

# Department of Environmental Protection

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

David B. Struhs Secretary

December 29, 2000

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Gregory M. Nelson, P.E. Director
Environmental Affairs
Tampa Electric Company
P.O. Box 111
Tampa, Florida 33601-0111

Re: DEP File No. 0570039-008-AC, Modification of Permit No. PSD-FL-040

The applicant, Tampa Electric Company, applied on March 27, 2000, to the Department for a modification to air construction permit number PSD-FL-040 and for its Big Bend Station located at Big Bend Road, North Ruskin, Hillsborough County. The modification is to Boiler Unit No. 4 to remove the sulfur content limit of the petroleum coke fired and to revise the vanadium content limit in the petroleum coke fired. The Department has reviewed the modification request. The referenced permit is hereby modified as follows:

FROM: Specific Condition 1.A. Fuel fired shall consist of coal or a coal/petroleum coke blend containing a maximum of 20% petroleum coke by weight. The sulfur content of the petroleum coke shall not exceed 6.0% by weight (dry basis). Vanadium content of the mineral ash from the petroleum coke fired shall not exceed 35% by weight (ignited basis).

**TO:** Specific Condition 1.A. Fuel fired shall consist of coal or a coal/petroleum coke blend containing a maximum of 20% petroleum coke by weight. The vanadium content in the petroleum coke fired shall not exceed 2,660 ppm vanadium in the ash. The ash content of the petroleum coke fired shall not exceed 0.76% by weight on a dry basis.

**ADDITION:** Specific Condition 1.D. The permittee shall maintain and submit, to the Department and the Environmental Protection Commission of Hillsborough County on an annual basis for a period of 5 years from the effective date of this permit modification, data demonstrating that the operational change did not result in a significant increase in the representative actual annual emissions of any regulated pollutant.

A copy of this letter shall be filed with the referenced permit and shall become part of the permit. This permit modification is issued pursuant to Chapter 403, Florida Statutes.

"More Protection, Less Process"

Mr. Gregory M. Nelson, P.E. Tampa Electric Company DEP File No. 0570039-008-AC, PSD-FL-040 Page 2 of 2

Any party to this order (permit modification) has the right to seek judicial review of it under Section 120.68, F.S., by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel, Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within thirty days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.

Howard L. Rhodes, P.E., Director
Division of Air Resources Management

# **CERTIFICATE OF SERVICE**

The undersigned duly designated deputy agency clerk hereby certifies that this permit modification was sent by certified mail (\*) and copies were mailed by U.S. Mail before the close of business on 12/29/00 to the person(s) listed:

\*Mr. Gregory M. Nelson, TEC Shannon K. Todd, TEC Mr. Jerry Campbell, EPCHC Mr. Bill Thomas, FDEP

Mr. John Bunyak, NPS

Mr. Gregg Worley, USEPA Region 4

Clerk Stamp.

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

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# TECHNICAL EVALUATION AND FINAL DETERMINATION

## 1.0 APPLICATION INFORMATION

Applicant Name and Address

Tampa Electric Company P.O. Box 111 Tampa, Florida 33601-0111

Representative:

Mr. Gregory M. Nelson, P.E. Director, Environmental Affairs

#### 2.0 FACILITY INFORMATION

- Facility Location: Big Bend Station located at Big Bend Road, North Ruskin, Hillsborough County
- 2.2 Standard Industrial Classification Code (SIC)

Major Group No.

49 491 Electric, Gas, and Sanitary Services

Group No.

Electric Services

Industry No.

4911 Electric Services

# 2.3 Existing Facility/Emission Unit Description

This facility is an electric utility. The permit conditions are being modified for boiler Unit No. 4. Unit No. 4 is a 4330 MMBTU/hour, dry-bottom tangentially fired utility boiler, SCC 1-01-002-12. The generator nameplate capacity is 486 MW. Unit No. 4 began commercial operation in 1985. Particulate matter emissions generated during the operation of the unit are controlled by a dry electrostatic precipitator (ESP) manufactured by Belco. The control efficiency of the ESP is 99.7%. Sulfur dioxide emissions are controlled by flue gas desulfurization equipment manufactured by Research-Cottrell.

# 2.3 Regulatory Classification

The facility is classified as a major of Title V source of air pollution because emissions of at least one regulated air pollutant, such as sulfur dioxide, exceed 100 tons per year.

# 3. PERMITTING STATUS

Unit No. 4 was previously issued a PSD air construction permit. The final Title V operation permit will need to be reopened to include any final modifications to the PSD air construction permit for Unit No. 4.

#### 4. PRESENT APPLICATION AND DEPARTMENT PROPOSED ACTIONS

The requested PSD air permit modification is for Boiler Unit No. 4 in order to remove the sulfur content limit of the petroleum coke fired and to revise the vanadium content limit in the petroleum coke ash. Tampa Electric Company believes that by revising the vanadium content limit they will actually be able to acquire lower ash petroleum coke. In addition, since the petroleum coke fired in Units 1 and 2 has no limits on sulfur or vanadium content, Tampa Electric would like to have the limits removed for Units 3 and 4 so that they may fire the same type of petroleum coke throughout the facility at all four boiler units.

## TECHNICAL EVALUATION AND FINAL DETERMINATION

The Department reviewed the modification request and proposed to modify the referenced as follows:

**FROM:** Specific Condition 1.A. Fuel fired shall consist of coal or a coal/petroleum coke blend containing a maximum of 20% petroleum coke by weight. The sulfur content of the petroleum coke shall not exceed 6.0% by weight (dry basis). Vanadium content of the mineral ash from the petroleum coke fired shall not exceed 35% by weight (ignited basis).

TO: Specific Condition 1.A. Fuel fired shall consist of coal or a coal/petroleum coke blend containing a maximum of 20% petroleum coke by weight. The vanadium content in the petroleum coke fired shall not exceed 3,500 ppm vanadium in the ash.

**ADDITION:** Specific Condition 1.D. The permittee shall maintain and submit, to the Department and the Environmental Protection Commission of Hillsborough County on an annual basis for a period of 5 years from the effective date of this permit modification, data demonstrating that the operational change did not result in a significant increase in the representative actual annual emissions of any regulated pollutant.

**ADDITION:** Specific Condition 1.E. The permittee shall, for a period of 5 years from the effective date of this permit modification, conduct quarterly sulfuric acid mist emissions tests using EPA Method 8.

The Department received a request from TEC to eliminate the additional requirement to conduct quarterly sulfuric acid mist emissions tests. In order to provide reasonable assurance that there will be no significant increase in total vanadium in the petroleum coke, and therefore no significant increase in sulfuric acid mist, TEC proposed to limit the ash content of the petroleum coke to 1% on a dry basis. The final modification to the permit shall be:

FROM: Specific Condition 1.A. Fuel fired shall consist of coal or a coal/petroleum coke blend containing a maximum of 20% petroleum coke by weight. The sulfur content of the petroleum coke shall not exceed 6.0% by weight (dry basis). Vanadium content of the mineral ash from the petroleum coke fired shall not exceed 35% by weight (ignited basis).

TO: Specific Condition 1.A. Fuel fired shall consist of coal or a coal/petroleum coke blend containing a maximum of 20% petroleum coke by weight. The vanadium content in the petroleum coke fired shall not exceed 3,500 ppm vanadium in the ash. The ash content of the petroleum coke fired shall not exceed 1.0% by weight on a dry basis.

**ADDITION:** Specific Condition 1.D. The permittee shall maintain and submit, to the Department and the Environmental Protection Commission of Hillsborough County on an annual basis for a period of 5 years from the effective date of this permit modification, data demonstrating that the operational change did not result in a significant increase in the representative actual annual emissions of any regulated pollutant.

## 5. CONCLUSION

The changes agreed to by the Department provide reasonable assurance that there will be no significant increase in the representative actual annual emissions of any regulated pollutant.