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August 21, 1998

Mr. Joseph Kahn, P.E.
New Source Review Section
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Via Facsimile and
U.S. Mail

Re: Tampa Electric Company
Big Bend Units 1 & 2 FGD System
Response to Request for Additional Information (Part 2)

Dear Mr. Kahn:

In response to your letter of August 5, 1998, Tampa Electric Company hereby provides the following responses to your request for additional information on the new FGD system for Big Bend Units 1 & 2. These responses are in addition to the response submitted on August 10, 1998.

FDEP Question 1:

Please identify the changes, if any, proposed to the existing limits for sulfur dioxide emissions from Units 1 and 2 as a result of operation of the FGD system on a tow hour basis, as well as the three hour and 24 hour limitations on total emissions from Units 1, 2, and 3. Please address in further detail your verbal request to apply the proposed emission limit of 0.82 lb/mmBtu on a 30 day rolling average basis. If TECO is to match the basis for the limits of Unit 4, please note that Unit 4 is subject to NSPS Subpart Da which proscribes this averaging period.

TEC Response:

No changes to the existing Big Bend Station SO₂ emission limits are proposed. TEC is currently proposing a additional sulfur dioxide (SO₂) emission limit of 3,310 and 3,277 pounds per hour (lb/hr), calendar day average, for Units 1 and 2, respectively, for when those units are being operated in the scrubbed mode. TEC recognizes that these proposed SO₂ emission limitations may be different in the final permit as a result of the additional dispersion modeling that is being conducted to provide reasonable assurance of compliance with the applicable ambient air quality standards (AAQS). TEC also recognizes that a SO₂ emission limitation for Unit 3 operating in the unscrubbed mode may be appropriate when Units 1 and 2 are operating in the scrubbed mode, again depending upon the dispersion modeling results.

FDEP Question 3:

Please provide information on the changes in emissions resulting from the usage of coal/petcoke mixture for the following pollutants on a pounds per hour and ton per year basis:

- Particulate Matter and PM₁₀
- Nitrogen Oxides
- Carbon Monoxide
- Sulfuric Acid Mist

TEC Response:

Because coal/petroleum coke blend will be burned in Units 1 and 2 only when those units are being operated in the scrubbed, no increase in emissions of the cited pollutants is expected on either a lb/hr or ton per year (tpy) basis. Use of the scrubber ensures that no increase in sulfuric acid mist emissions will occur. No increase in particulate matter, respirable particulate matter (PM₁₀), nitrogen oxides, or carbon monoxide will occur because the combustion process will not be altered in any way to accommodate coal/petroleum coke blend. This conclusion is supported by information previously submitted to FDEP for the combustion of coal/petroleum coke blend in Big Bend Station Units 3 and 4.

FDEP Question 4:

Please evaluate whether the usage of coal/petroleum coke mixture will make Units 1 and 2 subject to the requirements of NSPS regulations 40 CFR 60 Subparts Da or Db and explain your conclusion.

TEC Response:

Under NSPS, a modification is defined at 40 CFR 60.14(a) as any physical change or operational change to an existing facility that results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies. If the combustion of coal/petroleum coke blend in Units 1 and 2 (an operational change) results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies, the operational change is a modification and Subpart Da or Subpart Db (but not both) would apply. Emission rate is expressed as kilograms per hour (kg/hr) of any pollutant discharged for which a standard applies. Opacity is expressed as percent. As indicated above, the combustion of coal/petroleum coke blend will occur in Units 1 and 2 only during operations in the scrubbed mode. As a result, no increase in the emission rate of any regulated pollutant is expected. Similarly, opacity will not increase. Reasonable assurance of no change in emission rate is provided because TEC is not proposing to increase any permitted operating capacities or emission rates. Because the combustion of coal/petroleum coke blend in Big Bend Station Units 1 and 2 will not cause an emissions increase, the replacement is not a modification and NSPS does not apply.

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FDEP Question 5:

We understand that the FGD system will always be operated when firing a coal/petcoke mixture. Please explain what situations may result in operation of Units 1 and 2 without simultaneous operation of the FGD system while firing coal. Please provide information regarding the maximum and typical amounts of coal/petcoke mixture that could be bunkered at any given time for use in Units 1 and 2 that may be fired in those units in the event of a malfunction of the FGD system. Please identify what steps will be taken to reduce sulfur dioxide emissions in the event of a malfunction of the FGD while firing a coal/petcoke mixture.

TEC Response:

The most likely situation that would cause the FGD system to not operate while Units 1 and 2 are operating would be the lost of the fans used to supply the FGD system with flue gas. The typical, and currently maximum requested mixture of coal/petcoke will be 80/20 when the units are being scrubbed. In the event of an FGD system malfunction while firing a coal/petcoke mixture, TEC will immediately cease bunkering any additional petcoke and will employ best operational practices. This issue is currently addressed in the permit for Unit 3 with the following language:

"At all times while firing any blend of coal and petroleum coke, Unit No. 3 shall operate in the integrated (scrubbed) mode...except during startups, shutdowns and/or malfunctions during all of which best operational practices shall be employed including the cessation of petroleum coke bunkering."

FDEP Question 9:

Please provide justification for the low number for the exit grain loading for the limestone emission estimates on worksheets LSH-001 through LSH-008 in the appendix.

TEC Response:

The exit grain loading for the limestone handling emission sources estimates are consistent with the existing Big Bend Unit 4 Prevention of Significant Deterioration (PSD) permit and the Power Plant Siting Act Conditions of Certification. The construction specification for the new limestone silo baghouse (Source LSH-008) identifies the exit grain loading detailed on the worksheet in the referenced appendix.

FDEP Question 10:

Please provide supporting information for the control efficiency of 90% for the gypsum conveyors' emission estimates on worksheets GH-007 through GH-009 in the appendix.

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TEC Response:

The 90 percent control efficiency is consistent with the enclosed transfer of material between belt conveyors. FDEP has accepted this control efficiency as appropriate when used on previous TEC air permit applications.

FDEP Question 11:

Please provide an estimate in particulate matter (PM/PM₁₀) emissions increases resulting from increase handling of petcoke.

TEC Response:

TEC does not anticipate any increase in PM/PM₁₀ emissions due to an increase petroleum coke handling. The emission factors used to calculate PM/PM₁₀ emissions from coal and petroleum coke handling are identical. Any increase in petroleum coke handling will cause a corresponding decrease in coal handling, resulting in no net change in emissions.

FDEP Question 12:

More information is needed to allow the Department to determine the extent of the ambient air exemption on TECO's property. 40 CFR part 50.1(e) defines ambient air as "...that portion of the atmosphere, external to buildings, to which the general public has access." The exemption from ambient air is available only for the atmosphere over land owned or controlled by the source and to which public access is precluded by a fence or other physical barriers. Please provide a detailed USGS map or the equivalent showing the location of the fenceline and/or other physical barriers equivalent to a fence. Also on the same map show the location of the property line and all of the property line/fenceline receptors used in the air quality impact analysis.

TEC Response:

The requested information is provided on the aerial photograph provided to FDEP on August 19, 1998

FDEP Question 13:

The preamble for the rule amendments for 40 CFR Parts 51, 52, and 60 of July 21, 1992 (Federal Register Vol 57, No. 140) provides that the test to determine if a pollution control project is environmentally beneficial should include an evaluation of the impact of the project on ambient air quality. EPA clarifies that the test of *environmentally beneficial* is an evaluation of a project's net emissions and overall environmental impact. "In making such assessment, ... consider the overall emissions before and after the project, as well as any other relevant environmental factors. As a result, no single factor can be identified in advance for the purposes of making this determination." [57 FR 32320.] In analyzing comments on the pollution control project exclusion, EPA further clarified the test of environmentally beneficial to mean a case by case assessment of the project's net emissions. EPA writes, "Although a pollution control project could theoretically cause a small collateral increase in some emissions, it will substantially reduce

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emissions of other pollutants. In recognition of this, the rule provides for a case-by-case assessment of the pollution control projects net emissions and overall impacts on the environment." [57 FR 32321.] Confirmation of this approach is found in guidance from EPA entitled Pollution Control Projects and New Source Review (NSR) Applicability, dated July 1, 1994, authored by John S. Seitz. On page 3 of the attachment to that memo, Mr. Seitz discussed the test of environmentally beneficial and reiterates that such a test includes an evaluation of ambient air impacts. Further the Department cannot knowingly permit a project that causes or significantly contributes to a violation of an ambient air quality standard. Therefore, the Department believes it is appropriate to include an evaluation of the impact of this project on ambient air quality as part of its review.

The modeling results discussed in Table 13 show that maximum predicted 24-hour SO₂ impacts for Scenarios 1, 2, and 4 are 256.8, 256.4, and 253.2 µg/m³, respectively. These modeled values are very close to the 24-hour SO₂ AAQS of 260 µg/m³, and are much higher than the maximum predicted impact of 183 µg/m³ for the base case in the recently completed SO₂ modeling for the Title V permit. The Department is concerned that inclusion of other SO₂-emitting sources in the area along with a background concentration value for the unmodeled sources in the area would result in predicted violations of the 24-hour SO₂ AAQS. Please address the Department's concern.

TEC Response:

Per the discussion between TEC and FDEP of August 19, 1998, TEC will conduct additional dispersion modeling to provide reasonable assurance of compliance with the 24-hour SO₂ AAQS.

FDEP Question 14:

Hillsborough County EPC commented to the Department that the application lists all dry materials handling as fugitive sources of emissions. Hillsborough County EPC desires that TECO clarify that the emissions resulting from materials handling will be controlled and, where processes are enclosed, emissions pass through a stack or vent and are not considered fugitive.

TEC Response:

The application does not list all dry material handling sources as fugitive sources of emissions. Those dry material handling sources that are enclosed and release emissions through a stack or vent are appropriately treated as point emission sources in the application. Those dry material handling sources that are enclosed but do not release emissions through a stack or vent are appropriately treated as fugitive emission sources in the application

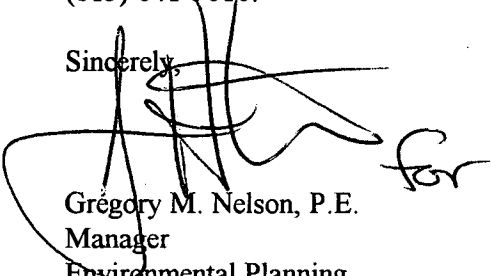
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Thank you for your continued assistance in this matter. Should you have any questions, please call me at (813) 641-5016.

Sincerely,



Gregory M. Nelson, P.E.
Manager
Environmental Planning

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c: Mr. Clair Fancy, FDEP
Mr. Rick Kirby, EPCHC

CC: SWD
EPA

T. Davis, ECT