

Department of Environmental Protection

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

RECEIVED David B. Struhs

FEB 1 2 1999

BUREAU OF AIR REGULATION

February 11, 1999

Mr. James Hunter Tampa Electric Post Office Box 111 Tampa, Florida 33601-0111

Re: Polk Power Station, PA 92-32

Dear Mr. Hunter:

I have received a copy of your February 5, 1999, letter to Mr. Clair Fancy and a copy of the Polk Power Station Simple-Cycle Combustion Turbines Air Construction Permit Application. Your application is incorrect and incomplete for the following reasons:

- 1. The proposed combustion turbines (CTs) are to be located on a site certified pursuant to the Florida Electrical Power Plant Siting Act, ss 403.501-518, F.S. The Conditions of Certification in Condition II state, "All discharges or emissions authorized herein shall be consistent with the terms and conditions of this certification. The discharge of any regulated pollutant not identified in the application, or more frequent than, or at a level in excess of that authorized herein, shall constitute a violation of the certification. Any anticipated facility expansions beyond the certified initial, nominal, net capacity of 260 MW, production increases, or process modifications which may result in new, different, or increased discharges of pollutants, change in type of fuel as described in XIII.D., or expansion in steam generation capacity shall be reported by submission of a supplemental application pursuant to Chapter 403, F.S."
- 2. The proposed CTs are a new source of air pollutants not described in the initial application. It is the Department's opinion that the new CTs must be reviewed as a modification to the certification of TEC Polk 1.
- 3. The form, copies and fee submitted are not complete nor sufficient as prescribed in DEP Rule 62-17, F.A.C. to initiate the modification process. The modification fee is \$10,000. Your initial filing was \$7,500, some \$2,500 short.

It is suggested that you contact your legal counsel prior to filing an appropriate modification with the Department and all parties.

Sincerely,

Hamilton S. Oven, P.E.
Administrator, siting
Coordination Office

CC: Scott Goorland
Larry Curtin
Al Linero



Department of Environmental Protection

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

David B. Struhs Secretary

February 18, 1999

Mr Gregg Worley, Chief Air, Radiation Technology Branch Preconstruction/HAP Section U.S. EPA - Region IV 61 Forsyth Street Atlanta, Georgia 30303

Re: Tampa Electric Company – Polk Power Station PA 92-32, PSD-FL-263

Dear Mr. Worley:

Enclosed for your review and comment is an application for the above referenced project. It consists of two intermittent duty, simple cycle, dual fuel General Electric PG7241FA combustion turbine -electrical generators. The applicant proposes to control nitrogen oxides emission when firing gas to 10.5 ppmvd @15% O₂ by Dry Low NO_x technology.

The project will be reviewed under the applicable requirements of Florida's Power Plant Siting Act. Because no electricity will be generated from steam, there is no "automatic" requirement for an administrative hearing or for consideration by the Governor and Cabinet in their capacity as the Siting Board.

Please send your comments to me at the letterhead address or fax them to my attention at (850)922-6979. If you have any questions, please contact Teresa Heron at (850)921-9529

Sincerely

Administrator

New Source Review Section

AAL/kt

Enclosures

cc: Teresa Heron, BAR



Department of Environmental Protection

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

David B. Struhs Secretary

February 18, 1999

Mr. John Bunyak, Chief Policy, Planning & Permit Review Branch NPS-Air Quality Division Post Office Box 25287 Denver, CO 80225

Re: Tampa Electric Company – Polk Power Station PA 92-32, PSD-FL-263

Dear Mr. Bunyak:

Enclosed for your review and comment is an application for the above referenced project. It consists of two intermittent duty, simple cycle, dual fuel General Electric PG7241FA combustion turbine electrical generators. The applicant proposes to control nitrogen oxides emission when firing gas to 10.5 ppmvd @15% O₂ by Dry Low NO_x technology.

The project will be reviewed under the applicable requirements of Florida's Power Plant Siting Act—Because no electricity will be generated from steam, there is no "automatic" requirement for an administrative hearing or for consideration by the Governor and Cabinet in their capacity as the Siting Board.

Please send your comments to me at the letterhead address or fax them to my attention at (850)922-6979. If you have any questions, please contact Teresa Heron at (850)921-9529

Sincerely,

Administrator

New Source Review Section

AAL/kt

Enclosures

cc: Teresa Heron, BAR



United States Department of the Interior

FISH AND WILDLIFE SERVICE

1875 Century Boulevard Atlanta, Georgia 30345

MAR 1 9 1999

RECEIVED

MAR 22 1999

BUREAU OF AIR REGULATION

Re: PSD-FL-263

Mr. C. H. Fancy Chief, Bureau of Air Regulation Florida Department of Environmental Regulation Twin Towers Office Building 2600 Blair Stone Road, MS 48 Tallahassee, Florida 32399-2400

Dear Mr. Fancy:

PSO-F1-263

Our Air Quality Branch (AQB) has reviewed the Prevention of Significant Deterioration permit application for Tampa Electric Company's (TECO) proposal to construct and operate a simple cycle project at its Polk Power Station in Polk County, Florida. The facility is located 118 km southeast of Chassahowitzka Wilderness, a Class I air quality area administered by the U.S. Fish and Wildlife Service. The AQB's comments are summarized in the attached technical review document.

In summary, although TECO is proposing adequate control technologies for nitrogen oxides (NO_x) , the level of control proposed by TECO does not fully utilize the potential of those technologies. We believe that TECO should be required to meet lower NO_x emission limits than those proposed.

In addition, TECO should evaluate potential impacts from this proposed project to regional haze at the Class I area.

If you have questions, please contact Ms. Ellen Porter of our Air Quality Branch in Denver at (303) 969-2617.

Sincerely yours,

A Dale Hall

Sam D. Hamilton Regional Director

Enclosures

CC: J. Heron, BAR B. Oven, PPS C. Holladan POLK Co.

Technical Review of Prevention of Significant Deterioration Permit Application for Two Simple-Cycle Combustion Turbine Generators Tampa Electric Company Polk Power Station Polk County, Florida PSD-FL-263

by

Air Quality Branch, Fish and Wildlife Service – Denver March 15, 1999

Tampa Electric Company (TECO) is proposing to construct and operate two gas/oil-fired 165-megawatt (MW) General Electric PG7241 simple-cycle combustion turbine generators at its existing Polk Power Station in Polk County, Florida. The facility is located 118 km southeast of Chassahowitzka Wilderness, a Class I air quality area administered by the U.S. Fish and Wildlife Service. The proposed project will result in significant increases in emissions of nitrogen oxides (NO_x), sulfur dioxide (SO₂) fine particulate matter (PM-10), particulate matter (PM), volatile organic compounds (VOC), sulfuric acid mist (SAM), and carbon monoxide (CO). Emissions (in tons per year – TPY) are summarized below.

| POLLUTANT | EMISSIONS INCREASE (TPY) |
|-----------------|--------------------------|
| NO _x | 581 |
| SO ₂ | 126 |
| PM-10 | 66 |
| PM | 66 |
| VOC | 74 |
| SAM | 14.6 |
| СО | 303 |

Best Available Control Technology (BACT) Analysis

Nitrogen oxides emissions are the primary focus of this analysis because NO_x emissions are highly dependent upon the combustor type and any add-on controls. Sulfur dioxide and SAM emissions will be controlled through the use of natural gas and low-sulfur (less than 0.05%) fuel oil as a back-up fuel. Emissions of PM, PM-10, CO, and VOC will be controlled by good combustion techniques.

NO, Controls

TECO has proposed to meet NO_x limits of 10.5 parts per million by volume on a dry basis (ppmvd) corrected to 15% oxygen controlled by use of dry low- NO_x (DLN) combustors while burning natural gas. When burning oil, TECO proposes to limit NO_x to 42 ppm through the use of water injection.

While we agree with the NO_x control technologies proposed by TECO, we also believe that it can better utilize these technologies to achieve lower NO_x emissions. For example, DLN use on the overwhelming majority of newer units shown in the enclosed Tables 1.a and 1.b indicate that emissions in the 9-ppm range are readily achievable and feasible for this industry.

Although we have relatively little data with regard to NO_x limits when firing oil, it can be seen from Tables 1.a and 1.b that a limit of 25 ppm is feasible.

The economic analysis of Selective Catalytic Reduction performed by TECO is very well documented and presented—it is the best analysis we have seen and should be used as a model for others.

Conclusions and Recommendations

Although TECO is proposing adequate control technologies, the level of NO_x control proposed does not fully utilize the potential of those technologies. We believe that NO_x can be controlled to a level of 9 ppm when firing gas, and 25 ppm when firing oil, by the technology proposed.

Air Quality Analysis

The results of the air quality analysis (using ISCST3) indicate that the proposed project will not contribute significantly to consumption of the Class I increments for SO₂, nitrogen dioxide (NO₂), and PM-10.

Air Quality Related Values (AQRV) Analysis

TECO conducted a VISCREEN analysis to evaluate potential visible plume impacts at Chassahowitzka Wilderness from this project. The VISCREEN analysis should only be used for sources located less than 50 km from a receptor in the Class I area. We recommend that all sources, including TECO, located more than 50 km from a receptor in the Class I area perform a regional haze analysis, following the recommendations of the Interagency Workgroup on Air Quality Modeling at: http://www.epa.gov/scram001/; "Model Support"; "7th Modeling Conference"; "CALPUFF"; "PHASE 2."

Contact: Ellen Porter, Air Quality Branch (303) 969-2617.

Table 1.a Gas Turbine Limits from RBLC

| | | | | | | | | | NOx Emiss | sion Limits | | |
|--------------------------------|--|---------------------------------------|----------|--|----------|--------------|-------------|------------------|--|-------------|---------|--------------|
| | Project | Description | | | | | | Permit | Dry Lox-No | Ox Comb | SCR | |
| | | Combined | Duct | Power Output | | - | | Issue | Gas | Oil Oil | Gas | Oil |
| Facility Name | Cycle | Cycle | Burner | MW | mmBtu/hr | HP | Permit # | Date | (ppm) | (ppm) | (ppm) | (ppm) |
| Alabama Power Company | -, | Y | Y | 100 | 353 | 10566 | AL-0115 | Dec-97 | 15 0 | | (FF:11) | (FF7 |
| American Cogen Tech. | | - | | | | | 1.12 3 1.13 | Sep-85 | | | 170 | |
| Arrowhead Cogen | | | | | | | | Dec-89 | | | 9.0 | |
| Aubumdale Power Part. | † | | | 356 | 1214 | 36298 | FL-0080 | Dec-92 | 15.0 | 25 0 | | |
| Baf Energy | † | | | | | | | Jui-87 | 10.0 | | 90 | |
| Baltimore Gas & Electric | | - | | 140 | 495 | 14792 | MD-0019 | V | 15 0 | | | |
| Bear Island Paper | | Y | Y | 139 | 474 | 14172 | VA-0190 | Oct-92 | 1 | | 9.0 | 15 0 |
| Berkshire, MA | | Ÿ | | 272 | | | ********** | | | | 3.5 | 90 |
| Bermuda Hundred | | <u> </u> | | | | - | | Mar-92 | | | 9.0 | 15 0 |
| Blue Mtn. Pwr | | | <u>-</u> | 153 | 541 | 16166 | PA-0148 | Jul-96 | Y | Y | 4.0 | 8 4 |
| Brooklyn Navy Yard Cogen | | y | | 240 | 848 | 25358 | NY-0044 | Jun-95 | <u>'</u> | <u>'</u> | 3.5 | 10 0 |
| Cimarron Chemical | - | | | | | 20000 | CO-0020 | Mar-91 | | | 0.0 | |
| Cogen Technologies | | | | ├ ── | | | .00-0020 | Jun-87 | | | 96 | |
| Doswell Ltd. | | | | | | - | t | May-90 | | | 90 | |
| Ecoelectrica | | Y | | 461 | 1629 | 48709 | PR-0004 | Oct-96 | 1 | | 7.0 | 9.0 |
| Fleetwood Cogeneration | | ' | Y | 105 | 360 | 10764 | PA-0099 | Apr-94 | | | 15.0 | |
| Florida Power-HinesPolk | | Y | • | 442 | 1510 | 45148 | FL-0082 | Feb-94 | 12 0 | 42 0 | 130 | |
| Formosa Plastics | | Ÿ | | 132 | 450 | 13455 | LA-0093 | Mar-97 | 9.0 | 720 | | |
| Formosa Plastics | | Y | | 132 | 450 | 13455 | LA-0093 | Mar-95 | 90 | | | |
| Gainesville Regional Utilities | Y | ı | | 74 | 262 | 7819 | FL-0092 | Арг-95 | 150 | | | |
| Goal Line | <u> </u> | | | 113 | 386 | 11541 | CA-0544 | Nov-92 | 130 | | 5.0 | |
| Gordonsville Energy | | ļ | Y | 445 | 1520 | 45433 | VA-0189 | Sep-92 | | | 90 | |
| Granite Road Limited | ļ | | 1 | 135 | 461 | 137B1 | CA-0441 | May-92 | | | 35 | |
| Grays Ferry | <u> </u> | Ÿ | Y | 337 | 1150 | 34384 | PA-0098 | Nov-92 | 9.0 | | | |
| Hermiston Generating | | - 'Y | - | 497 | 1696 | 50709 | OR-0011 | Apr-94 | 30 | | 45 | |
| Kalamazoo Power | | T | | 529 | 1806 | 53995 | MI-0206 | Dec-91 | 15 0 | | * 3 | |
| Kamine/Besicorp | | | | 190 | 650 | 19434 | NY-0049 | Nov-92 | 90 | | 9 0 | |
| Kamine/Besicorp | _ | | | 191 | 653 | 19524 | NY-0049 | Nov-92 | 90 | | 9.0 | |
| Kingsburg Energy | | | Y | 35 | 122 | 3645 | CA-0347 | Sep-89 | 30 | | 6.0 | |
| Kissimmee Utility Authority | | | <u> </u> | 255 | 869 | 25982 | FL-0078 | Apr-93 | 15 0 | | 60 | |
| Lakewood Cogen | | | | 233 | 003 | 23502 | 11.0070 | Apr-93 | 130 | | 9.0 | |
| Lakewood Cogeneration | | | | 56 | 190 | 5681 | NJ-0013 | Apr-91 | | | 9.0 | |
| Las Vegas Cogen | | | | 30 | 150 | 3001 | NJ-0013 | Oct-90 | \vdash | | 10.0 | |
| Linden Cogeneration | _ | Y | | 165 | 583 | 17434 | NJ-0011 | Aug-91 | H + | | 10.0 | - |
| Lordsburg | \vdash | r | | 100 | 353 | 10566 | NM-0031 | Jun-97 | 15 0 | | | |
| Lsp-Cottage Grove | | | | 577 | 1970 | 58901 | MN-0031 | Mar-95 | 130 | | 4.5 | |
| Mid-Ga Cogen | | | | 116 | 410 | 12257 | GA-0063 | Apr-96 | \vdash | | 90 | 20 0 |
| Milagro, Williams Field Ser | _ | | | 10983 | 37500 | 1121220 | NM-0024 | ∨bi-20 | | | 30 | 200 |
| Narragansett Electric | | | Y | 398 | 1360 | 40663 | RI-0010 | Jun-96 | | | 9.0 | |
| Newark Bay Cogen | | | ľ | 171 | 585 | 17491 | NJ-0009 | Nov-90 | | | 83 | |
| Newark Bay Cogen | | | | 181 | 617 | 18448 | NJ-0009 | Jun-93 | | | 83 | 16 0 |
| Ocean State Power | 1 | | | 101 | 01/ | 10440 | 143-0017 | Jun-93 Dec-88 | | | 90 | 10 0 |
| Ols Energy | 1 | | | - | | ļ | — | Jan-86 | | | 90 | |
| <u> </u> | | | | 108 | 368 | 11012 | FL-0068 | Dec-93 | 15.0 | | 30 | |
| Orange Cogen | - | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | | | | | | | | | | |
| Panda-Kathleen | | Y | | 75 | 265 | 7925 | FL-0102 | Jun-95 | 15 0 | | | |
| Pasny/Holtsville | | Y | | 336 | 1146 | 34264 | NY-0047 | Sep-92 | 9.0 | | | |
| Pawtucket Power | | | | | 4000 | 20000 | 1 | Jan-89 | | | 9.0 | |
| Pedricktown Cogen | | | | 293 | 1000 | 29899 | NJ-0010 | Feb-90 | | | 9 0 | |

| | | | | | | | | | NOx Emission Limits < 25 ppm | | | |
|----------------------------|--|-------------|--------------|--------------|----------|-------|----------|--------|------------------------------|---------|-------|-------|
| ļ | Project | Description | | | | | | Permit | Dry Lox-No | Ox Comb | SCR | |
| 1 | Simple | Combined | Duct Duct | Power Output | | | | Issue | Gas | Qil | Gas | Oil |
| Facility Name/Location | Cycle | Cycle | Burner | MW | mmBtu/hr | HP | Permit # | Date | (ppm) | (ppm) | (ppm) | (ppm) |
| Phoenix Power Part | <u>. </u> | | | 0 | | | | May-93 | 22 0 | | | |
| Pilgnm Energy Center | | | Y | 410 | 1400 | 41859 | NY-0075 | Арг-95 | | | 4.5 | |
| Portland General Elec. | | | | 504 | 1720 | 51427 | OR-0010 | May-94 | | | 4 5 | |
| Puerto Rico Electric Power | Y | | | 248 | 876 | 26204 | PR-0002 | Jul-95 | | | 10 0 | 420 |
| Richmond Power Enterprise | <u>L</u> . | | | | | | | Dec-89 | T | | B 2 | |
| Saguaro Power Company | | | | 35 | 122 | 3645 | NV-0015 | Jun-91 | | | 90 | |
| Saranac Energy Company | <u> </u> | | Y | 329 | 1123 | 33577 | NY-0046 | Jul-92 | | | 90 | |
| Selkirk Cogen | | | Y | 344 | 1173 | 35072 | NY-0045 | Jun-92 | | | 90 | |
| Seminole Fertilizer | | | | | | | | Mar-91 | | | 9.0 | |
| Seminole Fertilizer Corp | | | | 26 | 92 | 2747 | FL-0059 | Mar-91 | | | 9.0 | |
| Seminole Hardee Unit 3 | | Y | | 2 x 244 | 981 | 29331 | FL-0104 | Jan-96 | 150 | | 120 | |
| Sithe/Independence | | Y | | 625 | 2133 | 63775 | | Nov-92 | | | 4.5 | - |
| So. Cal Gas | | | | | | | | Oct-91 | | | 8.0 | |
| Southern CA Gas | | | | 0 | | | CA-0418 | Oct-91 | | | 8.0 | |
| Southern CA Gas | | | | 54 | 184 | 5500 | CA-0463 | Oct-91 | | | 8.0 | |
| Sumas Energy | I " | | | | | | | Jun-91 | | | 8.0 | |
| Sumas Energy | I | | | | | | | Dec-90 | | | 90 | |
| Sumas Energy Inc | I | | | 88 | 311 | 9298 | WA-0027 | Dec-92 | | | 60 | - |
| Sunlaw | | | | | | | | Jun-85 | | | 90 | |
| SW PSCo | | | | 100 | 353 | 10566 | NM-0028 | Nov-96 | 15 0 | | | |
| SW PSCo | | | | 100 | 353 | 10566 | NM-0029 | Feb-97 | 7 | | | |
| Talahassee | | Y | | 260 | | | | | 12 0 | 42.0 | | |
| Tenaska WA Partners | | Y | Υ | 1 , | 2 | 55 | WA-0275 | May-92 | | | 7.0 | |
| Tiger Bay | | | | 473 | 1615 | 48281 | FL-0072 | May-92 | 150 | | | |
| Union Oil | | | | | | | | Mar-86 | | | 2.5 | |
| Unocal | | | | 0 | | | CA-0613 | Jul-89 | | | 9.0 | |
| Western Power Sys. | | | | | | | | Mar-86 | | | 9.0 | |
| Willamette Ind. | | | | | | | | Apr-85 | | | 15.0 | |

Table 1.b Permits Pending or Not Yet in RBLC

| · | | | | | | | | | NOx Emiss | sion Limits | < 25 ppm | |
|-------------------------------|---------|-------------|--------|--------------|----------|-------|----------|--------|------------|-------------|----------|-------|
| Į. | Project | Description | | | | | ĺ | Permit | Dry Lox-NO | Ox Comb | SCR | |
| | Simple | Combined | Duct | Power Output | | | | Issue | Gas | Oil | Gas | Oil |
| Facility Name/Location | Cycle | Cycle | Burner | MW | mmBtu/hr | HP | Permit # | Date | (ppm) | (ppm) | (ppm) | (ppm) |
| Alabama Pwr-Theodore | | Ÿ | Y | 210 | | | AL | | | | 3 5 | |
| Androscoggin Energy | | Y | Y | 150 | 1857 | 55523 | ME | | | | 60 | 42 0 |
| ARCO Watson Project | | | | 45 | | | CA | Oct-97 | | | 50 | |
| Bridgeport Energy Project | | | | | | | | | | | 60 | |
| Brush | Y | | | 25 x 2 | | | co | | 42 (1) | | | |
| Calpine—South Point | | Y | Y | 500 | | | AZ | | Υ | | 4 5 | |
| Casco Bay Energy | | Y | | 520 | 1838 | 54943 | ME | | | | 50 | |
| Cogen Tech. Linden Venture | | Y | | 581 | 1983 | 59275 | ИĴ | | [| | 3 5 | |
| Col SpringsNixon | Υ | | | 33 x 2 | | | CO | | 25 0 | | | |
| Dighton, MA | | | | | | | MA | | | | 3 5 | |
| Duke Energy-New Smyrna | | Υ - | | 500 | | | FL | | 12 0 | | | |
| Enron (LAER) | | | | | | | CA | | I . I | | 2.5 | |
| Frontera Power | | Y | | 330 | | | TX | | 150 | | | |
| Griffith Energy | | Y | Υ. | 650 | | • | AZ | | | | 4.5 | |
| HDPP (LAER) | | | | | | | CA | | | | 30 | |
| Hermiston Generating | | Y | | | | | CA | Dec-95 | I | | 45 | |
| Kissimmee Utility-Cane Is, #1 | Y | | | 40 | | | FL-182B | | 15 0 | | | |
| Kissimmee Utility-Cane Is. #3 | | Y | | 250 | | | FL | | | | | |
| Lakeland McIntosh CCT | | Υ | | 350 | | | FL | | | | 75 | 15.0 |
| Lakeland Mointosh SCT | Y | | | 250 | 883 | 26415 | FL | | 90 | 42 0 | | |
| LaPoloma Generating | | Υ Υ | | 262 x 4 | | | ÇA | | | | 3 0 | |
| Mississippi Pwr–Daniels | | Y | L | 170 | | | MI | | Y] | | 3 5 | |
| Northwest Regional Power | | Y | | 838 | 1530 | 45746 | WA | | 90 | | | |
| Oleander Power | Υ | | | 190 x 5 | | | FL | | 90 | 42 0 | | |
| Orange Generation~Bartow | | Ÿ | | 41 x 2 | | | | | 15.0 | | | |
| Rotterdam, N Y | | | | | - | - | NY | | | | 4.5 | |
| Sacramento Power | | | | 115 | | | CA | Dec-94 | | | 30 | |
| Sutter | | | | 170 | | | | | Υ | | 3.5 | |
| Tampa Electric-Polk County | Y | | | 165 x 2 | | | FL | | | | | |
| TVA-Gallatin | Υ | | | 85 x 4 | | | TN | | 150 | | | |
| TVAJohnsonville | Y | | | 85 x 4 | | | TN | | 15 0 | | | |
| TX-NM PwrLordsburg | | Y | | 80 | | | NM | | 150 | 25 0 | i | |
| Theodore Co-Gen | | Y | Υ | | | | | | I | | 3.5 | |
| Tiverion, RI | | · | | | | | RI | | | | 3.5 | |



RECEIVED

BUREAU OF
AIR REGULATION

May 6, 1999

Mr. Hamilton S. Oven, Administrator Siting Coordination Office Florida Department of Environmental Protection 2600 Blair Stone Road Tallahassee, Florida 32399-2400 Via Fed Ex Airbill No. 809689308834

Re:

Tampa Electric Company Polk Power Station PPSA No. PA 92-32 Request for Modification 0530233

Dear Mr. Oven:

Tampa Electric Company (TEC) hereby requests a modification of the Site Certification for the Polk Power Station (PA 92-32), pursuant to Section 403.516(1)(b), Florida Statutes. The Siting Board issued this certification in January 1994, authorizing the construction and operation of the first phase of an ultimate 1150 MW capacity facility. TEC is currently in the process of adding additional generating capacity to the site in the form of two GE 7F combustion turbines operated in simple cycle mode. TEC has identified the need to modify the existing Conditions of Certification (COC) to incorporate this change to the site.

The modifications related to the additional units will be resolved by incorporating the conditions of the separately issued Prevention of Significant Deterioration permit that is needed to construct these units into a new section of the COC addressing this second phase of the build-out of this site. To make it clear that these, and any other new or modified conditions of a federally delegated or approved permit program, shall modify the existing COC, TEC requests that the language found in 62-17.211(4) F.A.C. be included in existing Condition XI. of PA 92-32. Once the conditions in the new PSD permit are agreed on, TEC will supplement this request to include the new PSD condition language into the current COC.

Enclosed with this letter are four (4) signed and sealed copies, including the Electronic Submission of Application (ELSA), of Tampa Electric Company's (TEC) permit application to construct two new simple-cycle combustion turbines at the Polk Power Station site. The enclosed version of this application has been updated since the version that was originally sent to the Department in February of this year.

The revisions include revised air quality modeling due to a change in the original location and height of the combustion turbine's stacks and also include a regional haze analysis for this project. Additional revisions are included as necessary to incorporate the responses to the following questions raised by the Department based on the initial submittal.

Mr. Hamilton S. Oven May 6, 1999 Page 2 of 3

Question 1

Please provide the rationale for the 15 (gas) ppm, 33 (oil) ppm and the 7 (gas/oil) ppm limits proposed for CO and VOC as BACT. Lower concentrations have been proposed for several identical units in previous applications. The majority of these applications contained the GE's guarantee emission data.

TEC Response

The 15 ppm (CO, gas), 33 ppm (CO, oil) and 7 ppm (VOC, gas/oil) levels stated in the initial permit application are based on GE vendor data; reference Attachment B of the permit application. Note that the initial GE estimated performance data provided in Attachment B only showed emissions data for unburned hydrocarbons (UHCs). Accordingly, VOCs were conservatively set equal to UHCs in the February 1999 permit application.

GE was recently requested to provide emissions data for VOCs in addition to UHCs. GE's response is that VOC exhaust concentrations from the 7FA CTs will not exceed 1.4 and 3.5 ppmvw (parts per million by volume, wet) at 100% load for natural gas- and fuel oil-firing, respectively. This revised information is located in the revised Attachment B.

Question 2

Please provide the rationale for the proposed 10.5 ppm @ 15 % O₂. Typically, this kind of combustors are capable of meeting 9 ppm NO_X and this have been the BACT for combined cycle and for simple cycle too (proposed Oleander project). GE guaranteed a limit of 9 ppm at the City of Tallahassee Combined Cycle Project where similar turbine would be used. It is our understanding that if an operator follows the GE operating procedures, the turbine is capable of maintaining the 9 ppm emission level.

TEC Response

The 10.5 ppm (NO₂ gas) level requested was based on GE's estimated performance of 9 ppm with consideration being given to long-term performance and the frequent start-ups and shutdowns associated with simple-cycle operation; reference Page 5-40 of the permit application for further discussion of this issue.

Question 3

Refer to Table 3-2 of the application (page 3-4). What is the basis for the estimates presented (4,380 Hours/year (gas), 3540 hours/yr (gas)/876 hour/yr (oil), @59°F, 100% load, etc)?

TEC Response

The annual emission rates presented in Table 3-2 (Page 3-4 of the application) are based on: (a) natural gas-firing, 100% load, and 59 °F ambient temperature for 4,380 hours per year, and (b) fuel oil-firing, 100% load, and 59 °F ambient temperature for 876 hours per year.

Question 4

How many extra MW are generated during the use of the evaporative cooler (refer to page 2-5 of the application).

Mr. Hamilton S. Oven May 6, 1999 Page 3 of 3

TEC Response

The references to an evaporative cooler in the initial application are in error; there is no intent to use an evaporative cooler for this project. The enclosed permit application has been revised to remove these references.

Question 5

How will fuel oil be delivered to the site, e.g. pipeline or trucks? What is the capacity of the tank(s)? Include this emission unit as a separate unit (submit the remaining pages of the application form for this emissions unit).

TEC Response

Fuel oil will be delivered by truck and stored in an existing, three million gallon storage tank.

Per FDEP's final Title V permit issued for the PPS (Permit No. 105023-001-AV), the existing fuel oil storage tank is considered to be an "insignificant emission unit/activity" due to the negligible VOC emissions associated with the storage of low volatility distillate fuel oil; reference Appendix I-1 of the final permit which lists "No. 2 fuel storage tanks >550 gallons" as an insignificant emission unit. The existing fuel oil storage tank also qualifies for an exemption from permitting requirements pursuant to the Generic Emissions Unit Exemption of Rule 62-210(3)(b)1., F.A.C.

In addition to the above, TEC also requests that all references to Chapter 17, F.A.C. throughout the COC be update to the corresponding Chapter 62, F.A.C. reference.

A check for \$2,500.00 to the Florida Department of Environmental Protection is enclosed to supplement the \$7,500 check submitted in February (FDEP Receipt No. 07112) to cover the \$10,000 modification fee per 62-17.293(c), F.A.C. Copies of the modification request, along with the attached permit application (with the exception of the associated electronic files) are being distributed to all parties to the proceedings concurrent with this submittal.

TEC appreciates the Departments timely review and processing of this modification and associated construction permit application. If you should have any questions, please feel free to call me at (813) 641-5033.

James Hunter

Administrator - Air Programs Environmental Planning

EP\bj\jjh898

Sincerely

Enclosures

c/enc: A.A. Linero, FDEP - Tallahassee
R.D. Garrity, Ph.D., FDEP-Tampa
Scoot Gorland, FDEP - Tallahassee
All parties of record (list attached)
CC: OLLO CLUDY

Lawerence N. Curtin Attorney at Law Holland & Knight P.O. Drawer 810 Tallahassee, FL 32302

Karen Brodeen Assistant General Counsel Dept. of Community Affairs 2740 Centerview Drive Tallahassee, FL 32399-0850

Michael Palecki, Chief Bureau of Electric and Gas Florida Public Service Commission 101 East Gaines Street Tallahassee, FL 32399-0850

Doug Leonard, Executive Director Ralph Artigliere, Attorney at Law Central Florida Regional Planning Council 409 E. Davidson Street P.O. Box 2089 Bartow, FL 33830

Carolyn S. Holifield, Chief Dept. of Transportation 605 Suwannee Street, M.S. 58 Tallahassee, FL 32399-0458 Julia Greene
Executive Director
Tampa Bay Regional Planning Council
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James Antista, General Council Florida Game and Fresh Water Fish Commission Bryant Building 620 South Meridian Street Tallahassee, FL 32399-1600

Sara M. Fotopulos Chief Council Environmental Protection Commission Of Hillsborough County 1900 Ninth Avenue Tampa, FL 33605



RECEIVED

BUREAU OF
AIR REGULATION

May 11, 1999

Mr. Hamilton S. Oven, Administrator Siting Coordination Office Florida Department of Environmental Protection 2600 Blair Stone Road Tallahassee, Florida 32399-2400 Via Fed Ex Airbill No. 809689308801

Re: Tampa Electric Company

Polk Power Station
PPSA No. PA 92-32
Request for Modification
Revised List for Parties to the Proceedings

Dear Mr. Oven:

Please note that the list for the "Parties to the Proceedings" enclosed with the May 6, 1999 submittal had not been updated. The new and revised list is enclosed with this letter. These updates where made prior to mailing the May 6, 1999 package to the parties on the list. Therefore the enclosed list with this letter should replace the enclosed list in the May 6th letter your received.

I apologize for any confusion this may have caused. If you should have any questions, please feel free to call me at (813) 641-5033.

James Hunter

Administrator - Air Programs
Environmental Planning

EP\bi\iih899

Enclosure

c/enc: A.A. Linero, FDEP - Tallahassee R.D. Garrity, Ph.D., FDEP-Tampa Scoot Gorland, FDEP - Tallahassee Lawerence N. Curtin
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Norman White, General Counsel Central Florida Regional Planning Council 255 E. Park Av P.O. Box 1260 Lake Wales, FL 33859-1260

Pam Leslie, General Counsel Dept. of Transportation 605 Suwannee Street, M.S. 58 Tallahassee, FL 32399-0458 Roger Tucker General Counsel Tampa Bay Regional Planning Council 9455 Koger Blvd., Suite 219 St. Petersburg, FL 33702

Emeline Acton County Attorney Hillsborough County P.O. Box 1110 Tampa, FL 33601-1110

Mark Carpanini Attorney at Law Office of County Attorney P.O. Box 60 Bartow, FL 33830-0060

Edward Helvenston General Counsel Southwest Florida Water Management District 2370 Broad Street Brooksville, FL 34609-6899

James Antista, General Council Florida Game and Fresh Water Fish Commission Bryant Building 620 South Meridian Street Tallahassee, FL 32399-1600

Sara M. Fotopulos Chief Council Environmental Protection Commission Of Hillsborough County 1900 Ninth Avenue Tampa, FL 33605

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| T.1.1 Check condition of remote Fax. 613523 | 366722 | | | |

Chris Carlson 5/20/1999 TECO/Polk Power Station PSD Application Comments on Modeling

| Post-It ^e Fax Note 7671 | Date (0/2/97 pages |
|------------------------------------|----------------------|
| Tom Davis | From Chris Carlson |
| Co./Dept ECT | Co. |
| Phone # 352-332-0444 | Phone # 850-921-9537 |
| Fax 352-332-6722 | Fex # |

- 1) Section 6.6 of the permit application refers to a Table 6-1 for the dimensions of buildings and structures, but this table was not included in the application. This data is needed to support the lack of dimension specific building heights and widths used in the ISC model as a result of the BPIP analysis.
- 2) Section 6.6 also states that the locations of buildings and structures can be determined from Figure 2-2, but there are no buildings visible on the map.
- 3) Figure 2-4 shows that location of buildings, but it is unclear whether the map is oriented to true north or plant north.
- 4) Why was building downwash disregarded in the screening analysis?
- 5) Case 1 of the screening analysis assumes a unit load of 100% and an ambient temperature of 90° F. Table 2-8 states that the stack exit velocity for this scenario should be 19.7, however, a value of 19.8 was used in the SCREEN3 model. There seems to be a 0.1 m/s difference in exit velocity in many of the other cases as well.
- 6) Excluding case 1, all of the stack gas exit temperatures entered into the screening model appear to be wrong. It looks as if degrees Fahrenheit were used instead of Kelvin.
- 7) Many of the ambient temperatures that were entered into the SCREEN3 model do not match the case numbers given in Tables 7-1 though 7-5.
- 8) There is a typo in section 8.2.4, it should say 'preconstruction' instead of 'reconstruction'.

01

COMMISSION

06/07/1999 14:42

PAT FRANK **CHRIS HART** JIM NORMAN JAN PLATT THOMAS SCOTT RONDA STORMS BEN WACKSMAN

EXECUTIVE DIRECTOR ROGER P. STEWART



ADMINISTRATIVE OFFICES, LEGAL & WATER MANAGEMENT DIVISION 1400 - 9TH AVENUE TLARA FLORIDA 33605 TELEPHONE (813) 272-5960 FAX (\$13) 272-5157

AIR HANAGEMENT DIVISION TELEPHONE (813) 272-5530 WASTE MANAGEMENT DIVISION TELEPHONE (\$13) 272-5788 WETLANDS MANAGEMENT DIVISION TELEPHONE (\$13) 272-7104

ENVIRONMENTAL PROTECTION COMMISSION of Hillsborough County

FAX Transmittal Sheet

| DATE: 6/7/99 | |
|--|---|
| TO: Teresa Herr | <u>~</u> |
| FAX Phone: | Voice Phone: |
| TOTAL NUMBER OF PAG | ES INCLUDING THIS COVER PAGE: |
| EPC FAX Transmission Lin For retransmission | ne: (813) 272-5605 or any FAX problems, call: (813) 272-5530 |
| FROM: Steve T | section below) |
| Air Division | |
| -Compliance | -Enforcement/Analysis |
| -Monitoring/T | Toxics -Permitting |
| SPECIAL INSTRUCTIONS: | |
| | |

COMMISSION

PAT FRANK CHRIS HART JIM NORMAN JAN PLATT THOMAS SCOTT RONDA STORMS BEN WACKSMAN

EXECUTIVE DIRECTOR

ROGER P. STEWART



ADMINISTRATIVE OPPICES, LEGAL & WATER MANAGEMENT DIVISION 1900 - 9TH AVENUE TAMPA, FLORIDA 33605 TELEPHONE (813) 272-5960 FAX (813) 272-5157

AIR MANAGEMENT DIVISION TELEPHONE (813) 272-5530 WASTE MANAGEMENT DIVISION TELEPHONE (813) 272-5788 WETLANDS MANAGEMENT DIVISION TELEPHONE (813) 272-7104

MEMORANDUM

DATE:

June 7, 1999

TO:

Teresa Heron

f-

Richard Kirby, IV, P.E.

SUBJECT:

TECO, Polk Power Station, PPSA No. 8A92-32

Request for modification dated May 6, 1999

The Environmental Protection Commission of Hillsborough County (EPC) has received and reviewed a copy of the referenced application. Although the facility is not located in Hillsborough County, it is very close to the eastern edge of our county. Since Hillsborough County was previously nonattainment for particulate matter (PM) and ozone, and will probably be reclassified as nonattainment for ozone, we are especially interested in large projects in the area which could affect our air quality. This application proposes construction of 2 new combustion turbine generators. The project triggers PSD and requires BACT for NOx, CO, PM, SO₂, and SAM. Based on my review of the project, I offer the following comments for your consideration:

- TECO has requested that the 2 hr/24 hr excess emissions allowed by rule be increased
 to 4 hr per any 24 hour period. This will accommodate the 180 and 240 minutes cold
 start periods. Several issues relate to this request (Reference pages 2-5 & 2-8):
 - a) In the application, it is stated that GE emission factors are used at 100% load and using TECO's capacity factors of 4380 hr/year for natural gas and 876 hr/year for #2 fuel oil. Potential to emit calculations should be based on worst case conditions allowed by the permit.
 - b) The requested 4 hr/24 hr seems excessive since a cold start cannot occur until 48 hours after shutdown. A warm startup can occur when a unit has been shut down for between 2 and 48 hours. Since 4 hours seems unnecessary and excessive, perhaps a weekly limit would be more appropriate. Say 10 hours per any calendar week.
 - c) It should be noted that the state allowed excess emissions does not apply to violation of an NSPS requirement. The proposed units would be subject to 40 CFR 60, Subpart GG.

Teresa Heron June 7, 1999

Page 2

- 2. Table 2-5 gives maximum emissions of HCl at 5.1 lb/hr and nickel at 2.48 lb/hr. Since at 8,760 hours/yr, this would give emissions of 22.3 tpy and 10.9 tpy respectively, will be necessary to establish a federally enforceable limit on either fuel usage or hours of operation to avoid triggering "case-by-case" MACT.
- 3. On page 5-9 TECO has requested 10% opacity as a surrogate test to show compliance with the proposed PM₁₀ standard. At 9 1b PM/hr and the design flow rate this comes to 0.004 gr/acf. EPC strongly disagrees that 10% opacity demonstrates compliance with this grain loading. Two previous tests performed at other TECO facilities were reviewed. A test on Big Bend 4 (April, 1995) showed 1% opacity at a PM grain loading of 0.0015 gr/acf. A test at Hookers Point #5 (August, 1998) showed 5% opacity at a PM grain loading of 0.028 gr/acf. Clearly it would require an opacity standard of less than 5% to demonstrate compliance with the proposed PM standard.



RECEIVED

JUN 10 1999

BUREAU OF AIR REGULATION

June 9, 1999 ECT No. 98637-0100

SENT BY OVERNIGHT MAIL ON 6/9/99

Mr. Chris Carlson Bureau of Air Regulation Florida Department of Environmental Protection 2600 Blair Stone Road Tallahassee, Florida 32399-2400

Re: Florida Department of Environmental Protection (FDEP) File No. PSD-FL-263 (PA 92-33); Tampa Electric Company; Polk Power Station; Simple-Cycle (SC) Power Project

Dear Mr. Carlson:

Pursuant to our recent telephone conversation, the following responses are provided to your comments on the modeling analysis submitted for the above referenced project:

A. Building Downwash Issues

Comments 1 through 4 concern building downwash issues. Table 6-1, Page 6-8, of the April 1999 permit application was apparently omitted from the application distribution copies. Accordingly, a copy of Table 6-1 is attached for your review. This table lists all of the existing facility structures, including structure dimensions, used in the building downwash analysis. As advised, the figure citation in Section 6.6 on Page 6-7 is incorrect; the citation should be "Figure 2-4" instead of "Figure 2-2". The north arrow shown on Figure 2-4 is oriented towards true north.

Application of EPA's Building Downwash Profile Input (BPIP) program to the structures listed in Table 6-1 show that the two, new combustion turbines (CTs) will not be affected by any existing structure. Also, there are no significant structures associated with the new CTs. For these reasons, the screening analysis for the new CTs did not consider building downwash.

B. SCREEN Runs - Exit Velocity Issue

Comment 5 concerns 0.1 meter per second (m/s) differences in exit velocities for some SCREEN3 input datasets in comparison to the exit velocity data shown in Table 2-8: The SCREEN3 input datasets were revised so that the exit velocities employed are consistent with those shown in Table 2-8 and Attachment D, Emission Rate Calculations.

C. SCREEN Runs – Temperature Issues

Comments 6 and 7 concern CT exit and ambient air temperatures used in the SCREEN3 runs. The SCREEN3 input datasets were revised to correct the temperature errors identified.

3701 Northwest 98th Street Gainesville, FL 32606

> (352) 332-0444

FAX (352) 332-6722 Mr. Chris Carlson June 9, 1999 Page-2-

D. Section 8.2.4 - Typographical Error

Comment 8 concerns a typographical error in Section 8.2.4 on Page 8-4; i.e., "reconstruction" should be "preconstruction".

Due to the revisions to the SCREEN3 input datasets, the SCREEN3 model runs were repeated. The revised SCREEN3 results indicate that maximum 1-hour impacts for NO₂, SO₂, CO, and H₂SO₄ mist will occur under CT Case 1 operating conditions (i.e., 100-percent load, fuel oil firing, and 20°F ambient temperature). For NO₂, maximum 1-hour impacts were essentially the same for Cases 1 and 4. For PM/PM₁₀, the maximum 1-hour SCREEN3 impact occurred under Case 9 conditions (i.e., 50-percent load, fuel oil firing, and 90°F ambient temperature). These are the same worst-case operating scenarios that were identified by the original SCREEN3 modeling analysis.

Revised Page 6-7, Page 8-4, and SCREEN3 Model Results Tables 7-1 through 7-5 are enclosed. A diskette containing the revised SCREEN3 model input and output files is also enclosed. Your continued expeditious review of the Tampa Electric Company Polk Power Station CT project will be appreciated. Please contact me at 352/332-6230, Ext.351, if there are any further questions.

Sincerely,

ENVIRONMENTAL CONSULTING & TECHNOLOGY, INC.

Thomas W. Davis, P.E. Principal Engineer

Enclosures

cc: Mr. Jamie Hunter, TEC

homen Dun

Table 6-1. Building/Structure Dimensions

| | | Dimensions | 5 |
|------------------------------|----------------|--------------------|--------------------|
| Building/Structure | Width (meters) | Length (meters) | Height (meters) |
| Coal delivery enclosure | 5.8 | 14.9 | 15.2 |
| Coal grinding structure | 7.6 | 15.2 | 27.4 |
| Coal storage silos (2) | | 18.0* | 60.0 |
| 7F HRSG | 13.1 | 40.0 | 27.4 |
| Gasifier structure | 19.2 | 18.3 | 91.4 |
| Syngas cooling wings (2) | 7.6 | 46.3 | 27.4 |
| Air separation unit cold box | | 7.0* | 50.3 |
| Hot gas cleanup unit | 15.8 | 19.8 | 85.0 |
| Oil storage tanks (3) | | 30.5 | 17.4 |

*Diameter

Sources: Texaco, 1992.

Bechtel, 1994. ECT, 1999.

Table 7-1. SCREEN3 Model Results—NO₂ Impacts; CT2 and CT3

| | | Operating Scen | arios | | | 1-Hour Imp | oacts (μg/m³) | |
|----------------|-------------|--------------------------------|---------------------------|-------------|-----------------------------------|-----------------------------|----------------------------------|----------------------------------|
| Case Number | Load (%) | Ambient Temperature (°F) | Emission Rate (g/s) | CT Fuel | SCREEN3 Unadjusted Results* | Emission Rate Factor† | SCREEN3 Adjusted Results** | Downwind Distance (meters) |
| ı | 100 | 20 | 85.18 | Fuel oil | 2.15 | 8.52 | 18.32 | 1,545 |
| 2 | 75 | 20 | 68.54 | Fuel oil | 2.55 | 6.85 | 17.47 | 1,468 |
| 3 | 50 | 20 | 52 92 | Fuel oil | 3.00 | 5.29 | 15.87 | 1,398 |
| 4 | 100 | 59 | 80.38 | Fuel oil | 2.28 | 8.04 | 18.33 | 1,518 |
| 5 | 75 | 59 | 64.76 | Fuel oil | 2.69 | 6 48 | 17.43 | 1,445 |
| 6 | 50 | 59 | 50.40 | Fuel oil | 3 11 | 5.04 | 15.67 | 1,382 |
| 7 | 100 | 90 | 73.08 | Fuel oil | 2.46 | 7 3 1 | 17.98 | 1,485 |
| 8 | 75 | 90 | 59.22 | Fuel oil | 2.86 | 5.92 | 16.93 | 1,419 |
| 9 | 50 | 90 | 46.36 | Fuel oil | 3 29 | 4 64 | 15.27 | 1,360 |
| 10 | 100 | 20 | 18.52 | Natural gas | 2.19 | 1.85 | 4.05 | 1,536 |
| 11 | 75 | 20 | 14.70 | Natural gas | 2.64 | 1.47 | 3.88 | 1,453 |
| 12 | 50 | 20 | 11.46 | Natural gas | 3.05 | 1.15 | 3.51 | 1,392 |
| 13 | 100 | 59 | 17.34 | Natural gas | 2.34 | 1.73 | 4.05 | 1,507 |
| 14 | 75 | 59 | 13 82 | Natural gas | 2.78 | 1.38 | 3.84 | 1,431 |
| 15 | 50 | 59 | 10.88 | Natural gas | 3.17 | 1.09 | 3.46 | 1,375 |
| 16 | 100 | 90 | 15.88 | Natural gas | 2.50 | 1.59 | 3.98 | 1,477 |
| 17 | 75 | 90 | 12.94 | Natural gas | 2.92 | 1.29 | 3.77 | 1,410 |
| 18 | 50 | 90 | 10.30 | Natural gas | 3.33 | 1.03 | 3.43 | 1,360 |
| | | | | | Maximum | | 18.33 | |

^{*}Based on 10.0-g/s emission rate.
†Emission rate (in g/s) divided by 10.0 g/s.
**SCREEN3 unadjusted results multiplied by emission rate factor.

Table 7-2. SCREEN3 Model Results—SO₂ Impacts; CT2 and CT3

| | | Operating Scen | arios | | | 1-Hour Imp | pacts (μg/m³) | |
|----------------|-------------|--------------------------------|---------------------------|-------------|-----------------------------------|-----------------------------|----------------------------|----------------------------------|
| Case Number | Load (%) | Ambient Temperature (°F) | Emission Rate (g/s) | CT Fuel | SCREEN3 Unadjusted Results* | Emission Rate Factor† | SCREEN3 Adjusted Results** | Downwind Distance (meters) |
| 1 | 100 | 20 | 26.24 | Fuel oil | 2.15 | 2.62 | 5.63 | 1,545 |
| 2 | 75 | 20 | 21.28 | Fuel oil | 2.55 | 2.13 | 5.43 | 1,468 |
| 3 | 50 | 20 | 16.60 | Fuel oil | 3.00 | 1.66 | 4.98 | 1,398 |
| 4 | 100 | 59 | 24.72 | Fuel oil | 2.28 | 2.47 | 5.63 | 1,518 |
| 5 | 75 | 59 | 20.10 | Fuel oil | 2.69 | 2.01 | 5.41 | 1,445 |
| 6 | 50 | 59 | 15.80 | Fuel oil | 3.11 | 1.58 | 4.91 | 1,382 |
| 7 | 100 | 90 | 22.48 | Fuel oil | 2.46 | 2.25 | 5.54 | 1,485 |
| 8 | 75 | 90 | 18.40 | Fuel oil | 2.86 | 1.84 | 5 26 | 1,419 |
| 9 | 50 | 90 | 14.56 | Fuel oil | 3.29 | 1 46 | 4.80 | 1,360 |
| 10 | 100 | 20 | 2 48 | Natural gas | 2.19 | 0.25 | 0.55 | 1,536 |
| 11 | 75 | 20 | 1.98 | Natural gas | 2.64 | 0.20 | 0.53 | 1,453 |
| 12 | 50 | 20 | 1.58 | Natural gas | 3.05 | 0.16 | 0.49 | 1,392 |
| 13 | 100 | 59 | 2.32 | Natural gas | 2.34 | 0.23 | 0.54 | 1,507 |
| 14 | 75 | 59 | 1.88 | Natural gas | 2.78 | 0.19 | 0.53 | 1,431 |
| 15 | 50 | 59 | 1.50 | Natural gas | 3.17 | 0.15 | 0 48 | 1,375 |
| 16 | 100 | 90 | 2.14 | Natural gas | 2.50 | 0 21 | 0.53 | 1,477 |
| 17 | 75 | 90 | 1.74 | Natural gas | 2.92 | 0.17 | 0.50 | 1,410 |
| 18 | 50 | 90 | 1.42 | Natural gas | 3.33 | 0.14 | 0.47 | 1,360 |
| | | | | | Maximum | | 5.63 | |

^{*}Based on 10.0-g/s emission rate.

[†]Emission rate (in g/s) divided by 10.0 g/s.

**SCREEN3 unadjusted results multiplied by emission rate factor.

Table 7-3. SCREEN3 Model Results—PM/PM₁₀ Impacts; CT2 and CT3

| | | Operating Scen | arios | · · · · · · | | One-Hour In | npacts (μg/m³) | |
|----------------|-------------|--------------------------------|---------------------------|-------------|-----------------------------------|-----------------------------|----------------------------|----------------------------------|
| Case Number | Load (%) | Ambient Temperature (°F) | Emission Rate (g/s) | CT Fuel | SCREEN3 Unadjusted Results* | Emission Rate Factor† | SCREEN3 Adjusted Results** | Downwind Distance (meters) |
| I | 100 | 20 | 6.80 | Fuel oil | 2.15 | 0.43 | 0.92 | 1,545 |
| 2 | 75 | 20 | 5.22 | Fuel oil | 2.55 | 0.43 | 1.10 | 1,468 |
| 3 | 50 | 20 | 4.42 | Fuel oil | 3.00 | 0.43 | 1.29 | 1,398 |
| 4 | 100 | 59 | 6.36 | Fuel oil | 2.28 | 0.43 | 0.98 | 1,518 |
| 5 | 75 | 59 | 5.08 | Fuel oil | 2.69 | 0.43 | 1.16 | 1,445 |
| 6 | 50 | 59 | 4.08 | Fuel oil | 3.11 | 0.43 | 1.34 | 1,382 |
| 7 | 100 | 90 | 5.86 | Fuel oil | 2.46 | 0.43 | 1.06 | 1,485 |
| 8 | 75 | 90 | 4.88 | Fuel oil | 2.86 | 0.43 | 1.23 | 1,419 |
| 9 | 50 | 90 | 3.94 | Fuel oil | 3.29 | 0.43 | 1.41 | 1,360 |
| 10 | 100 | 20 | 2.56 | Natural gas | 2.19 | 0.23 | 0.50 | 1,536 |
| 11 | 75 | 20 | 2.50 | Natural gas | 2 64 | 0 23 | 0.61 | 1,453 |
| 12 | 50 | 20 | 2.46 | Natural gas | 3.05 | 0.23 | 0.70 | 1,392 |
| 13 | 100 | 59 | 2.54 | Natural gas | 2 34 | 0 23 | 0.54 | 1,507 |
| 14 | 75 | 59 | 2.48 | Natural gas | 2.78 | 0 23 | 0.64 | 1,431 |
| 15 | 50 | 59 | 2.44 | Natural gas | 3.17 | 0.23 | 0.73 | 1,375 |
| 16 | 100 | 90 | 2.52 | Natural gas | 2.50 | 0.23 | 0.58 | 1,477 |
| 17 | 75 | 90 | 2.46 | Natural gas | 2 92 | 0 23 | 0.67 | 1,410 |
| 18 | 50 | 90 | 2.44 | Natural gas | 3.33 | 0.23 | 0.77 | 1,360 |
| | | | | | Maximum | | 1.41 | |

^{*}Based on 10.0-g/s emission rate.

[†]Emission rate (in g/s) divided by 10.0 g/s.
**SCREEN3 unadjusted results multiplied by emission rate factor.

Table 7-4. SCREEN3 Model Results—CO Impacts; CT2 and CT3

| | | Operating Scen | arios | | One-Hour Impacts (µg/m³) | | | | | | |
|----------------|-------------|--------------------------------|---------------------------|-------------|-----------------------------------|-----------------------------|----------------------------|----------------------------------|--|--|--|
| Case Number | Load (%) | Ambient Temperature (°F) | Emission Rate (g/s) | CT Fuel | SCREEN3 Unadjusted Results* | Emission Rate Factor† | SCREEN3 Adjusted Results** | Downwind Distance (meters) | | | |
| 1 | 100 | 20 | 28.48 | Fuel oil | 2.15 | 2.85 | 6.13 | 1,545 | | | |
| 2 | 75 | 20 | 21.16 | Fuel oil | 2 55 | 2.12 | 5.41 | 1,468 | | | |
| 3 | 50 | 20 | 17.90 | Fuel oil | 3.00 | 1.79 | 5.37 | 1,398 | | | |
| 4 | 100 | 59 | 26.72 | Fuel oil | 2.28 | 2.67 | 6.09 | 1,518 | | | |
| 5 | 75 | 59 | 20.42 | Fuel oil | 2.69 | 2.04 | 5.49 | 1,445 | | | |
| 6 | 50 | 59 | 17 64 | Fuel oil | 3.11 | 1.76 | 5.47 | 1,382 | | | |
| 7 | 100 | 90 | 24.44 | Fuel oil | 2 46 | 2.44 | 6.00 | 1,485 | | | |
| 8 | 75 | 90 | 19 40 | Fuel oil | 2.86 | 1.94 | 5.55 | 1,419 | | | |
| 9 | 50 | 90 | 16.88 | Fuel oil | 3 29 | 1 69 | 5.56 | 1,360 | | | |
| 10 | 100 | 20 | 12.86 | Natural gas | 2.19 | 1.29 | 2.83 | 1,536 | | | |
| 11 | 75 | 20 | 10.34 | Natural gas | 2.64 | 1.03 | 2.72 | 1,453 | | | |
| 12 | 50 | 20 | 8.56 | Natural gas | 3.05 | 0.86 | 2.62 | 1,392 | | | |
| 13 | 100 | 59 | 12.10 | Natural gas | 2 34 | 1.21 | 2.83 | 1,507 | | | |
| 14 | 75 | 59 | 9.82 | Natural gas | 2.78 | 0.98 | 2.72 | 1,431 | | | |
| 15 | 50 | 59 | 8.06 | Natural gas | 3.17 | 0.81 | 2 57 | 1,375 | | | |
| 16 | 100 | 90 | 10.84 | Natural gas | 2.50 | 1.08 | 2 70 | 1,477 | | | |
| 17 | 75 | 90 | 9.08 | Natural gas | 2.92 | 0.91 | 2.66 | 1,410 | | | |
| 18 | 50 | 90 | 7.56 | Natural gas | 3.33 | 0.76 | 2.53 | 1,360 | | | |
| | | | | | Maximum | | 6.13 | | | | |

^{*}Based on 10.0-g/s emission rate.

[†]Emission rate (in g/s) divided by 10.0 g/s.

^{**}SCREEN3 unadjusted results multiplied by emission rate factor.

Table 7-5. SCREEN3 Model Results—H₂SO₄ Mist Impacts; CT2 and CT3

| Operating Scenarios | | | | | One-Hour Impacts (μg/m³) | | | |
|---------------------|-------------|--------------------------------|---------------------------|-------------|-----------------------------------|-----------------------------|----------------------------------|----------------------------------|
| Case Number | Load (%) | Ambient Temperature (°F) | Emission Rate (g/s) | CT Fuel | SCREEN3 Unadjusted Results* | Emission Rate Factor† | SCREEN3 Adjusted Results** | Downwind Distance (meters) |
| 1 | 100 | 20 | 3.02 | Fuel oil | 2.15 | 0.30 | 0.65 | 1,545 |
| 2 | 75 | 20 | 2.44 | Fuel oil | 2 55 | 0 24 | 0.61 | 1,468 |
| 3 | 50 | 20 | 1.90 | Fuel oil | 3.00 | 0.19 | 0.57 | 1,398 |
| 4 | 100 | 59 | 2.84 | Fuel oil | 2.28 | 0.28 | 0.64 | 1,518 |
| 5 | 75 | 59 | 2.30 | Fuel oil | 2.69 | 0.23 | 0.62 | 1,445 |
| 6 | 50 | 59 | 1.82 | Fuel oil | 3.11 | 0.18 | 0.56 | 1,382 |
| 7 | 100 | 90 | 2.58 | Fuel oil | 2.46 | 0.26 | 0.64 | 1,485 |
| 8 | 75 | 90 | 2 12 | Fuel oil | 2.86 | 0.21 | 0 60 | 1,419 |
| 9 | 50 | 90 | 1.68 | Fuel oil | 3.29 | 0.17 | 0.56 | 1,360 |
| 10 | 100 | 20 | 0.28 | Natural gas | 2.19 | 0 03 | 0.07 | 1,536 |
| 11 | 75 | 20 | 0.22 | Natural gas | 2.64 | 0.02 | 0.05 | 1,453 |
| 12 | 50 | 20 | 0.18 | Natural gas | 3.05 | 0.02 | 0.06 | 1,392 |
| 13 | 100 | 59 | 0.26 | Natural gas | 2.34 | 0.03 | 0.07 | 1,507 |
| 14 | 75 | 59 | 0.22 | Natural gas | 2.78 | 0.02 | 0.06 | 1,431 |
| 15 | 50 | 59 | 0.18 | Natural gas | 3.17 | 0.02 | 0.06 | 1,375 |
| 16 | 100 | 90 | 0.24 | Natural gas | 2 50 | 0.02 | 0.05 | 1,477 |
| 17 | 75 | 90 | 0.20 | Natural gas | 2.92 | 0.02 | 0.06 | 1,410 |
| 18 | 50 | 90 | 0.16 | Natural gas | 3.33 | 0.02 | 0.07 | 1,360 |
| | | | | | Maximum | | 0.65 | |

^{*}Based on 10.0-g/s emission rate.

Source: ECT,

[†]Emission rate (in g/s) divided by 10.0 g/s.
***SCREEN3 unadjusted results multiplied by emission rate factor.

8.2.1 PM₁₀

The maximum 24-hour PM₁₀ impact was predicted to be $0.54 \mu g/m^3$. This concentration is below the $10 \mu g/m^3$ de minimis level ambient impact level.

8.2.2 CO

The maximum 8-hour CO impact was predicted to be 7.2 μ g/m³. This concentration is below the 575- μ g/m³ de minimis ambient impact level. Therefore, a preconstruction monitoring exemption is appropriate in accordance with the PSD regulations.

8.2.3 NO,

The maximum annual NO_2 impact was predicted to be $0.05 \mu g/m^3$. This concentration is below the $14-\mu g/m^3$ de minimis ambient impact level. Therefore, a preconstruction monitoring exemption is appropriate in accordance with the FDEP PSD regulations.

8.2.4 SO₂

The maximum 24-hour SO_2 impact was predicted to be 2.2 μ g/m³. This concentration is below the 13- μ g/m³ de minimis ambient impact level. Therefore, a preconstruction monitoring exemption is appropriate in accordance with the FDEP PSD regulations.

INTEROFFICE MEMORANDUM

Date: 21-Jun-1999 09:30pm

From: Ellen_Porter

Dept: Tel No:

To: HOLLADAY_C
To: CARLSON_C
CC: Don_Shepherd
CC: John_Notar
CC: Bud_Rolofson

Subject: TECO-Polk

I have reviewed the results of the regional haze analysis for TECO-Polk and discussed them with John Notar. We agree that there is a less than 5% change in extinction predicted at Chassahowitkza as a result of the project and therefore, have no objection to the project on this account.

However, we noted in our 3/99 tech review document that we thought lower NOx limits were achievable. What is their latest proposed limit (it was 10.5 ppm previously)?



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August 9, 1999

Mr. A. A. Linero, P.E. Administrator, New Source Review Section Florida Department of Environmental Protection 111 South Magnolia Drive, Suite 4 Tallahassee, Florida 32301 Via FedEx Airbill No. 8132 1667 8206

Re: Tampa Electric Company (TEC) – Polk Power Station Combustion Turbine Units 2 and 3 Comments on the "Intent to Issue PSD Permit" Package FDEP File No. PSD-FL-263

Dear Mr. Linero:

The above referenced project was publicly noticed in the Lakeland Ledger on July 10, 1999. The following provides the Department with Tampa Electric Company's comments on the various portions of the "Intent to Issue PSD Permit" package broken down by section.

Public Notice of Intent to Issue PSD Permit

Although the notice was published as requested by the Department, it should be noted that the referenced units do not have "evaporative inlet coolers." The reference to these coolers was inadvertently included in the original permit application, but removed in the revised application.

Technical Evaluation and Preliminary Determination

The reference to evaporative inlet coolers should be deleted from this section (page TE-4 of 10) for the above stated reason.

The reference to volatile organic compounds (VOC) in the "Significant emission rate increases" paragraph (page TE-4 of 10) should be deleted. Based on the emissions estimates provided in the revised permit application, VOC emission increases are less than the PSD significance level.

The "Project Emissions (TPY) and PSD Applicability" table (page TE-7 of 10) "PSD Review" column for "Ozone (VOC)" should be changed from "Yes" to "No" based on the above comment.

Mr. A. A. Linero, P.E. August 9, 1999 Page 2 of 3

Draft Permit

Condition 8 (page 7 of 13) should be corrected from "higher heating value (LHV)" to "higher heating value (HHV)" or "lower heating value (LHV)", which ever one is intended.

Condition 13 (page 7 of 13) should allow 876 hours <u>per year</u> on fuel oil, as this was the basis of the permit application and associated analysis. Also, this condition should be clarified to indicate that allowable hours of operation on gas and oil are both "per year" and based on "full load equivalent hours" since this was the basis for which the emission estimates and associated analysis were completed.

Condition 17 (page 8 of 13) requires DLN systems to be maintained to minimize NO_x and CO emissions and requires operation of the DLN combustor in the diffusion-firing mode to be minimized. These are broad, general requirements which could be open to differing interpretations. This condition should be re-written to simply require the DLN systems be properly maintained to comply with permitted NO_x and CO emission rates.

Condition 18 (page 8 of 13) should state emission limits for VOC, CO, SO₂, SAM and NO_x in terms of "pounds per hour" only, using the relevant ppm rate as the basis for these limits. VOC basis should be expressed as ppm<u>vw.</u> CO basis should be expressed as ppm<u>vd.</u> CO limits are lower than vendor guarantee data; gas-firing GE data is 15 ppmvd vs. 12 ppmvd, oil-firing GE data is 33 ppmvd vs. 20 ppmvd. Natural gas sulfur content limit should be 2 gr S/100 ft³ (missing "t"). Also, the "PM/PM₁₀, VE" limit for oil firing should be 20 percent opacity.

The Condition 19 (page 8 of 13) requirement to substitute missing data per Title IV (40 CFR 75) is overly punitive when applied to averaging periods shorter than what is contained in Title IV (calendar year annual average). Missing data periods, as well as startup/shutdown (less than fifty percent load) and malfunction periods should be excluded from the calculation of short-term averages. The NO_x limits in this condition should be stated in terms of "pounds per hour" only, using the ppm rate as the basis. The averaging period while firing fuel oil should be changed from "3 hr average" to "24 hour block average" similar to the requirement for gas firing. In addition, the requirement to submit an engineering report related to lower NO_x emission rate while burning oil should be removed.

The CO limits in Condition 20 (page 9 of 13) should be stated in terms of "pounds per hour" only, using the ppm rate as the basis. In addition, the only vendor guarantee received to date has CO limit of 15 ppmvd for gas and 33 ppmvd for oil; therefore, these rates should be used as the basis. Concentration should be expressed as ppmvd for both gas and oil firing. Mass (lb/hr) limits should be referenced to ISO conditions.

The VOC limits in Condition 21 (page 9 of 13) should be stated in terms of "pounds per hour" only, using the ppm<u>vw</u> rate as the basis. Concentration should be expressed as ppm<u>vw</u>. Mass (lb/hr) limits should be referenced to ISO conditions.

Mr. A. A. Linero, P.E. August 9, 1999 Page 3 of 3

In Condition 22, SO₂ lb/hr limits should be referenced to ISO conditions.

In Condition 23 (page 9 of 13) the words "operating with or without the duct burner and" should be removed, as it does not apply here. The opacity limit for oil firing should be 20 percent.

In Condition 24 (page 9 of 13), the wording "Operation below 50% output shall be limited to 2 hours per unit cycle (breaker closed to breaker open)" is unclear and should be changed to "Operation below 50% output shall be limited to 2 hours per startup or shutdown".

In Condition 26 (page 10 of 13) the wording "for greater than 2 hours in a 24-hour period" should be inserted after the word "malfunction" in the first sentence.

Appendix BD

The BACT determination should be modified to reflect the changes referenced above, such as stating the proposed limits in terms of "pounds per hour" and removing the determination requiring a follow-up report on NO_x limits while firing oil, for example. Additional comments regarding the BACT determination are listed below:

BD-12: Third and sixth bullet. Although the SCR vendor specified a guarantee of 3 years, 5 years was conservatively used in the submitted permit application BACT cost-analysis; reference Page 5-16, Table 5-7 of the permit application.

BD-13: Fifth bullet. Basis for lower CO limits is the *proposed* Oleander project levels. GE needs to confirm that these lower limits are attainable.

BD-13: Final bullet. FDEP lowers the oil-firing hours from 876 to 750 per year without any explanation for the decrease.

Thank you for your attention to this matter. If you have any concerns or questions feel free to contact me at (813) 641-5033.

James Hunter

Sincerel

Administrator - Air Programs

Environmental Planning

EP\em\JJH904

c: Teresa Herron, FDEP Hamilton Oven, FDEP

CC: EPA

5WD T. DAVIS, PE, ECT



RECEIVED

SEP 15 1999

BUREAU OF AIR REGULATION

September 14, 1999

Mr. A. A. Linero, P.E. Administrator, New Source Review Section Florida Department of Environmental Protection 111 South Magnolia Drive, Suite 4 Tallahassee, Florida 32301 Via FedEx Airbill No. 7902 9804 2708

Re: Tampa Electric Company (TEC) – Polk Power Station Combustion Turbine Units 2 and 3 Additional Comments on the Draft Permit FDEP File No. PSD-FL-263

Dear Mr. Linero:

Based on recent conversations with you and your staff, the following addresses TEC's current understanding of the comments made in our August 9, 1999, letter and continued concerns regarding unresolved issues. The issues below in italics are the original comments found in the August 9, 1999, letter followed by TEC's current response.

Draft Permit

Condition 8 (page 7 of 13) should be corrected from "higher heating value (LHV)" to "higher heating value (HHV)" or "lower heating value (LHV)", which ever one is intended.

We understand that the correction will be made to "lower heating value.

Condition 13 (page 7 of 13) should allow 876 hours <u>per year</u> on fuel oil, as this was the basis of the permit application and associated analysis. Also, this condition should be clarified to indicate that allowable hours of operation on gas and oil are both "per year" and based on "full load equivalent hours" since this was the basis for which the emission estimates and associated analysis were completed.

While TEC may accept the proposed limit of 750 hours per year on fuel oil, it is imperative that this condition be clarified to indicate that allowable hours of operation on gas and oil are both "per year" and based on "full load equivalent hours".

Condition 17 (page 8 of 13) requires DLN systems to be maintained to minimize NO_x and CO emissions and requires operation of the DLN combustor in the diffusion-firing mode to be minimized. These are broad, general requirements which could be open to differing

Mr. A. A. Linero, P.E. September 14, 1999 Page 2 of 5

interpretations. This condition should be re-written to simply require the DLN systems be properly maintained to comply with permitted NO_x and CO emission rates.

We understand that this condition will be clarified as follows:

The permittee shall provide manufacturer's emissions performance versus load diagrams for the DLN and wet injection systems prior to their installation. DLN systems shall each be tuned upon initial operation to optimize emissions reductions consistent with normal operation and maintenance practices and shall be maintained to minimize NO_X emissions and CO emissions, consistent with normal operation and maintenance practices. Operation of the DLN systems in the diffusion-firing mode shall be minimized when firing natural gas. [Rule 62-4.070, and 62-210.650, F.A.C.]

Condition 18 (page 8 of 13) should state emission limits for VOC, CO, SO₂, SAM and NO_x in terms of "pounds per hour" only, using the relevant ppm rate as the basis for these limits. VOC basis should be expressed as ppm<u>vw</u>. CO basis should be expressed as ppm<u>vd</u>. CO limits are lower than vendor guarantee data; gas-firing GE data is 15 ppmvd vs. 12 ppmvd, oil-firing GE data is 33 ppmvd vs. 20 ppmvd. Natural gas sulfur content limit should be 2 gr S/100 ft³ (missing "t"). Also, the "PM/PM₁₀, VE" limit for oil firing should be 20 percent opacity.

We understand that the "ppmvw," the "ppmvd," and the missing "t" comments will be corrected. With respect to the "pounds per hour" issue, please see the comments for Condition 19 below. As discussed previously, TEC retracts our request to change the oil firing limit to 20 percent opacity and will accept the 10 percent limit conditions originally drafted in lieu of particulate stack testing requirements.

The Condition 19 (page 8 of 13) requirement to substitute missing data per Title IV (40 CFR 75) is overly punitive when applied to averaging periods shorter than what is contained in Title IV (calendar year annual average). Missing data periods, as well as startup/shutdown (less than fifty percent load) and malfunction periods should be excluded from the calculation of short-term averages. The NO_X limits in this condition should be stated in terms of "pounds per hour" only, using the ppm rate as the basis. The averaging period while firing fuel oil should be changed from "3 hr average" to "24 hour block average" similar to the requirement for gas firing. In addition, the requirement to submit an engineering report related to lower NO_X emission rate while burning oil should be removed.

Regarding the first bullet in Condition 19, we reiterate that using straight Title IV required missing data routines is overly punitive because these routines were intended to only be used for the purposes of showing compliance on an annual basis, not on a short term basis. TEC requests that this bullet is eliminated and the current language in Condition 29 is used to determine what valid data will be used to calculate the emission rate averages.

Mr. A. A. Linero, P.E. September 14, 1999 Page 3 of 5

If this is unacceptable, TEC proposes that the following language, which is consistent with the language proposed by TEC as part of the CEM based compliance plan used in the Title V permits, be inserted to replace this bullet:

When NO_X monitoring data is not available, substitution for missing data shall be handled as follows:

In the event that monitor failure causes loss of valid data for four (4) hours or less, these hours will be excluded from any emissions average calculations.

In the event that monitor failure causes loss of valid data for more than four (4), up through twenty-four (24) hours, Method of Determination Code 6 pursuant to 40 CFR 75, Subpart D – The Missing Data Substitution Procedure, will be used to back fill the missing data. In general this procedure allows for use of average hourly data from the hours before and after the missing data period.

In the event, that monitor failure causes loss of valid data for more than twenty-four (24) hours, Method of Determination Code 11 pursuant to 40 CFR 75, Subpart D – The Missing Data Substitution Procedure, will be used to back fill the missing data. In general this procedure allows for use of average hourly data from corresponding load ranges within the reporting quarter.

Regarding the use of "pounds per hour" as the method of demonstrating continuous compliance with the NO_X limit TEC proposes the following language be inserted to replace the second bullet in Condition 19:

While Firing Natural Gas: The emission rate of NO_X in the exhaust gas shall not exceed 69 lb/hr (at ISO conditions) on a 24 hr block average as measured by the continuous emission monitoring system (CEMS). In addition, NO_X emissions calculated as NO₂ (at ISO conditions) shall not exceed 10.5 ppm @15% O₂ to be demonstrated by annual stack test nor 9 ppm @15% O₂ to be demonstrated by the initial "new and clean" GE performance stack test. Note: Basis for lb/hr limit is 10.5 ppm @ 15% O₂, full load. [Rule 62-212.400, F.A.C.]

Regarding the three hour averaging period when burning fuel oil, TEC believes that the averaging period for NO_X emissions should be consistent at twenty-four hours for both gas and oil firing.

With regard to the requirement that an engineering report be prepared based on the lowest achievable emission rate when firing oil, TEC feels this requirement is completely unwarranted based on the fact that the vendor will only guarantee oil fired NO_X emissions rates at 42 ppm. In addition, these units will only burn oil as necessary for backup which is expected to be for short periods of time and fairly sporadic; therefore, it will be extremely difficult to determine an emission rate that can consistently be achieved while taking into account long-term performance expectations and good operating and maintenance practices.

Mr. A. A. Linero, P.E. September 14, 1999 Page 4 of 5

The CO limits in Condition 20 (page 9 of 13) should be stated in terms of "pounds per hour" only, using the ppm rate as the basis. In addition, the only vendor guarantee received to date has CO limit of 15 ppmvd for gas and 33 ppmvd for oil; therefore, these rates should be used as the basis. Concentration should be expressed as ppmvd for both gas and oil firing. Mass (lb/hr) limits should be referenced to ISO conditions.

TEC cannot accept a permit limit on CO that is more stringent than the vendor guarantee. We again request that the permit condition reflect the vendor guarantee provided in the permit application.

The VOC limits in Condition 21 (page 9 of 13) should be stated in terms of "pounds per hour" only, using the ppm<u>vw</u> rate as the basis. Concentration should be expressed as ppm<u>vw</u>. Mass (lb/hr) limits should be referenced to ISO conditions.

We understand that the corrected references to "ppmvw" will be made.

In Condition 22, SO₂ lb/hr limits should be referenced to ISO conditions.

We understand that this correction will be made.

In Condition 23 (page 9 of 13) the words "operating with or without the duct burner and" should be removed, as it does not apply here. The opacity limit for oil firing should be 20 percent.

We understand that the correction will be made to remove the unnecessary wording. See above comments regarding the opacity limit.

In Condition 24 (page 9 of 13), the wording "Operation below 50% output shall be limited to 2 hours per unit cycle (breaker closed to breaker open)" is unclear and should be changed to "Operation below 50% output shall be limited to 2 hours per startup or shutdown".

Based on further review, TEC rescinds this comment and will accept the language originally provided in the draft permit.

In Condition 26 (page 10 of 13) the wording "for greater than 2 hours in a 24-hour period" should be inserted after the word "malfunction" in the first sentence.

No further comment on this issue.

In addition to the above, two new comments have come to light. The first is in Condition 38. It appears that the reference to "Condition No. 26" should read "Condition No. 36." The second pertains to Condition 40, which seems to be the same (but uncompleted version) as Condition 41, and can be eliminated.

Mr. A. A. Linero, P.E. September 14, 1999 Page 5 of 5

Thank you for your attention to this matter. If you have any concerns or questions feel free to contact me at (813) 641-5033.

Sincerely,

Yames Hunter

Administrator - Air Programs Environmental Planning

EP\gm\JJH905

c: Teresa Herron, FDEP Hamilton Oven, FDEP

 CC^{*}

EPA

NPS



January 6, 2000

Mr. Clair Fancy Florida Department of Environmental Protection 111 South Magnolia Drive, Suite 4 Tallahassee, Florida 32301 Via Fed Ex Airbill No. 7925 3372 3040

Re: Tampa Electric Company (TEC) – Polk Power Station Title V
Permit BACT Determination for Syngas Combustion Turbine – Test #2

Dear Mr. Fancy:

As per Specific Condition A.49 of the Polk Power Station Title V Permit, Tampa Electric has completed the second NO_x BACT Determination Test on the combustion turbine while operating on syngas. Accordingly, the final report is attached for your review. If you have any questions, please feel free to contact me at (813) 641-5033.

Sincerely,

Gregory M. Nelson, P.E.

Manager

Environmental Planning

EP\gm\SKT133

Enclosure

c/enc: Mr. Al Linero - FDEP

Mr. Syed Arif - FDEP

Mr. Jerry Kissel - FDEP SW

Mr. Rick Kirby - EPCHC

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April 25, 2000

Mr. A. A. Linero, P.E. Florida Department of Environmental Protection 111 South Magnolia Drive, Suite 4 Tallahassee, Florida 32301

Via FedEx Airbill No. 7910 7616 1036

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Re:

Tampa Electric Company (TEC) Polk Power Station - CTG's 2 and 3 Manufacturer's Emissions Versus Load Diagrams FDEP File No. PSD-FL-263

Dear Mr. Linero:

Please find enclosed copies of the manufacturer's emissions performance versus load diagrams for the DLN and wet injection systems for the above units. This submittal is being made to satisfy the requirement in Condition 17 of the above referenced PSD permit.

If you have any concerns or questions feel free to contact me at (813) 641-5033.

Sincerely,

Jamie Hunter

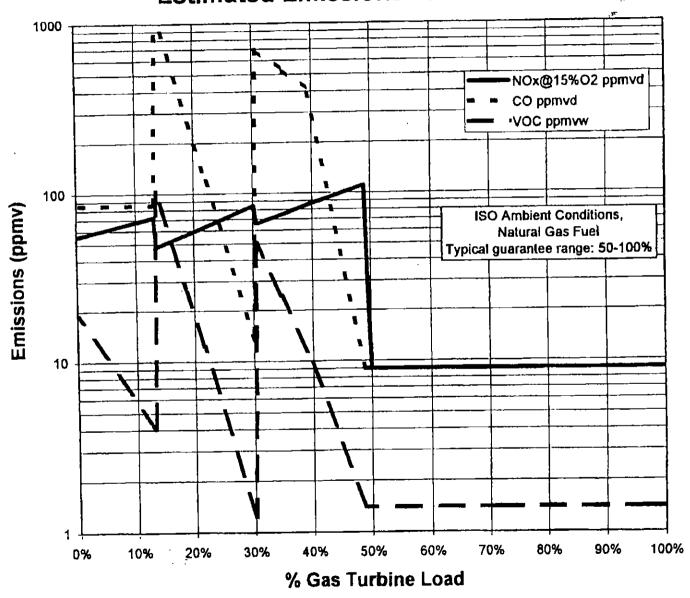
Consulting Engineer **Environmental Planning**

EP\gm\JJH919

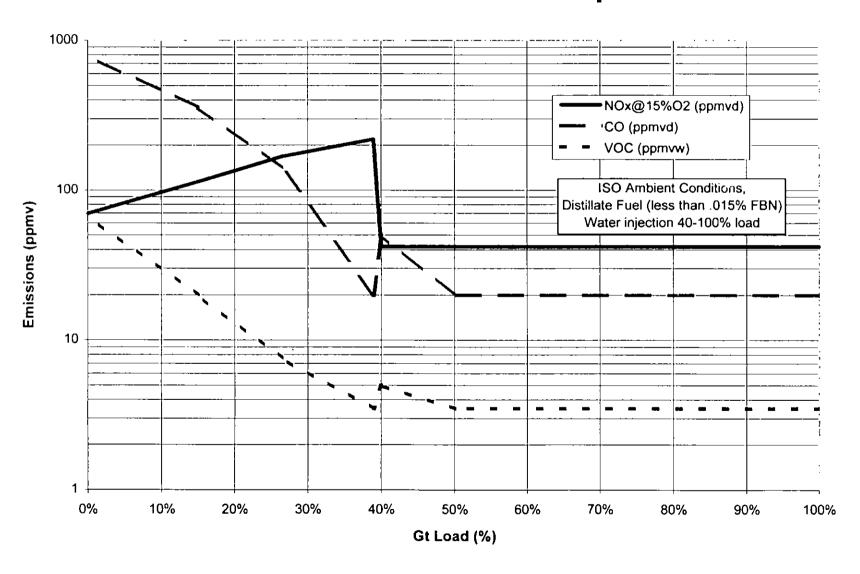
Enclosures

CC: J. Kahn J. Koerner M. Halpin T. Hevon

PG7241FA with DLN2.6 Combustor Estimated Emissions vs Gas Turbine Load



7241FA with DLN2.6 Combustor Estimated Emissions - Liquid Fuel





TAMPA ELECTRIC

June 28, 2000

Certified Mail No. Z 504 094 679 Return Receipt Requested

Certified Mail No. Z 504 094 680

Return Receipt Requested

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JUL 03 2000

BUREAU OF AIR REGULATION

Different Poik Prover
Project - Permitted
in 1999.
Grey to All.

Mr. Mike D. Harley Florida Department of Environmental Protection 2600 Blair Stone Road Tallahassee, FL 32399-2400

CEM Section
U. S. Environmental Protection Agency
401 "M" Street, SW
Washington, DC 20460

RE: Tampa Electric Company
Polk Power Station
Unit #1 RATA
Permit #1050233-001-AV
Unit #2 Initial CEM Certification RATA
Unit #2 Initial Emissions Testing
Permit #PSD-FL-263

Dear Sir or Madam:

This is written notification that Tampa Electric Company

- Polk Unit #1 RATA to begin the week of Au
- Polk Unit #2 Initial CEM Certification, RAT Oil and Gas on August 2, 2000;
- Polk Unit #2 Initial Emissions Performance ?

If you have any questions, please call me or Jamie Woodlee at (813)-641-5060.

Sincerely.

Gregory M. Nelson, P.E. Designated Representative

Acid Rain Program

EPtkd\RATA\Polk1&200

c: Al Linero, FDEP

(813) 228-4111

P. D. BOX 111 TAMPA, FL 33601-0111



TAMPA ELECTRIC

September 25, 2000



SEP 28 2000

BUREAU OF AIR REGULATION

Mr. Bill Proses
Florida Department of Environmental Protection
Southwest District Office
3804 Coconut Palm Drive
Tampa, Florida 33619

Via Fed Ex Airbill No. 7903 6442 7004

Re: Tampa Electric Company

Polk Unit 2 Initial Compliance Testing

10 CN

Dear Mr. Proses:

As required by Conditions 27 and 28 of the Polk Unit 2 PSD permit (PSD-FL-263), Tampa Electric Company (TEC) has completed the initial compliance testing for allowable emission limiting standards while firing distillate oil. However, due to the interruptible nature of the natural gas supply, the Company was unable to complete the initial compliance testing while firing natural gas within 60 days after achieving the maximum production rate. TEC is currently in the process of rescheduling the compliance test while firing natural gas and plans to complete the testing by November 1, 2000. As such, Tampa Electric Company hereby requests a waiver of the 60-day period in which the initial compliance testing must occur. If the schedule permits, TEC will submit the oil- and natural gas-fired initial compliance test reports together. Otherwise, the oil-fired initial compliance test report will be submitted within 45 days of the oil-fired test and the natural gas fired initial compliance test report will be submitted within 45 days of the natural gas-fired test. If you have any questions, you may contact me at (813) 641-5125.

Sincerely,

Shannon K. Todd

Engineer

Environmental Affairs

EP\gm\SKT201

c: Mr. Alvaro Linero -FDEP

Mr. Buck Oven - FDEP

Mr. Scott Sheplak - FDEP

Mr. Jerry Kissel - FDEP SW



MAY 03 2002

BUREAU OF AIR REGULATION

April 30, 2002

Mr. Lynn Haynes Region IV U.S. Environmental Protection Agency Atlanta Federal Center 61 Forsyth Street Atlanta, Georgia 30303-3104

Mr. Bill Proses Florida Department of Environmental Protection Southwest District 3804 Coconut Palm Drive Tampa, FL 33619

Via FedEx Airbill No. 7920 2537 6783

· :

Via FedEx Airbill No. 7920 2540 1641

Tampa Electric Company (TEC) Re:

Polk Power Station Unit 3

Part 75 Commercial Operation Re-Notifications

FDEP File No. PSD-FL-263

Dear Messrs. Haynes and Proses:

As required by 40 CFR 75.61(a)(2)(i) and Condition 1 of permit PSD-FL-263, the designated representative for an affected unit shall submit written notification for the planned date when a new unit will commence commercial operation. TEC notified the agency of a commence commercial operation date of May 1, 2002. As required by 40 CFR 75.61(a)(2)(ii) and Condition 1 of permit PSD-FL-263, if the date when the unit commences commercial operation changes from the planned date, a notification of the actual date shall be submitted not later than 7 days following the date the unit commences commercial operation. TEC hereby gives notice that Polk Power Station Unit 3 commenced commercial operation on April 24, 2002.

Mr. Lynn Haynes Mr. Bill Proses April 30, 2002 Page 2 of 2

If there are any other changes in regard to these dates, TEC will continue to notify the agency. If you have any questions or comments, please contact me at (813) 641-5261.

Sincerely,

Laura R. Crouch

Manager – Air Programs Environmental Affairs

Famul Civer.

EA/bmr/RC121

c: Mr. J. Kahn - FDEP

Mr. J. Kissel – FDEP SW

Mr. A. Linero - FDEP

Kim Nguyen - CAMD

Mr. H. Oven – FDEP

Mr. S. Sheplak - FDEP