

# Department of Environmental Protection

Lawton Chiles  
Governor

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Virginia B. Wetherell  
Secretary

December 18, 1998

Mr. R. Douglas Neeley, Chief  
Air and Radiation Technology Branch  
Air, Pesticides and Toxics Management Division  
United States Environmental Protection Agency  
Region 4  
61 Forsyth Street, SW  
Atlanta, GA 30303-8909

Re: Proposed Changes to Satisfy EPA Objections  
Tampa Electric Company, Polk Power Station, Proposed Title V Permit 1050233-001-AV

Dear Mr. Neeley:

This letter is to document changes that the Department proposes to satisfy EPA Region 4 objections to Florida's Proposed Title V permit 1050233-001-AV for Tampa Electric Company, Polk Power Station. These objections were detailed in a letter from EPA Region 4 dated October 8, 1998, in which EPA indicated the primary basis for objection was that the permit does not meet the periodic monitoring requirements of 40 CFR 70.6(a)(3)(i), does not identify 40 CFR 60, Subpart Y as an applicable requirement, and contains inadequate averaging times and startup/shutdown reporting requirements.

The changes proposed in this letter result primarily from a meeting with representatives of Tampa Electric Company (TEC) on November 20, 1998. That meeting enabled us to clarify many of the issues and identify changes that could be made to the permit that would allow Florida to issue the Final Title V permit for this plant. Please review the following proposed changes to the referenced permits. If you concur with our changes, we will issue the Final permit with these changes.

## I. EPA Objection Issues

1. **Periodic Monitoring:** Conditions A.1. and B.1., establish the permitted capacity for the combined cycle combustion turbine and the auxiliary boiler, respectively. The origin of these conditions is the PSD permit for this facility. The permit needs to include appropriate periodic monitoring or recordkeeping requirements to reasonably assure compliance with these conditions. In order to satisfy this requirement, the permit must require that the facility maintain fuel usage records to demonstrate compliance with the applicable heat input rate. Since the limits are expressed as hourly limits, the condition should establish an hourly fuel usage recordkeeping.

**RESPONSE:** The heat input limitations have been placed in a permit to identify the capacity of each unit for the purposes of confirming that emissions testing is conducted within 90 to 100 percent of the unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate emission limits and to aid in determining future rule applicability. A note will be added to the permitted capacity conditions clarifying this, and an explanation that regular record keeping is not required for heat input will be added to the statement of basis. The following specific changes will be made:

Add to the statement of basis for the permit:

The heat input limitations have been placed in each permit to identify the capacity of each unit for the purposes of confirming that emissions testing is conducted within 90 to 100 percent of the unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate emission limits and to aid in determining future rule applicability. A note below the permitted capacity condition clarifies this. Regular record keeping is not required for heat input. Instead the owner or operator is expected to determine heat input whenever emission testing is required, to demonstrate at what percentage of the rated capacity that the unit was tested. Rule 62-297.310(5), F.A.C., included in the permit, requires measurement of process variables for emission tests. Such heat input determination may be based on measurements of fuel consumption by various methods including but not limited to fuel flow metering or tank drop measurements, using the heat value of the fuel determined by the fuel vendor or the owner or operator, to calculate average hourly heat input during the test.

Add to the permit below the condition titled Permitted Capacity:

{Permitting note: The heat input limitations have been placed in each permit to identify the capacity of each unit for the purposes of confirming that emissions testing is conducted within 90 to 100 percent of the unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate emission limits and to aid in determining future rule applicability.}

**2. Periodic Monitoring:** The permit does not require sufficient periodic monitoring to ensure compliance with the applicable SO<sub>2</sub>, PM/PM<sub>10</sub>, CO, VOC, visible emissions, lead, inorganic arsenic, beryllium, and mercury limits in Section III, Subsection A. The TEC-Polk County permit only requires testing once every five years for SO<sub>2</sub>, PM/PM<sub>10</sub>, CO, visible emissions and VOC, and no testing for the remaining pollutants. It is not clear whether or not this monitoring scheme constitutes adequate periodic monitoring to ensure compliance with the limits contained in the permit. As for the lead, inorganic arsenic, beryllium and mercury limitations, EPA is concerned that the concentration of these pollutants could vary significantly with every fuel batch. In order for infrequent testing to be approved as the periodic monitoring method for this facility, the State must provide a technical demonstration that no additional monitoring is warranted to ensure compliance with the limits listed above. The demonstration should identify the rationale for basing the compliance certification on data from a short-term test once every five years. If it is determined that additional monitoring is necessary to ensure compliance with the permit conditions, more frequent testing requirements need to be included in the permit.

Regarding the visible emissions limit, the State needs to use the existing COMs to ensure compliance with the opacity standard. Requiring that the opacity monitor be used for conducting periodic monitoring imposes little or no additional burden on the source.

Additionally, this unit has a continuous emission monitor for SO<sub>2</sub>. While fuel analysis may be adequate for determining SO<sub>2</sub> emissions from fuel oil combustion, that may not be true for syngas because of the variability of the fuel. We believe that using the data gathered by the SO<sub>2</sub> monitors would provide a better compliance demonstration than the fuel sampling analysis.

**RESPONSE:** Testing requirements for the pollutants regulated in Section III, Subsection A. are in compliance with the requirements of Chapter 62-297, F.A.C. NO<sub>x</sub>, SO<sub>2</sub>, CO, and visible emissions are required to be tested annually. VOC and PM/PM<sub>10</sub> are required to be tested prior to renewal. Lead, sulfuric acid mist, arsenic beryllium and mercury are required to perform an initial test, only, by the federally approved PSD permit. Please remember that Rule 62-297.310(7)(b), F.A.C., allows for additional compliance testing if the Department has good cause to believe that a standard is being violated. TEC has provided a synopsis of compliance tests (see attached letter dated December 9, 1998) showing results well below allowable emissions. Additionally, they have provided the results of nine months of coal sample analyses which show very little variance in the concentrations of heavy metals. Based on the evidence, the Department feels that periodic monitoring is satisfied.

TEC will accept the use of the COMs for periodic monitoring but not for compliance.

The syngas specifications (attached) provided by TEC for their BACT analysis show a maximum sulfur content of less than 0.07 percent, by weight. Analysis of the syngas shows a sulfur content of 0.040 percent, by weight. With the actual sulfur content approximately 50 percent of the basis for the allowable emission rate, the Department feels that the annual emissions test constitutes periodic monitoring for SO<sub>2</sub>.

**3. Periodic Monitoring:** Section III, Subsection B, condition B.4 limits the hours of operation for the auxiliary boiler. This subpart needs to include recordkeeping requirements for this condition.

**RESPONSE:** A condition will be added to Section III, Subsection B. requiring recordkeeping of the non-standby hours of operation of the auxiliary boiler.

**4. Periodic Monitoring:** Section III, Subsection C does not contain adequate periodic monitoring requirements to provide reasonable assurance of compliance with the limitations for Visible Emissions, Sulfur Dioxide and Acid Mist. The permit only requires testing once every five years. It is not clear whether this testing frequency would provide reasonable assurance of compliance with the pollutant limitations contained in this subsection. In order to approve the infrequent testing for the pollutants included in this subsection as the periodic monitoring method, the State must provide a technical demonstration that no additional monitoring is warranted to ensure compliance with the limits. The demonstration should identify the rationale for basing the compliance certification on data from a short-term test once every five years. If it is determined that additional monitoring is necessary to ensure compliance with the permit conditions, more frequent testing requirements need to be included in the permit.

Also, daily recordkeeping of the plant production must be kept to ensure that the facility do not exceed the limit contained in condition C.1. This requirement is very important because it is limiting the source's production below 300 tons per day. If the facility exceeded the 300 tons per day production capacity, F.A.C. rule 62-296.402 requires that the facility install and operate continuous emissions monitors for VE, SO<sub>2</sub>, and Acid Mist.

**RESPONSE:** Testing requirements for the pollutants regulated in Section III, Subsection C. are in compliance with the requirements of Chapter 62-297, F.A.C. SO<sub>2</sub> and visible emissions are required to be tested annually. Sulfuric acid mist is required to be tested prior to renewal. Please remember that Rule 62-297.310(7)(b), F.A.C., allows for additional compliance testing if the Department has good cause to believe that a standard is being violated. In addition, this "sulfuric acid plant" is actually a pollution control device for the coal gasification process. It converts hydrogen sulfide (which would have been emitted to the atmosphere) into sulfuric acid. It escapes the permitting requirements of 40 CFR 60 Subpart H, but not the requirements of Rule 62-296.402, F.A.C. The Department feels that these testing frequencies along with the additional support of Rule 62-297.310(7)(b), F.A.C., satisfies periodic monitoring.

A condition will be added to Section III, Subsection C. requiring recordkeeping of the daily production of operation of the "sulfuric acid plant".

**5. Periodic Monitoring:** Section III, subsection D, condition D.4 specifies that the facility conducts a Method 22 test once per year. It is not clear whether this infrequent testing provides reasonable assurance of compliance with the visible emission limitation contained in this subsection. In order to approve the infrequent testing for visible emissions, the State must provide a technical demonstration that no additional monitoring is warranted to ensure compliance with the VE limit or require the source to conduct daily VE readings.

**RESPONSE:** The fuel handling system is adequately enclosed and also has the necessary controls in the form of surfactant sprays and baghouses where annual testing would constitute periodic monitoring. Please remember that Rule 62-297.310(7)(b), F.A.C., allows for additional compliance testing if the Department has good cause to believe that a standard is being violated. To better describe the fuel handling system, the description in the PROPOSED permit will be substituted with the following:

The solid fuel handling system consists of a bottom unloading station where water/surfactant spray is applied to the incoming fuel as needed for dust control. The system also includes enclosed conveying systems, rubber skirted drop points from bins, two fuel silos with an associated baghouse, fuel surge bin with associated baghouse, and two rod mill crushers for slurry production.

Solid fuel is received by truck and is bottom unloaded to the fuel unloading bin. Fugitive emissions are controlled by water spray with surfactant applied at the unloading bin as needed. Fuel is conveyed via enclosed conveyor from the unloading bin to the fuel storage silos. The transfer points from the bin to the belts are rubber skirted. Fugitive emissions from the fuel silos are controlled by an associated baghouse. Fuel is then reclaimed from the silos via enclosed conveyors to the surge bin inside the slurry preparation building. Fugitive emissions from the surge bin are controlled by an associated baghouse. Fuel and water are then mixed in the rod mill crushers to produce a coal slurry.

**6. Reporting and Recordkeeping:** Section III, subsection C, condition C.8 addresses the excess emissions from start-up, shutdown and malfunctions. Condition C.20 requires the reporting of excess emissions due to malfunctions only. This condition needs to also require reporting of excess emissions from start-up and shutdown.

**RESPONSE:** See the response to objection 4., above. This is not an NSPS source, it is a SIP source and our rules do not require the reporting of excess emissions from startup or shutdown.

**7. Missing Applicable Requirement:** Subsection D of the permit needs to include a statement establishing that the source is subject to the requirements of 40 CFR Part 60, subpart Y, Standards of Performance for Coal Preparation Plants.

**RESPONSE:** 40 CFR Part 60, Subpart Y, Standards of Performance for Coal Preparation Plants, will be added to the permitting note beneath the description of the emissions unit which addresses rules which regulate the emissions unit. Additionally, the visible emissions test method in specific condition D.4. will be changed to EPA Method 9, as required by the subpart.

**8. Control Equipment Requirements:** The description provided in Subsection E of this permit describes various pieces of control equipment. The permit does not contain any references to the control equipment nor does it contain adequate periodic monitoring requirements for the equipment. The State needs to explain and provide information in the statement of basis supporting the decision not to require parametric monitoring of the control equipment in the permit.

**RESPONSE:** The emissions unit is a regulated emissions unit solely because the tons per day throughput of coal was limited by the PSD permit. If not for the throughput requirement the emissions unit would be unregulated. Since the only parameter requiring monitoring is tons per day throughput, the requirements contained in conditions E.3. and E.4. constitute periodic monitoring for the emissions unit. To eliminate confusion, we will remove the reference to the afterburner from the description.

**9. Averaging Times:** In order for the emissions standards in conditions A.5 and A.6 to be practicably enforceable, appropriate averaging times must be specified in the permit. If the pounds per hours standards are the ones for which the facility would have to demonstrate compliance, the 30-day rolling average is not the appropriate averaging time. Also, for condition A.5, it is unclear whether the facility would have to demonstrate compliance with the limitations listed under "Basis" or the "LB/HR" numbers or both.

**RESPONSE:** The factors under the column titled "BASIS" are the basis for the pound per hour values. The 30-day rolling average is a federally enforceable requirement established in the PSD permit and approved by EPA Region 4. This requirement was established by the preconstruction review process, not the Title V process.

## **II. EPA General Comments**

**1. Section II, condition 11:** Please replace "Operating Source Section" with "Air & EPCRA Enforcement Branch, Air Compliance Section."

**RESPONSE:** The address for EPA will be changed, as follows:

United States Environmental Protection Agency  
Region 4  
Air, Pesticides & Toxics Management Division  
Air and EPCRA Branch  
Air Compliance Section  
61 Forsyth Street  
Atlanta, Georgia 30303  
Telephone: 404/562-9099  
Fax: 404/562-9095

**2. Section III, subsection A, condition A.3.b:** The equation should read:

$$[\text{Load}(\%)] / 100\% * \text{hrs. of operation} \leq 876 \text{ hrs}$$

**RESPONSE:** The equation currently reads:  $[\text{Load}(\%)] / 100\% * \text{Hours of Operation} \leq 876 \text{ Hours}$   
Assuming the abbreviation of the word "Hours" and using the lower case of the word "Operation" will remove this comment, the changes will be made to condition A.3.b.

**3. Section III, subsection A, condition A.48:** EPA recommends that this condition be moved to the "Emissions Limitations and Standards" section since it is related to the NOx limit that the facility would have to comply with after the demonstration period.

**RESPONSE:** Condition A.48. will be moved to the "Emissions Limitations and Standards" section of Section III., Subsection A and the other affected specific conditions will be renumbered, as necessary.

**4. Section III, subsection A, conditions A.7 and A.51.:** EPA recommends that the State combine conditions A.7 and A.51, since they refer to the same parameter and are based on the same PSD permit requirement. We also recommend that the resulting condition be placed in the "Emissions Limitations and Standards" portion of subsection A.

**RESPONSE:** Conditions A.7. and A.51. will be linked using a statement "see specific condition X.xx."

**5. Section III, subsection A, condition A.49:** Section III, subsection A, condition A.49 states that results from NOx testing conducted on the combustion turbine every two months for 12 to 18 months after the demonstration will not be used for compliance purposes. The State needs to provide the basis for this decision in the statement of basis.

**RESPONSE:** We cannot answer a preconstruction issue established prior to the Title V permitting. The process is a research and development project for the U. S. Department of Energy's Clean Coal Technology Demonstration.

**6. Section III, subsection B, conditions B.7 and B.52.** EPA recommends that the State combine conditions B.7 and B.52, since they refer to the same parameter and are based on the same PSD permit requirement. We also recommend that the resulting condition be placed in the "Emissions Limitations and Standards" portion of subsection B.

**RESPONSE:** Conditions B.7. and B.52. will be linked using a statement "see specific condition X.xx."

**7. Section III, subsection B, conditions B.19 and B.32.** EPA recommends that the State should combine conditions B.19 and B.32, since they refer to the same parameter and are based on the same NSPS subpart. We also recommend that the resulting condition be placed in the "Emissions Limitations and Standards" portion of subsection B.

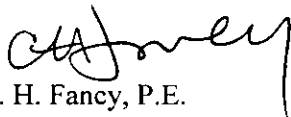
**RESPONSE:** Condition B.19. will be removed and the rule citation of B.19. will be added to the rule citation of condition B.32. The remaining specific conditions will be renumbered, as required.

**8. Section III, subsection C, condition C.3.** Section III, subsection C, C.3: The intent of this condition is unclear. It seems that this condition is intended to limit the fuel used by this plant to propane. If this is the case, the State should rephrase the condition to clearly state that intent.

**RESPONSE:** Condition C.3. will be changed to read "The conversion furnace fires only propane."

As you know, the 90 day period ends January 6th. All parties involved have been expeditiously seeking resolution of these issues. We feel that EPA's concerns have been adequately addressed and we look forward to issuing final permits. Please advise as soon as possible if you concur with the specific changes detailed above. Please call me at 850/921-9503 if you have any questions. You may also contact Mr. Scott M. Sheplak, P.E., at 850/921-9532, or Mr. Edward J. Svec at 850/921-8985, if you need any additional information.

Sincerely,

  
C. H. Fancy, P.E.  
Chief  
Bureau of Air Regulation

CF/es

Attachments

cc: Scott M. Sheplak  
Pat Comer  
James Hunter, TEC

12/22/98cc Ed Svec

