-194 does however mention "flare stacks" on page 7. Diagrams submitted for the PSD-FL-194 application show a "tailgas thermal oxidizer." The application for PSD-FL-194 cites the "tailgas thermal oxidizer" stack as being 199 feet high. Is the "flare" you are referring to the same as this previously cited "tailgas thermal oxidizer"?

***Tampa Electric Response #4***

The thermal oxidizer is completely separate from the flare. The tailgas thermal oxidizer was never put into operation it has been abandoned and disconnected from the process. Tampa Electric would like to request including the "flare" description into E.U. ID No. -006 per the electronic permit application request or as described in the DOE Final Technical Report:

The plant's flare burns gases which cannot be safely discharged to the atmosphere during plant startup, shutdown and during upset and emergency pressure relief situations. The flare system is a critical plant protection system.

***Department Request #5***

Sulfuric Acid Plant. What type of catalyst is in this sulfuric acid plant? Please provide a copy of the manufacturer's brochure describing the catalyst, e.g., catalyst composition, size & shape.

***Tampa Electric Response #5***

The catalyst used in the sulfuric acid plant is vanadium pentoxide, standard with the sulfuric acid industry.

***Department Request #6***

New Applicable Requirements. The Title V air operation permit, permit no. 1 050233-016-A V, had been renewed with an effective date of January 1, 2005. Subsequent to this effective date, several new federal regulations have been promulgated by U.S. EPA and adopted by the State of Florida. Some of these new federal regulations may be new applicable requirements for the facility applying to certain types of engines.

***Tampa Electric Response #6***

For discussion purposes a summary of the individual subparts is outlined below.

A. NSPS 40 CFR Part 60, Subpart IIII

*This rule is applicable to stationary compression ignition (CI) RICE (i.e., stationary diesel engines) that were ordered after July 11, 2005 and were manufactured after April 1, 2006 (for engines that are not fire pump engines), and manufactured after July 1, 2006 (for fire pump engines).*

B. NSPS 40 CFR Part 60, Subpart JJJJ

*This rule is applicable to spark ignition (SI) stationary RICE (e.g., gasoline, natural gas, and propane fired stationary engines) that were ordered after June 12, 2006.*

C. NESHAPS40 CFR Part 63, Subpart ZZZZ

*This rule is applicable to existing stationary RICE located at a major source of hazardous air pollutant (HAP) emissions if the engine commenced construction before December 19, 2002 (for engines with a site rating greater than 500 horsepower [HP]), and before June 12, 2006 (for engines with a site rating less than or equal to 500 HP). This rule is also applicable to new stationary RICE located at a major source of HAP emissions if the engine commenced construction on or after December 19, 2002 (for engines with a site rating greater than 500 HP), and on or after June 12, 2006 (for engines with a site rating less than or equal to 500 HP).*

*For area sources of HAP emissions, a stationary RICE is existing if construction commenced before June 12, 2006, and is new if construction commenced on or after June 12, 2006.*

*In accordance with the provisions of 40 CFR §63.6590(b)(3), existing CI stationary RICE do not have to provide initial notification and do not have to meet the requirements of Subpart ZZZZ and Subpart A of 40 CFR Part 63.*

Section 112(g) case-by-case MACT is only applicable to major HAP sources. Applicability of Section 112(g) at existing major HAP sources is limited to construction or reconstruction of a "new process or production unit **which in and of itself** emits or has the potential to emit 10 tpy of any HAP or 25 tpy of any combination of HAPs" per the 40 CFR 63.41 definition of "construct a major source".

Polk Power Station is a synthetic **minor** source of HAPs. Thus, NSPS Subparts IIII and JJJJ, and NESHAPS Subpart ZZZZ are not applicable, but documentation to support this (minor source of HAPs) is needed and has to be retained for at least 5 years on site.

Additionally, please find listed below further description of the insignificant emissions units, e.g. "general purpose engines" and "emergency generators" as identified in Attachment E, items 16. & 17. of the renewal application.

StandBy Generator	<b>Existing (Yes/No):</b>	Yes
PO NO. 22269-P-010-08955	<b>Type of engine:</b>	Cummins Diesel Series KTTA19-G2
PO ITEM NO. -1-	<b>Model year/construction (manufacturer) date:</b>	03/95
Equipment ITEM NO. 1-EJS-EG-3	<b>Manufacturer name:</b>	Onan
DRAWING NO. DSS-500E	<b>Size of engine:</b>	Advert HP: 750 hp @ 1,800 RPM
INSTRUCTION MANUAL NO. 999-5498	<b>Serial No.</b>	C950571257
	<b>Spec No.</b>	75624L

	<b>Engine No.</b>	37156642
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StandBy Generator	<b>Existing (Yes/No):</b>	Yes
PO NO. 22269-P-010-08655	<b>Type of engine:</b>	Cummins Diesel Series KTTA19-G2
PO ITEM NO. -2-	<b>Model year/construction (manufacturer) date:</b>	02/95
Equipment ITEM NO. 1-EJS-EG-6	<b>Manufacturer name:</b>	Onan
DRAWING NO. DSS-500E	<b>Size of engine:</b>	Advert HP: 750 hp @1,800 RPM
INSTRUCTION MANUAL NO. 999-5498	<b>Serial No.</b>	B950570060
	<b>Spec No.</b>	72126L
	<b>Engine No.</b>	37156190

**Diesel Fire**  
**1-FPP-M-031 A/B**

Diesel Engine Fire Pump Controller (A)	<b>Existing (Yes/No):</b>	Yes
FTA1100-EL24N	<b>Type of engine:</b>	Fire Pump Engine
DC 24 Volts      Ground NEG Enclosure type 2	<b>Sales Model:</b>	3406
	<b>Year/ Construction (Manufacturer) Date:</b>	08/24/1994
AC 110-120 Volts    PSI 300      kg/cm^2 21	<b>Manufacturer name:</b>	Caterpillar
1-FPP-IPNL-001	<b>Nominal Size of engine:</b>	430 hp
	<b>Tested Engine Performance:</b>	479 hp @ 2,103 rpm
	<b>Serial No.</b>	6TB13634

Diesel Engine Fire Pump Controller (B)	<b>Existing (Yes/No):</b>	Yes
FTA1100-EL24N	<b>Type of engine:</b>	Fire Pump Engine
DC 24 Volts      Ground NEG Enclosure type 2	<b>Sales Model:</b>	3406
	<b>Year/ Construction (Manufacturer) Date:</b>	08/24/1994
AC 110-120 Volts    PSI 300      kg/cm^2 21	<b>Manufacturer name:</b>	Caterpillar
1-FPP-IPNL-002	<b>Nominal Size of engine:</b>	430 hp
	<b>Tested Engine Performance:</b>	487 hp @ 2,097 rpm
	<b>Serial No.</b>	6TB13632

Tampa Electric believes the above responses to satisfy the Department's requests, but if not, or should the Department have need of additional information or clarification, please contact me by telephone at 813-228-4433 or by email at [jdellwein@tecoenergy.com](mailto:jdellwein@tecoenergy.com).

Sincerely,

(No Electronic Signature Available)

Joshua D. Ellwein, P.E.  
Air Programs  
Environmental, Health & Safety

EHS/rk/JDE143

Enclosure



**RISK MANAGEMENT PROGRAM  
Facility Withdrawal Form**

EPA Facility Identification #: 1000 0008 0949

Facility Name: Polk Power Station

Facility Address: 9995 State Route 37 South

City: Mulberry State: FL Zip Code: 33860

The facility listed above is being withdrawn per 40 CFR 68.126 because the facility does not have more than a threshold quantity of any extremely hazardous substance listed at 40 CFR 68.130 other than propane (or another listed flammable substance)

- that the facility uses as a fuel,  
or
- that the facility holds for retail sale as fuel. More than one-half of the income of this facility is obtained from direct sales to end users or more than one-half of the fuel sold, by volume, is sold through a cylinder exchange program.

<u>Jim Badgerow</u>	Director of	<u>June 3, 2009</u>
Operator/Owner Name	Polk Power Station Official Title	Date

**PLEASE MAIL THE COMPLETED WITHDRAWAL FORM PROMPTLY TO:**

**U.S. Environmental Protection Agency  
Attention: RMP Reporting Center  
P. O. Box 1515  
Lanham-Seabrook, MD 20703-1515**

If you prefer to send your Withdrawal Form by certified mail, courier or overnight mail (e.g., Fed Ex, UPS, etc.), please address it to:

RMP Reporting Center  
c/o Computer Sciences Corporation  
8400 Corporate Drive, Suite 150  
Landover, MD 20785-2294

**Sheplak, Scott**

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**From:** Kelleher, Rebecka [rkelleher@tecoenergy.com]  
**Sent:** Friday, July 31, 2009 4:09 PM  
**To:** Sheplak, Scott  
**Cc:** Ellwein, Joshua D.  
**Subject:** Additional Information, File Number 1050233-026-AV  
**Attachments:** JDE143 - PPS RAI Repsonse for TV Renewal (email).pdf; JDE143 Enclosure.pdf

*Please see attached.*

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8/3/2009

**Sheplak, Scott**

-file-

**From:** Ellwein, Joshua D. [jdellwein@tecoenergy.com]  
**Sent:** Friday, August 14, 2009 3:59 PM  
**To:** Sheplak, Scott  
**Cc:** Burrows, Byron T.; Tom Davis; Holtom, Jonathan  
**Subject:** RE: Title V Permit Renewal for Polk Power Station - Emissions Unit Subsection III.A. Reformatting

Scott-

Here is the information you requested:

a. In what year did the increase in petcoke blend take place (this affects condition A.21.)?

The initial petcoke blend from 100% coal to 60% petcoke / 40% coal was done in 1999 (see response to "b."). Another increase in the petcoke blend to 100% for the purposes of a test burn was done via an AC in 2007 (1050233-019-AC) and construction permit for equipment modification and petcoke increase to 85% in 2008 (1050233-021-AC).

b. In what year was petcoke originally used? Was the emissions monitoring required for the 5-year period satisfied?

The related conditions may now be obsolete and therefore can be removed (see conditions A.27. - A.30.).

The initial Title V ( 1050233-008-AV) air operation permit went final on March 19, 1999, and effective on January 1, 2000. The monitoring report was satisfied in 2006.

c. Thank you for the response dated 07/31/2009 to my request for additional information. You mentioned that compliance with all of the terms and conditions of Permit No. 1050233-021-AC/PSD-FL-194H had not been achieved. This permit requires emissions reporting for the 5-year period beginning "the first full year in which the change occurred." In your response letter, you indicated that this emissions monitoring begins in calendar year (CY) 2009? The 5-year period would then run through CY2013. This is not clear, please clarify. This affects condition A.32. This also affects the above cited emission units.

The first full year of petcoke blend increase is 2009. Therefore PSD monitoring and reporting will be calendar years 2009-2013.

I also found the AC biomass permit (1050233-013-AC). That is the basis for including up to 5% biomass in this TV. The stack test reports of the biomass AC was submitted to the Department.

Let me know if you need anything else. I appreciate all of the communications. Have a good weekend.

**Joshua Ellwein, P.E. | EH&S - Air Programs** | Tampa Electric Company  
 P.O. Box 111 | Tampa, FL 33601 | ☎: 813-228-4433 | 📞: 813-695-16924 | 📠: 813-228-1308 | ✉: [jdellwein@tecoenergy.com](mailto:jdellwein@tecoenergy.com)



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8/17/2009

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**From:** Sheplak, Scott [mailto:Scott.Sheplak@dep.state.fl.us]  
**Sent:** Wednesday, August 05, 2009 5:18 PM  
**To:** Ellwein, Joshua D.  
**Cc:** Burrows, Byron T.; Tom Davis; Holtom, Jonathan  
**Subject:** Title V Permit Renewal for Polk Power Station - Emissions Unit Subsection III.A. Reformatting

Step #3.A.

Fyi, here is yet another piece ... the reformatting of an existing emissions unit subsection

I have included with this e-mail one attachment. The attachment includes the permitting documents related to the 260 MW Combined Cycle Gas Turbine No. 1: a Subsection A. of the permit; Tables 1 & 2; and a new Appendix 40 CFR 60 Subpart GG. I highlighted most of the changes in these documents in **blue**. Please note that I highlighted items I have questions about in **bright green**.

The Subsection A. 260 MW Combined Cycle Gas Turbine No. 1, is in the re-formatted version of an individual emissions unit within a Title V permit. Note that I removed numerous NSPS 40 CFR 60 Subpart GG conditions from the current Title V permit that appeared to be verbatim from this NSPS. These applicable requirements (conditions) can now be found in the referenced "Appendix 40 CFR 60 Subpart GG." My plan is to do the same for the other NSPS 40 CFR 60 Subpart GG combustion turbine subsections.

Per your request, I have integrated the applicable requirements from Permit No. 1050233-021-AC/PSD-FL-194H for the Petcoke Increase Project, which is stated to apply to the 260 MW Combined Cycle Gas Turbine No. 1, Sulfuric Acid Plant, Solid Fuel Handling System and Solid Fuel Gasification System (Emission Unit ID Nos. -001, -004, -005 & -006) into this subsection.

**I have a few questions in order to finish this subsection of the permit.**

**Follow up items:**

- a. In what year did the increase in petcoke blend take place (this affects condition A.21.)?
- b. In what year was petcoke originally used? Was the emissions monitoring required for the 5-year period satisfied? The related conditions may now be obsolete and therefore can be removed (see conditions A.27. - A.30.).
- c. Thank you for the response dated 07/31/2009 to my request for additional information. You mentioned that compliance with all of the terms and conditions of Permit No. 1050233-021-AC/PSD-FL-194H had not been achieved. This permit requires emissions reporting for the 5-year period beginning "the first full year in which the change occurred." In your response letter, you indicated that this emissions monitoring begins in calendar year (CY) 2009? The 5-year period would then run through CY2013. This is not clear, please clarify. This affects condition A.32. This also affects the above cited emission units.

If you should have any questions or comments as I go along, feel free to contact me. Have a good night.

Sincerely,

Scott M. Sheplak, P.E.  
 DEP - Title V Section

8/17/2009

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