TAMPA ELECTRIC
A TECO ENERGY COMPANY

July 22, 1991

RECEIVED
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JUL 2 4 1991
Division of Air
Resources Management

Certified Mail #P 276 823 504
Return Receipt Requested

Mr. Steve Palmer, P.E.
Siting Coordination Office
Division of Air Resources Management
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Tampa Electric Company
Polk Power Station Plan of Study

Dear Mr. Palmer:

The purpose of this letter is to follow up on our meeting on July 5th regarding agency comments on the Polk Power Station (PPS) Plan of Study (POS). First, I would like to recap the following POS-related events leading up to the meeting:

- Pre-POS meeting with FDER to introduce PPS project and discuss initial agency concerns--January 23, 1991;
- Draft POS submitted and reviewed at meetings with FDER, FDNR, DCA, SWFWMD, CFRPC, and Polk County--February 21 and 22, 1991;
- Agency comments on Draft POS due to TEC--March 22, 1991;
- FDER provides all agency comments on Draft POS to TEC--April 17, 1991;
- Final POS and specific responses to all agency comments submitted to FDER--April 26, 1991; and
- Additional agency comments on Final POS received from FDER--June 24, 1991.

Through these efforts, TEC has been attempting to effectively coordinate the POS preparation with FDER and other agencies and to effectively respond to agency comments and concerns. Also, we feel that the current POS and the specific responses to agency comments received through FDER have responded to all agency comments and concerns which are appropriate and are within the scope of the POS. As we discussed at the July 5th meeting, many of the agency comments on the Draft POS and the majority of the comments recently received with your June 20th letter are not appropriate for inclusion in the POS. These comments request information on the potential impacts of the PPS project and on design details which is beyond the intended scope of the POS, but will be included in the Site Certification Application (SCA).

Based on the discussions at the July 5th meeting, it is our understanding that you agreed that the comments are beyond the scope of the POS and are really issues to be addressed in the SCA. Also, you agreed to talk to the appropriate FDER and other agency representatives to resolve this misunderstanding on the scope of the POS versus the SCA which is scheduled for submission in February 1992.

To assist you in resolving this matter with other agencies, we have enclosed examples of draft letters to several of the commenting agencies which you may want to consider and use to communicate FDER's position and response to the recent comments on the POS. Further, as appropriate, you may want to consider including another copy of TEC's specific responses to previous comments received from these agencies. Copies of all responses were sent to Buck Oven on April 25, 1991, and additional copies were sent to you on July 9, 1991.

Finally, based on our discussions at the July 5th meeting, the following summarizes our agreements to resolve the comments from the various FDER divisions which were provided in your letter dated June 20, 1991. Again, as we agreed, the following provides some additional clarifications on the PPS project, but which do not require revising the current POS.

AIR

1. As discussed in Section 4.1 of the POS, the BACT will include a thorough technical and economic analysis of emission control technologies for all relevant pollutant emissions using the FDER- and EPA-approved analysis approach. The BACT analyses will be included in the SCA.

2. The SCA and related air quality impact analyses for the PPS will be based on a conventional pulverized coal plant for the 500-MW (nominal) baseload unit. This baseload unit is currently scheduled to be in service early in the 2000s. If another technology (e.g., integrated gasification combined cycle or fluidized bed combustion) for the baseload unit is selected by TEC at some time in the future, TEC will be required to file for a modification of the SCA at this future time. The filing for this modification will require information on the potential impacts of the

selected technology. Therefore, such information is not needed at this time.

GROUNDWATER

3. through 7.
The site-specific groundwater data collection program described in Section 4.2.2 of the POS is intended to collect background information for the PPS site and to assess potential impacts for the SCA. This background information will also be used to assist in developing the site-specific groundwater monitoring plan (GWMP) for the project in accordance with Section 17-28.700(6)(d), F.A.C. The GWMP will be included in the SCA and will include such specific information as a groundwater contour map and the locations for the permanent monitor wells. Further, TEC recognizes that the locations of the permanent wells for the GWMP may not be the same as the background data collection wells shown in Figure 4.2-6 on page 4-31 of the POS and that the final GWMP for the project will be reviewed and approved in conjunction with the SCA.

8. The locations of any needed dewatering activities cannot be determined at this time and may not be specifically determined until construction of the PPS is underway. Therefore, the data collection efforts described in the POS cannot include monitoring wells in dewatering areas. Information on potential dewatering activities will be provided in the SCA.

SURFACE WATER

9. The location of the proposed Point of Discharge (POD) and direction of water flows through wetlands to the POD cannot be specifically determined at this time. Such information is beyond the scope of the POS, but will be included in the SCA. As indicated in previous meetings with FDER staff and described in the POS, TEC currently is proposing that the South Prong of the Alafia River will be the receiving water for any wastewater discharges from the PPS and that any such discharges will be to the South Prong at the western edge of the PPS site near the Polk-Hillsborough county line. The locations of the surface water monitoring stations as shown in Figure 4.2-3 on page 4-45 of the POS were selected to ensure that sufficient background data were collected.

10. In addition to the planned discharge to the South Prong of the Alafia River, the other surface water drainage basins in the site vicinity and Payne Creek and Little Payne Creek. Surface water quality and flow monitoring stations have been located in both of these drainages to establish background conditions (see Figure 4.3-2 on page 4-45).

11. As we discussed at the meeting, the surface water monitoring program was initiated in late February 1991, and the last of the six sampling events will occur in August 1991. We feel that this 7-month period will provide adequate background data during the rainy season, especially with the

TAMPA ELECTRIC
A TECO ENERGY COMPANY

June 3, 1991

Certified Mail #P276822537
Return Receipt Requested

Mr. Robert M. Viertel, P.G.
Director
Southwest Florida Water
Management District
Bartow Permitting Department
970 East Main Center, Suite A
Bartow, FL 33830

Re: Tampa Electric Company
Polk Power Station
Environmental Licensing Plan of Study

Dear Mr. Viertel:

The following additional information is provided in response to your letter of May 23, 1991 to Mr. Hamilton S. Oven, FDER.

Regarding our response to Item 4 of your March 19, 1991 letter, Section 1.4, page 1-11, states that groundwater from the Floridan aquifer will be used as the primary source of makeup water for the cooling water reservoir and plant uses. It goes on to say that the "design of plant systems, including the cooling water reservoir, will consider criteria to maximize plant water re-use and minimize groundwater withdrawal." Table 1.4-1 on pages 1-14 and 1-15 identifies a worst case estimate of the makeup requirements.

The proposed facility will require water of various qualities depending on their use, for example, boiler makeup water and sanitary water will require high quality water. The use of the Floridan aquifer-quality water will allow Tampa Electric Company (TEC) to minimize the use of groundwater and the potential impacts to both ground and surface water in the area. In all cases, the design of plant systems will focus on criteria to maximize plant water re-use and minimize groundwater withdrawal.

Also, Section 4.2.2.2, page 4-35, states that substantial information previously compiled by SWFWMD, FIPR, mining companies, and others concerning the Floridan aquifer system and its characteristics in Polk County, is available. It goes on to say that this "information and the proposed onsite monitoring and sampling program of the Floridan Aquifer will establish adequate baseline data to evaluate background water quality, availability, and hydrogeologic relationships between the existing aquifers." Section 4.3.1.1 also emphasizes the re-use of plant waste streams.

Regarding your comment on the 25-year, 24-hour design storm event, TEC will use the 25-year, 24-hour storm event as the design storm for the surface water management plan as required by the SWFWMD surface water permit. The runoff volume, peak discharge rate, and the runoff hydrograph from a 25-year, 24-hour storm will be determined by TEC. The final surface water management plan will comply with all the pertinent rules and regulations under Chapter 40D-4, F.A.C.

In addition to SWFWMD's surface water permit regulations, TEC will design a water management system that minimizes discharges. The cooling reservoir will not have surface water discharges except during an extreme or cumulative storm event which has been defined as an event in excess of the 10-year, 24-hour storm. There will not be any conflict between the cooling pond design and the surface water management plan. TEC has a clear understanding that the project design will be in full compliance with SWFWMD's regulations.

We hope the above discussion addresses your concerns. We would appreciate your prompt input if you still have any further questions.

Sincerely,

Jerry L. Williams
Director
Environmental

sn/LL495

cc: Mr. H.S. Oven, Jr., P.E. - FDER

TAMPA ELECTRIC
A TECO ENERGY COMPANY

June 19, 1991

Mr. Gerald J. Miller
Acting Chief
Environmental Policy Section
Federal Activities Branch
U.S. Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta, GA 30365

Re: EPA Review of Tampa Electric Company's (TEC) Final Environmental Licensing Plan of Study (POS) and TEC Responses to EPA Comments of the Draft POS; TEC Proposed Polk Power Station, Polk County, Florida

Dear Mr. Miller:

We have reviewed the Agency's June 5, 1991, comments on the referenced documents. The discussions below address the remaining concerns expressed in your letter.

NPDES PERMIT

- TEC Response EPA-2 - We do not believe that the discussion contained in this section accurately reflects statements that were made concerning the use of the reclamation areas in the referenced meeting. Nevertheless, we recognize the need to obtain a formal determination from EPA as to the status of the two reclamation areas. We are in the process of compiling the necessary information to submit to EPA, and we anticipate that this submittal will be made in the very near future.

- TEC Response EPA-5 - In TEC's response letter to EPA dated May 10, 1991, it was stated that TEC's surface water monitoring program (February through August, 1991) is adequate to evaluate water quality for low flow conditions. TEC also feels that the proposed program is adequate to assess water quality during high flow conditions. This fact is demonstrated by the statistical analysis of historic flow data at South Prong Alafia River near Lithia for the period of 1963 through 1987 summarized by the enclosed Tables 1 and 2. Table 1 shows the annual peak flows for each year. The results indicate that 80 percent of the annual peak flows occurs within the months that TEC has planned and is currently conducting its surface water monitoring program. Table 2 shows the average monthly mean flows and maximum monthly mean flows for each month of the year. The monthly data also shows that TEC's proposed monitoring program has sufficient coverage to characterize the water quality during high flow period.

In addition, continuous water level recorders at the site (see Figure 1) show that the February 25 and March 26 water sampling efforts did not have the direct influence from significant rainfall; on the other hand, the April 26 and May 29 samplings were conducted immediately following significant storms. Therefore, the data already collected would be able to characterize the stormwater runoff quality.

As previously stated in our letter of May 10, 1991, TEC intends to rely heavily on long-term data available from USGS and other agencies which will allow for more meaningful extrapolation of long-term baseline conditions near the site.

- TEC Response EPA-6 - Comment acknowledged. As indicated in the revised POS, all five groundwater monitoring stations will be sampled one-time for priority pollutants. These include all parameters identified in your letter of June 5, 1991, as GC/MS volatile, acid, and base/neutral compounds in Table 2D-2, Group B, Section 3 of NPDES Application Form 2-D.

- TEC Response EPA-10 - Comment acknowledged. As indicated in TEC's response letter to EPA's comments dated May 10, 1991, surface water monitoring stations SW-2, SW-4, and SW-5 will be sampled one-time for priority pollutants. According to NPDES Form 2-D, the priority pollutants in Group B are divided into the following three sections:

  1. Section 1 - Metal toxic pollutants, total cyanide, and total phenols;

  2. Section 2 - TCDD (Dioxin); and

  3. Section 3 - Organic Toxic Pollutants

     a. Volatile compounds
     b. Acid compounds
     c. Base/neutral compounds
     d. Pesticides.

  TEC intends to sample all the priority pollutants in these three sections with exception of dioxin (Section 2) and some of the pesticides (Section 3d.).

SURFACE WATER QUALITY

TEC acknowledges that EPA has no substantive comments to add to their previous comments other than those listed under "NPDES Permit" above.

GROUNDWATER QUALITY

- General - Comment acknowledged.

- TEC Response EPA-13 - Although item 8 on page 4-27 of the revised POS does not explicitly include the phrase "water quality," the added phrase at the end of the sentence "...recharge/seepage on the surficial aquifer and on surface water using a contaminant transport model" indicates that the impact on the water quality of both surface and groundwater will be addressed in the SCA.

- TEC Response EPA-15 - Page 4-30 of the revised POS states that for the surficial aquifer, "The permeability of the surficial layer will be estimated by conducting falling head borehole permeability testing (slug tests) at each monitor well." Page 4-34, also states that for the intermediate aquifer "Permeability testing will also be conducted on the monitor wells to assure sufficient information is available on the aquifer for impact assessment. Since groundwater will be withdrawn from this aquifer, no pump test will be performed." As you can see, the text already addresses that no pump tests will be performed.

WETLANDS

TEC acknowledges that EPA has no substantive comments to add to their previous comments on this particular issue.

FISHERIES AND MACROINVERTEBRATES

TEC acknowledges that EPA has no substantive comments to add to their previous comments on this particular issue.

HAZARDOUS WASTES

TEC acknowledges that EPA has no substantive comments to add to their previous comments on this particular issue.

NOISE

- TEC Response EPA-28 - As depicted in Figure 1.4-1 of the POS, TEC proposes to bring coal by rail using the CSX Railroad along Fort Green Road (County Road 663) on the eastern boundary of the site. Monitoring station NS-2 has been moved east of its originally proposed location, to the intersection of Albritton Road and SR 37, due to field interference with vegetation. As currently proposed, both the NS-3 and the newly relocated NS-2 should address EPA's concerns regarding coal train noise.

  A Data quality assurance/control program has been implemented.

- TEC Response EPA-34 - Comment acknowledged.

AIR QUALITY

TEC acknowledges that EPA has no substantive comments to add to their previous comments on this particular issue.

NEPA

TEC acknowledges that EPA has no substantive comments to add to their previous comments on this particular issue.

GLOBAL WARMING

TEC acknowledges EPA's comments on this issue.

We hope the above responses clarify your remaining concerns. Please feel free to call me with any questions.

Sincerely,

Jerry L. Williams
Director
Environmental

ams/LL500

Enclosure

cc: Hamilton S. Oven, Jr., P.E.,
FDER (w/enc.)

Table 1. Annual Peak Flow at South Prong Alafia River near Lithia (1983 through 1987)

Year	Date	Peak Flow (cfs)
1963	2/13	1,900
1964	2/7	554
1965	8/2	858
1966	10/1	488
1967	8/14	2,430
1968	7/19	1,500
1969	8/20	1,250
1970	10/4	1,210
1971	9/15	997
1972	2/3	840
1973	8/5	1,580
1974	7/2	966
1975	7/24	320
1976	10/31	523
1977	9/29	149
1978	8/6	385
1979	9/23	1,330
1980	10/1	820
1981	9/6	1,220
1982	9/27	612
1983	9/21	559
1984	12/31	386
1985	9/3	472
1986	8/28	243
1987	4/1	566

Source: ECT, 1991.

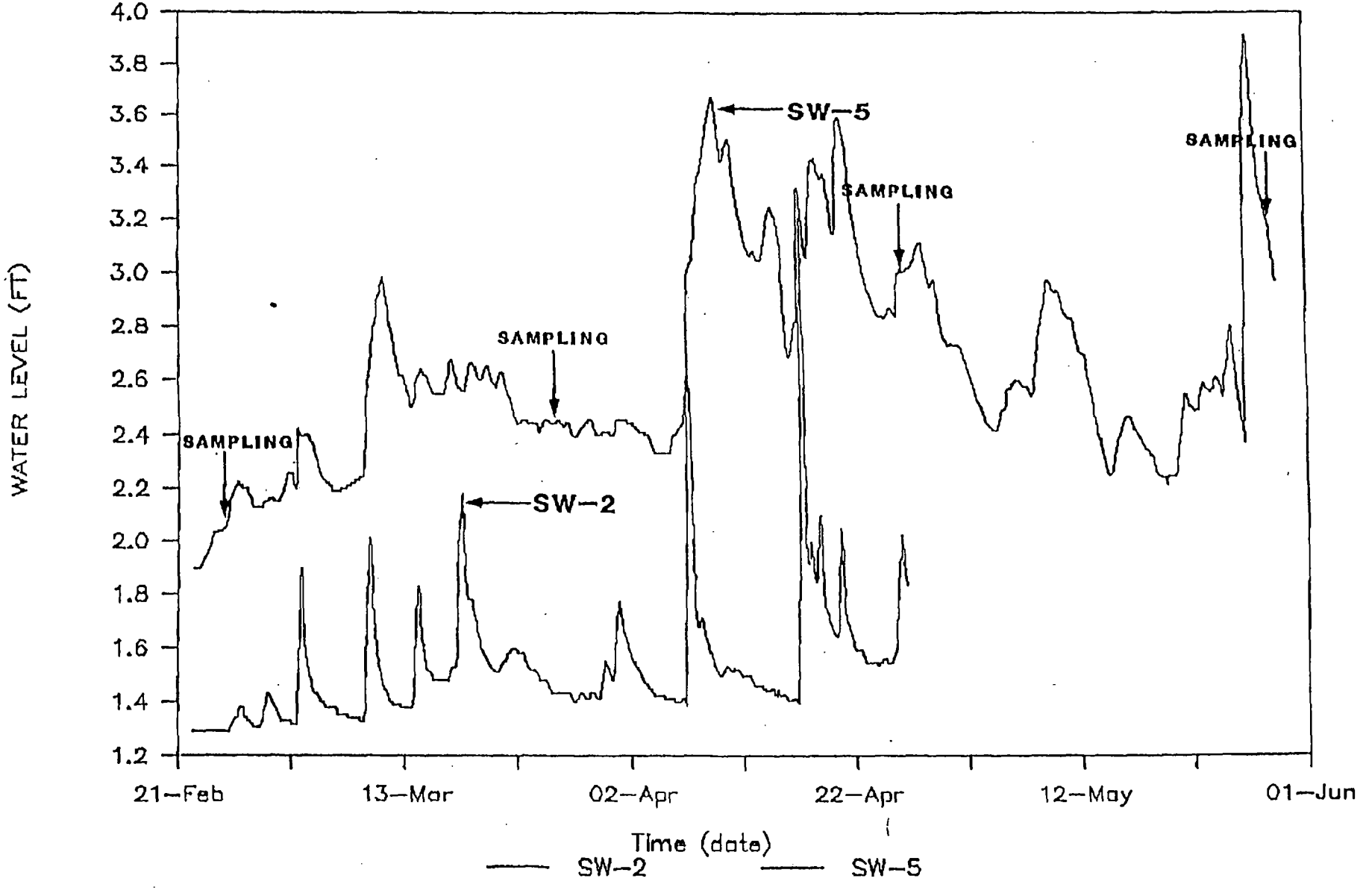
Table 2. Monthly Mean Flow at South Prong Alafia River near Lithia (1963 through 1987)

Month	Average Monthly Mean Flow (cfs)	Maximum Monthly Mean Flow (cfs)
October	102	327
November	53	138
December	54	166
January	78	217
February	107	389
March	98	313
April	68	395
May	52	175
June	96	455
July	146	768
August	210	673
September	190	463

Source: ECT, 1991.

TEC Polk Power Station

Water Level Data



TAMPA ELECTRIC
A TECO ENERGY COMPANY

May 16, 1991

Mr. Hamilton S. Oven, Jr., P.E.
Siting Administrator
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Tampa Electric Company - Polk Power Station
Environmental Licensing Plan of Study (POS)

Dear Mr. Oven:

Please find enclosed revised Table 4.2-2 to the referenced Plan of Study for the Polk Power Station Project. An earlier version of this table was included in the revised POS submitted to you on April 26, 1991.

Sincerely,

Lynn F. Robinson

Lynn F. Robinson, P.E.
Manager
Environmental Planning

ams/BB124

Enclosure

Table 4.2-2. Water Quality Parameters for TEC Groundwater Monitoring and Drinking Water Standards (Rules 17-550.310* and 17-550.320*) (Page 1 of 2)

Water Quality Parameter	Drinking Water Standards
<u>In Situ Measurements</u>	
Water level	
Specific conductance	
Hydrogen ion activity (pH)	6.5 - 8.5+
Oxidation-reduction potential	
<u>Classical</u>	
Alkalinity (as $CaCO_3$)	
Acidity	
Bicarbonate	
Carbonate	
Hardness (as $CaCO_3$)	
Color	≤ 15 color units+
Total dissolved solids	≤ 500 mg/L+
Total suspended solids	
Turbidity	complex rule**
Cyanide	
Ammonia (unionized)	
Selenium	≤ 0.01 mg/L*
Chloride	≤ 250 mg/L+
Fluoride	≤ 2.0 mg/L+
Sulfate	≤ 250 mg/L+
Sodium	≤ 160 mg/L*
Calcium	
Magnesium	
Arsenic	≤ 0.05 mg/L*
Total anions (calculated)	
Total cations (calculated)	
Nitrate	≤ 10 mg/L*
Nitrite	
Total organic nitrogen	
Orthophosphate	
Total phosphate	
Oil and grease	
Phenol	
Chemical oxygen demand	
Foaming agents	≤ 0.5 mg/L+
<u>Other Metals</u>	
Barium	≤ 1.0 mg/L*
Beryllium	
Cadmium	≤ 0.010 mg/L*
Chromium (total)	≤ 0.05 mg/L*

Table 4.2-2. Water Quality Parameters for TEC Groundwater Monitoring and Drinking Water Standards (Rules 17-550.310* and 17-550.320*) (Page 2 of 2)

Water Quality Parameter	Drinking Water Standards
Chromium (hexavalent)	
Copper	≤ 1.0 mg/L+
Iron	≤ 0.3 mg/L+
Lead	≤ 0.05 mg/L*
Manganese	≤ 0.05 mg/L+
Mercury	≤ 0.002 mg/L*
Nickel	
Silver	≤ 0.05 mg/L*
Zinc	≤ 5.0 mg/L+
Radioactive Substances	
Radium 226 and 228	≤ 5 pCi/L*
Gross alpha	≤ 15 pCi/L*
Organics	
Endrin	≤ 0.0002 mg/L*
Lindane	≤ 0.004 mg/L*
Methoxychlor	≤ 0.1 mg/L*
Toxaphene	≤ 0.005 mg/L*
2,4-D	≤ 0.1 mg/L*
2,4,5-TP, silvex	≤ 0.01 mg/L*
Total trihalomethanes	≤ 0.10 mg/L*
Trichloroethene	≤ 0.003 mg/L*
Tetrachloroethene	≤ 0.003 mg/L*
Carbon tetrachloride	≤ 0.003 mg/L*
Vinyl chloride	≤ 0.001 mg/L*
1,1,1-Trichloroethane	≤ 0.2 mg/L*
1,2-Dichloroethane	≤ 0.003 mg/L*
Benzene	≤ 0.001 mg/L*
Ethylene dibromide	≤ 0.00002 mg/L*
p-Dichlorobenzene	≤ 0.075 mg/L*
1,1-Dichloroethene	≤ 0.007 mg/L*

* Primary drinking water standards.
\+ Secondary drinking water standards.
** Complex, refer to Chapter 17-550.310, F.A.C.

Units
mg/L = milligrams per liter
NTU = nephelometric turbidity unit
pCi/L = picocuries per liter

Source: Chapters 17-3 and 17-550, F.A.C.; ECT, 1991.

TAMPA ELECTRIC
A TECO ENERGY COMPANY

April 26, 1991

Federal Express #9253426280

Mr. Hamilton S. Oven, Jr., P.E.
Administrator, Siting Coordination Section
Division of Air Resources Management
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Tampa Electric Company
Polk Power Station
Draft Environmental Licensing Plan of Study

Dear Mr. Oven:

Please find enclosed our response to the following agencies' comments on the referenced Draft Plan of Study (POS) for the proposed Polk Power Station (PPS):

1. Florida Department of Environmental Regulation,
2. Florida Game and Fresh Water Fish Commission,
3. Division of Historical Resources,
4. Southwest Florida Water Management District,
5. Florida Department of Natural Resources,
6. Florida Department of Community Affairs,
7. Florida Department of Transportation, and
8. U.S. Environmental Protection Agency.

Individual responses have been prepared and mailed to each one of the above agencies. Copies of the cover letters to these agencies are also enclosed.

A number of the comments received address the intermittent discharge of cooling water reservoir blowdown and the discharge plant site stormwater runoff. Tampa Electric Company (TEC) would like to clarify that, as indicated in Chapters 4.0 and 5.0 of the POS, discharge alternatives to Payne Creek and Little Payne Creek will be evaluated in addition to the proposed discharge

alternative to the South Prong Alafia River. Baseline studies have been designed to take this into consideration.

In addition to our response to the agencies' comments on the Draft POS, please find two copies of the Polk Power Station Environmental Licensing Site-Specific Quality Assurance Plan pursuant to Chapter 17-760, F.A.C. You will also find 63 copies of the revised POS, enclosed under separate cover. These copies should be distributed in accordance with the enclosed mailing list.

We are confident that based on this submittal, we will shortly be able to enter into a written binding agreement under the provisions of Chapter 17-17.041(4) and (5), F.A.C.

Thank you for your cooperation. Please do not hesitate to call me with any questions.

Sincerely,

Jerry L. Williams
Director
Environmental

sn/LL487

Enclosures

TAMPA ELECTRIC
A TECO ENERGY COMPANY

April 26, 1991

Certified Mail #P 276 821 892
Return Receipt Requested

Mr. Douglas B. Bailey
Assistant Director
Office of Environmental Services
Florida Game and Fresh Water Fish Commission
Harris Bryant Building
620 South Meridian Street
Tallahassee, FL 32399-1600

Re: Tampa Electric Company
Polk Power Station
Draft Environmental Licensing Plan of Study

Dear Mr. Bailey:

Please find enclosed our response to your comments of March 25, 1991 to the referenced Draft Plan of Study (POS) for the proposed Polk Power Station.

Since a number of your agency's comments address surface water resources, we would like to clarify that, as described in Chapters 4.0 and 5.0, alternative surface water discharge scenarios will be evaluated in addition to the proposed discharge scenario to the South Prong Alafia River. Baseline studies have been designed to take this into consideration.

We are confident that with submittal, we will be able to shortly enter into a written agreement regarding the adequacy and specificity of the POS under the provisions of Chapter 17-17.041(4) and (5), F.A.C.

Thank you for your cooperation. Please do not hesitate to call me with any questions.

Sincerely,

Jerry L. Williams

Jerry L. Williams
Director
Environmental

sn/LL493

Enclosure

cc: Mr. Brad Hartmann, FGFWFC (w/enc.)
Mr. Hamilton S. Oven, Jr., P.E., FDER

TAMPA ELECTRIC
A TECO ENERGY COMPANY

April 26, 1991

Certified Mail #P 276 821 891
Return Receipt Requested

Mr. George W. Percy, Director
Division of Historical Resources and
State Historic Preservation Officer
R.A. Gray Building
500 South Bronough
Tallahassee, FL 32399-0250

Re: Tampa Electric Company
Polk Power Station
Draft Environmental Licensing Plan of Study

Dear Mr. Percy:

Please find enclosed our response to your comments of March 6, 1991, to the referenced Draft Plan of Study (POS) for the proposed Polk Power Station.

We are confident that with submittal, we will be able to shortly enter into a written agreement regarding the adequacy and specificity of the POS under the provisions of Chapter 17-17.041(4) and (5), F.A.C.

Thank you for your cooperation. Please do not hesitate to call me with any questions.

Sincerely,

Jerry L. Williams
Director
Environmental

sn/LL492

Enclosure

cc: Mr. Louis Tesar, DHR (w/enc.)
Mr. Hamilton S. Oven, Jr., P.E., FDER

TAMPA ELECTRIC
A TECO ENERGY COMPANY

April 26, 1991

Mr. Robert M. Viertel, P.G., Director
Bartow Permitting Department
Resource Regulation
Southwest Florida Water Management District
970 E. Main Center
Suite A
Bartow, FL 33830

Certified Mail #P 276 821 890
Return Receipt Requested

Re: Tampa Electric Company
Polk Power Station
Draft Environmental Licensing Plan of Study

Dear Mr. Viertel:

Please find enclosed our response to your comments of March 19, 1991 to the referenced Draft Plan of Study (POS) for the proposed Polk Power Station.

Since a number of your agency's comments address surface water resources, we would like to clarify that, as described in Chapters 4.0 and 5.0, alternative surface water discharge scenarios will be evaluated in addition to the proposed discharge scenario to the South Prong Alafia River. Baseline studies have been designed to take this into consideration.

We are confident that with submittal, we will be able to shortly enter into a written agreement regarding the adequacy and specificity of the POS under the provisions of Chapter 17-17.041(4) and (5), F.A.C.

Thank you for your cooperation. Please do not hesitate to call me with any questions.

Sincerely,

Jerry L. Williams
Director
Environmental

dh/LL491

Enclosure

cc: Mr. Peter G. Hubbell, SWFWMD-Brooksville (w/enc.)
Mr. Mark Thaggard, SWFWMD-Bartow (w/enc.)
Mr. Hamilton S. Oven, Jr., P.E., FDER

TAMPA ELECTRIC
A TECO ENERGY COMPANY

April 26, 1991

Certified Mail #P 276 821 893
Return Receipt Requested

Ms. Cheri L. Albin
Environmental Supervisor
Florida Department of
Natural Resources
Marjorie Stoneman Building
3900 Commonwealth Boulevard
Tallahassee, FL 32390

Re: Tampa Electric Company
Polk Power Station
Draft Environmental Licensing Plan of Study

Dear Ms. Albin:

This letter is in response to your comments of March 22, 1991 on the referenced Plan of Study (POS) for the Polk Power Station.

As you know, the purpose of the POS in a Site Certification process for a proposed power plant is to describe: (1) the technical approach, (2) the baseline data collection/monitoring efforts, (3) the impact analyses, (4) the project schedule, and (5) the agency coordination all in support of a Site Certification Application (SCA) in accordance with the provisions of Chapter 17-17, F.A.C. Specifically, Chapter 17.17.041(5) and (6), F.A.C. allows for the applicant and all affected agencies to enter into a written agreement as to the scope, quantity, and specificity of the information to be provided in the application as further described in FDER Form 17-1.211(1), F.A.C. The POS is the document that provides this information. It allows for all the affected agencies to comment on the information to be provided as part of the SCA.

Although TEC, as indicated in the POS, is proposing to intermittently discharge cooling water reservoir blowdown and stormwater runoff from the power plant site to an unnamed tributary to the South Prong Alafia River, other discharge alternatives are being considered as indicated in Chapter 5.0 of the draft POS. Specifically, baseline studies described in Chapter 4.0 of the POS have been designed to evaluate these alternatives. TEC recognizes that any discharge scenario ultimately proposed as part of the SCA must fulfill all affected agencies' requirements, including those of FDNR.

TEC acknowledges FDNR's concerns as outlined in your letter of March 22, 1991, and look forward to the opportunity of working with FDNR, as well as FDER, SWFWMD, and EPA staff on the various discharge alternatives.

We understand that approval of the contents of a given POS does not guarantee the applicant approval of the project, but guarantees all parties affected, including the applicant that the information to be provided in the SCA will be of the adequate scope and specificity to address the requirements of Chapter 17-17, F.A.C. and FDER Form 17-1.211(1), F.A.C.

As part of this letter, please find enclosed specific responses to your March 22, 1991 comments.

We will be calling you shortly to arrange a meeting to further discuss site reclamation plans, discharge alternatives, and other technical issues raised in your March 22, 1991 letter.

Thank you for your interest. Please call me with any questions.

Sincerely,

Jerry L. Williams
Director
Environmental

sn/LL494

Enclosure

cc: Ms. Vicki C. Sharpe, FDNR (w/enc.)
Mr. Bobby Jack White, FDNR (w/enc.)
Mr. H.S. Oven, Jr., P.E., FDER

TAMPA ELECTRIC
A TECO ENERGY COMPANY

April 26, 1991

Certified Mail #P 276 821 889
Return Receipt Requested

Mr. J. Thomas Beck, Chief
Bureau of State Planning
Department of Community Affairs
2740 Centerview Drive
Tallahassee, FL 32399

Re: Tampa Electric Company
Polk Power Station
Draft Environmental Licensing Plan of Study

Dear Mr. Beck:

Please find enclosed our response to your comments of April 3, 1991, to the referenced Draft Plan of Study (POS) for the proposed Polk Power Station.

We are confident that with submittal, we will be able to shortly enter into a written agreement regarding the adequacy and specificity of the POS under the provisions of Chapter 17-17.041(4) and (5), F.A.C.

Thank you for your cooperation. Please do not hesitate to call me with any questions.

Sincerely,

Jerry L. Williams
Director
Environmental

dh/LL490

Enclosure

cc: Mr. Paul Darst, DCA (w/enc.)
Mr. Hamilton S. Oven, Jr., P.E., FDER

TAMPA ELECTRIC
A TECO ENERGY COMPANY

April 26, 1991

Certified Mail #P 276 821 888
Return Receipt Requested

Mr. Norman E. Feder
District Director
Department of Transportation
District One Southwest Area Office
P.O. Box 06117
4048 Evans Avenue
Suite 204
Fort Myers, FL 33906-6117

Re: Tampa Electric Company
Polk Power Station
Draft Environmental Licensing Plan of Study

Dear Mr. Feder:

Please find enclosed our response to your comments of March 26, 1991, to the referenced Draft Plan of Study (POS) for the proposed Polk Power Station.

We are confident that with submittal, we will be able to shortly enter into a written agreement regarding the adequacy and specificity of the POS under the provisions of Chapter 17-17.041(4) and (5), F.A.C.

Thank you for your cooperation. Please do not hesitate to call me with any questions.

Sincerely,

Jerry L. Williams
Director
Environmental

dh/LL489

Enclosure

cc/enc: Ms. Sandra Whitmire, DOT-Tallahassee
Mr. Hamilton S. Oven, Jr., P.E., FDER

TAMPA ELECTRIC
A TECO ENERGY COMPANY

April 26, 1991

Mr. Heinz J. Mueller, Chief
Environmental Policy Section
Federal Activities Branch
U.S. Environmental Protection Agency
Region IV
345 Courtland Street, NE
Atlanta, GA 30365

Certified Mail #P 276 821 887
Return Receipt Requested

RE: Tampa Electric Company
Polk Power Station
Draft Environmental Licensing Plan of Study
and Air Monitoring Plan

Dear Mr. Mueller:

Please find enclosed our response to your comments of March 7, 1991 regarding the referenced Air Monitoring Plan, and your comments of April 15, 1991 on the Draft Plan of Study (POS) for the proposed Polk Power Station.

Since a number of your agency's comments address surface water resources, we would like to clarify that, as described in Chapters 4.0 and 5.0, alternative surface water discharge scenarios will be evaluated in addition to the proposed discharge scenario to the South Prong Alafia River. Baseline studies have been designed to take this into consideration.

I have also enclosed two (2) copies of the final PSD Ambient Air Monitoring Plan for the Polk Power Station project.

Thank you for your cooperation. Please do not hesitate to call me with any questions.

Sincerely,

Jerry L. Williams
Director
Environmental

dh/LL488

Enclosure

cc: Mr. Hamilton S. Oven, Jr., P.E., FDER

RESPONSES TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION (FDER) COMMENTS ON TAMPA ELECTRIC COMPANY (TEC) POLK POWER STATION (PPS) DRAFT PLAN OF STUDY AND AIR MONITORING PLAN

RESPONSE TO FDER-1 (Bill Blommel memo to Hamilton Oven)--Comment acknowledged.

RESPONSE TO FDER-2 (Don Stuart memo to Buck Oven)--Comment acknowledged.

RESPONSE TO FDER-3 (Don Stuart memo to Buck Oven)--Comment acknowledged.

RESPONSE TO FDER-4 (Don Stuart memo to Buck Oven)--Comment acknowledged. Air Monitoring Plan text has been revised accordingly.

RESPONSE TO FDER-5 (Don Stuart memo to Buck Oven)--Comment acknowledged. Air Monitoring Plan text has been revised accordingly.

RESPONSE TO FDER-6 (Don Stuart memo to Buck Oven)--Comment acknowledged. Air Monitoring Plan text has been revised accordingly.

RESPONSE TO FDER-7 (Don Stuart memo to Buck Oven)--Comment acknowledged. Air monitoring Plan text has been revised accordingly.

RESPONSE TO FDER-8 (Don Stuart memo to Buck Oven)--Comment acknowledged. Texts of both the Air Monitoring Plan and Standard Operating Procedures (SOPs) manual have been revised accordingly.

RESPONSE TO FDER-9 (Max Linn memo to Hamilton S. Oven)--Comment acknowledged. Page A-5 of Appendix A to the Plan of Study (POS) has been revised to clarify that the screening modeling will be performed to cover the appropriate range of load conditions.

RESPONSE TO FDER-10 (Max Linn memo to Hamilton S. Oven)--The combined cycle stacks are not expected to be within the area of influence of the pulverized coal (PC) boiler building. Page A-4 of Appendix A to the POS has been revised to address this issue.

RESPONSE TO FDER-11 (Max Linn memo to Hamilton S. Oven)--Comment acknowledged. Page A-6 of Appendix A to the POS has been revised to address this comment.

RESPONSE TO FDER-12 (Max Linn memo to Hamilton S. Oven)--Page A-6 of Appendix A to the POS addresses this comment.

RESPONSE TO FDER-13 (Max Linn memo to Hamilton S. Oven)--Comment acknowledged. Page 4-14 of the POS has been revised to address comment.

RESPONSE TO FDER-14 (Max Linn memo to Hamilton S. Oven)--Comment acknowledged. Pages A-5 and A-6 of Appendix A to the POS have been revised to address comment.

RESPONSE TO FDER-15 (Jan Mandrup-Poulsen memo to Bob Heilman)--The information requested is outside the scope of the POS; however, it will be included as part of the Site Certification Application/Environmental Analysis (SCA/EA) in accordance with the provisions of FDER Form 17-1.211(1).

RESPONSE TO FDER-16 (Jan Mandrup-Poulsen memo to Bob Heilman)--The information requested is outside the scope of the POS. This information, however, will be included in Section 5.0 of the SCA/EA document in accordance with the FDER Form 17-1.211(1). As stated in Section 4.3.3.2 of the POS, TEC will provide, as part of the SCA/EA, all required information to assess the potential impacts of runoff from coal and by-product storage areas, plant process wastewater streams, and sanitary wastewater streams. In order to assess these impacts, the quantity and quality of these wastewater streams and runoff will be described. Because

TEC proposes an intermittent discharge, the frequency of this discharge is recognized by TEC as an important factor in the overall impact assessments.

RESPONSE TO FDER-17 (Jan Mandrup-Poulsen memo to Bob Heilman)--The information requested is outside the scope of the POS. This information, however, will be included in the SCA/EA. At this time, plant design and operational parameters are not available. These will be determined with greater precision as the project proceeds and will be provided as part of Section 3.0 of the SCA/EA document in accordance with the provisions of FDER Form 17-1.211(1).

RESPONSE TO FDER-18 (Jan Mandrup-Poulsen memo to Bob Heilman)--The information requested is outside the scope of the POS. This information, however, will be included in the SCA/EA. The methods by which the discharge will be characterized are described in Section 4.3.3.2 of the POS; the data sources and field data collection methods are described in Section 4.3.2.

RESPONSE TO FDER-19 (Jan Mandrup-Poulsen memo to Bob Heilman)--The information requested is outside the scope of the POS. This information, however, will be included in the SCA/EA. As stated in the previous response to FDER-17, plant design and operational parameters are not available at this time. These will be determined as the project proceeds and more information becomes available. Although TEC has proposed to intermittently discharge runoff from the cooling water reservoir to the unnamed tributary of the South Prong of the Alafia River, several alternatives are being considered. The sampling program has been designed to evaluate these alternatives. The precise location of the point of discharge will be provided in Section 3.0 of the SCA/EA and in Section 11.0, as part of the National Pollutant Discharge Elimination System (NPDES) permit application.

RESPONSE TO FDER-20 (Jan Mandrup-Poulsen memo to Bob Heilman)--As stated in Section 4.3.2.2 of the POS, TEC intends to calculate the high- and low-flow statistics for each of the surface water stations. This information will be included in Section 3.0 of the SCA/EA.

RESPONSE TO FDER-21 (Jan Mandrup-Poulsen memo to Bob Heilman)--TEC will describe the channel configuration, under high- and low-flow conditions for each of the surface water stations. This information will be included in Section 3.0 of the SCA/EA.

RESPONSE TO FDER-22 (Jan Mandrup-Poulsen memo to Bob Heilman)--A site plan of the project is currently being developed to determine the best utilization of the existing old mine cuts and the reclaimed lakes which will achieve the overall project objectives. It is quite likely that these existing mining related water bodies may be altered by the project, primarily in the construction of the cooling water reservoir. In which case, the bathymetry of these existing impoundments, which may be altered, would not provide any useful information in the assessment of the water management system design. The applicant, however, will conduct appropriate sounding measurements in those water bodies incorporated into the water management system without bathymetric changes. Text in Section 4.3.2.2 of the POS has been revised to incorporate this comment.

RESPONSE TO FDER-23 (Jan Mandrup-Poulsen memo to Bob Heilman)--As described in Section 4.2.2.2 of the POS, groundwater quality of the surficial aquifer will be characterized for the parameters listed in Table 4.2-2. The results of the analyses will be included in Section 2.0 of the SCA/EA document.

RESPONSE TO FDER-24 (Jan Mandrup-Poulsen memo to Bob Heilman)--The Leupold & Stevens, Inc. Type A, Model 71 Water Level Recorder was chosen specifically because of its proven reliability in the field. This instrument has been used by ECT staff for over 10 years and has an excellent record of performance. Moreover, the U.S. Geological Survey

(USGS) frequently uses this instrument or variations of this instrument for stage recording. USGS has stated in conversations with ECT, that they routinely service their instruments at 4- to 6-week intervals with excellent data recovery. Based on these experiences, ECT maintains that monthly servicing of the recorders will be adequate.

RESPONSE TO FDER-25 (Jan Mandrup-Poulsen memo to Bob Heilman)--No-flow conditions still provide useful data for characterizing streamflow conditions. If any flow, whatsoever, is observed, water quality and quantity will be determined; during no-flow conditions, water quality samples will not be collected.

RESPONSE TO FDER-26 (Jan Mandrup-Poulsen memo to Bob Heilman)--To demonstrate the daily fluctuation of dissolved oxygen (DO) concentration, DO will be measured during a period that extends from about 1 hour before sunrise to 2 hours after sunrise. It is during this period that DO concentrations are most likely to be minimal due to potential respiration. Furthermore, DO will be sampled shortly before sunset during the days that the early morning sampling will be conducted. The concentrations measured in early evening should represent maximum concentrations due to potential photosynthesis. Temperature will be measured concurrently with DO in order to obtain DO saturation as well. The morning-afternoon sampling would be conducted twice during the 6-month sampling period. Text in Section 4.3.2.2 of the POS has been revised to incorporate this information.

RESPONSE TO FDER-27 (Jan Mandrup-Poulsen memo to Bob Heilman)--The information requested is outside the scope of the POS. This information, however, will be included in the SCA/EA. As stated in Section 4.3.3.2 of the POS, and regardless of whether the cooling reservoir is above or below ground level, TEC will provide the requested information as part of the SCA/EA, in accordance with the provisions of FDER Form 17-1.211(1).

RESPONSE TO FDER-28 (Jan Mandrup-Poulsen memo to Bob Heilman)--It is agreed that evaporation, precipitation, and groundwater impacts must be considered in any assessment of long-term pollutant concentrations in the cooling reservoir and are specifically identified in Section 4.3.3.2 of the POS as part of the cooling reservoir water budget analysis described in this section. The output from this analysis will form an integral part of the input to the water quality impact assessment for the cooling reservoir. At this time, however, the information requested is outside the scope of the POS. This information will be included in the SCA/EA.

RESPONSE TO FDER-29 (Jan Mandrup-Poulsen memo to Bob Heilman)--TEC will address this issue as part of the SCA/EA. At this time, however, the information requested is outside the scope of the POS.

RESPONSE TO FDER-30 (Jan Mandrup-Poulsen memo to Bob Heilman)--The information requested is outside the scope of the POS. This information, however, will be included in the SCA/EA, in accordance with the provisions of FDER Form 17-1.211(1).

RESPONSE TO FDER-31 (Jan Mandrup-Poulsen memo to Bob Heilman)--Review of water quality data in the vicinity indicates that there is no evidence of a toxic substances problem in the area. Furthermore, discharge information for similar systems recently provided to FDER as part of the SCA/EA for Hardee Power Station and Martin Units 3 and 4 indicates no evidence of cooling reservoir discharges creating a toxics problem in the receiving water body. Finally, the proposed water quality sampling program will identify problems in existing water quality conditions in the area. Therefore, bioassays are not proposed as part of the licensing studies.

RESPONSE TO FDER-32 (Jan Mandrup-Poulsen memo to Bob Heilman)--As described in Section 4.5.2.3 of the POS, baseline ecological data will be collected for onsite wetlands.

RESPONSE TO FDER-33 (Phil Coram memo to Bob Heilman)--This information is outside the scope of the POS. However, as required by FDER Form 17-1.211(1), the information will be provided as part of the SCA/EA. Specifically, the treatment, storage, and disposal of the various by-products and waste streams will be discussed in the SCA/EA.

RESPONSE TO FDER-34 (Phil Coram memo to Bob Heilman)--As required in FDER Form 17-1.211(1), plant water use will be discussed in the SCA/EA. Water use will be separated into four distinct categories: (1) heat dissipation system, (2) domestic/sanitary wastewater, (3) potable water systems, and (4) process water systems. The SCA/EA will include a quantitative water-use and water-budget diagram for both average and peak water use. Information will identify estimated quantities of water to and from the various plant systems.

RESPONSE TO FDER-35 (Phil Coram memo to Bob Heilman)--As required by FDER Form 17-1.211(1), the description and impacts associated with all waste streams, low- and high-volume, will be provided as part of the SCA/EA.

RESPONSE TO FDER-36 (Phil Coram memo to Bob Heilman)--Table 2.1-1 has been revised accordingly to include the potentially applicable regulations.

RESPONSE TO FDER-37 (Phil Coram memo to Bob Heilman)--Comment is acknowledged. This system will be described and its operational impacts will be discussed in the SCA/EA. At this time, however, the information requested is outside the scope of the POS.

RESPONSE TO FDER-38 (Phil Coram memo to Bob Heilman)--The location of monitor wells and piezometers described in Section 4.2.2.2 of the POS took into consideration existing conditions, past mine activities, proposed construction activities, and operational activities as described in Section 1.4 of the POS.

RESPONSE TO FDER-39 (Al Bishop memo to Bob Heilman)--Section 4.3.2.2 of the POS describes an extensive monitoring program to assess flow at various potential discharge locations. This field collected data will be evaluated as part of the impact evaluations described in Section 4.3.3 of the POS including the evaluation of discharge options.

RESPONSE TO FDER-40 (Al Bishop memo to Bob Heilman)--Dewatering activities associated with plant construction would be shallow, intermittent, and for the purpose of foundation construction. As stated previously in response to FDER-38, location of monitor wells took into consideration potential impacts from proposed construction activities, including dewatering.

Review of historical data in the vicinity of the site indicates no significant temporal variations in water quality. Therefore, the results of a one-time sampling event in accordance with applicable QA/QC procedures, coupled with available historical data, will be sufficient to characterize groundwater conditions and assess potential impacts.

RESPONSE TO FDER-41 (Al Bishop memo to Bob Heilman)--Figure 4.3-1, showing the location of the two USGS stations, has been added to the POS. With respect to the minimum number of velocity measurements at a given cross section, the number will vary due to several factors. For example, on small streams where the water drops out of a culvert, streamflow measurements will be made volumetrically, by collecting water in a calibrated bucket over a set period of time, i.e., no velocity measurements will be required. In most of the streams, however, velocity measurements will be required. In this case, velocity will be measured at a minimum of three locations across the stream channel. The number of vertical measurements at each location across the stream will be dependent on the depth of water as explained in Section 4.3.2.2 of the POS.

Regarding the availability of PSES data, TEC has instructed ECT to include this source as part of their data collection efforts.

ECT initiated water quality sampling in late February, specifically to ensure that the dry winter season was included in the sampling period. This sampling, consisting of six sampling trips, will continue through August or early September, with July historically being the wettest month according to meteorological records. ECT believes that these six sampling trips spanning an 8-month period will adequately cover both wet and dry seasons and provide the necessary data to characterize the surface water quality and quantity. Moreover, it is important to remember that although field data can provide the most site-specific information, these data alone are not necessarily representative of "normal" baseline conditions. ECT will use these field data and other existing data, e.g., data available from the Alafia River Intensive Survey Documentation (WQTS 1:24), to prepare adequate baseline characterizations and impact assessments.

The proposed stormwater management area does not currently exist. Nevertheless, the proposed surface water stations have been located so that the data required to characterize baseline conditions and evaluate the impacts resulting from plant operation can be accurately described. As stated in Section 4.3.2.2 of the POS, the stations along the South Prong of the Alafia River, SW-2 and SW-3, have been located upstream and downstream of the proposed discharge location. These two stations will provide essential baseline data, which when combined with the results of ECT's water quality modeling efforts both for the cooling reservoir and the receiving water, will accurately assess the treatment provided by the proposed stormwater management area. In addition to these two stations, five other surface water monitoring stations will also provide baseline data to assess alternate discharge locations.

Effluent water quality data are not currently available and are outside the scope of the POS. This information, however, will be included in the SCA/EA as required by FDER Form 17-1.211(1). The monitoring program, combined with the state-of-the-art modeling analyses proposed and described in Section 4.3.2.2 of the POS, will provide the information

necessary to conduct impact assessments based on methods considerably more complicated than simple mixing zone calculations.

Table 4.3-1 of the POS outlines the list of parameters proposed to be sampled. Both nutrients and DO are among these parameters. Based on the extensive list of parameters to be sampled and on the intensive sampling frequency described previously, the proposed monitoring program will provide sufficient baseline information to conduct the required impact assessments.

RESPONSE TO FDER-42 (Al Bishop memo to Bob Heilman)--A site-specific QA/QC plan for this project will be submitted in accordance with Chapter 17-160, Florida Administrative Code (F.A.C.)

Ms. Sylvia Labie, FDER-QA Section, has been contacted regarding the requirements to be addressed in the site-specific QA/QC plan.

RESPONSE TO FDER-43 (John Gentry memo to Hamilton S. Oven)--The comment is outside the scope of the POS. As required by FDER Form 17-1.211(1), this information on the handling and disposal of by-products will be developed in the months to come as part of the conceptual engineering design for the project and will be provided as part of the SCA/EA.

RESPONSE TO FDER-44 (John Gentry memo to Hamilton S. Oven)--As stated in Section 1.4 of the POS, TEC is currently planning to use conventional PC electric generating technology with a flue gas desulfurization system for its proposed 500-MW baseload unit. Since this unit is not scheduled to be in-service until early 2000s, TEC will continue to analyze other baseload technologies including atmospheric fluidized bed combustion. If, as part of this analysis, a technology other than the proposed PC is preferred, TEC will be required to submit a supplemental application in accordance with Chapter 17-17.283, F.A.C. The SCA/EA will include discussions on the handling and disposal of by-products from the coal-fueled baseload unit.

RESPONSE TO FDER-45 (John Gentry memo to Hamilton S. Oven)--Comment acknowledged. Text has been revised accordingly.

RESPONSE TO FDER-46 (John Gentry memo to Hamilton S. Oven)--The POS already affirms this. Please refer specifically to Sections 4.3.1.2, 4.3.1.3, 4.3.1.4, and 4.3.3 of the POS.

RESPONSES TO THE FLORIDA GAME AND FRESH WATER FISH COMMISSION (FGFWFC) COMMENTS ON TAMPA ELECTRIC COMPANY (TEC) POLK POWER STATION (PPS) DRAFT PLAN OF STUDY

RESPONSE TO FGFWFC-1 (Douglas B. Bailey letter to Hamilton Oven)--TEC agrees with comment. Both existing conditions and conditions based on approved reclamation plans will be presented in the SCA/EA. However, Section 2.0 of the SCA/EA will remain as "Site and Vicinity Characterization" in accordance with FDER Form 17-1.211(1).

RESPONSE TO FGFWFC-2 (Douglas B. Bailey letter to Hamilton Oven)--The monitoring of water level and quality in reclaimed and unreclaimed ponds are instrumental in obtaining knowledge of the hydrologic, chemical, and biological processes taking place in these water bodies. The proposed water quality and hydrologic data monitoring program, including wet and dry season, will provide adequate information to conduct necessary analyses for the impact assessments. In addition, ECT will use other existing data, e.g., data available from the Alafia River Intensive Survey Documentation (WQTS 1:24) as well as the other sources described in Section 4.3.2.1 of the POS, to prepare accurate baseline characterizations and impact assessments.

RESPONSE TO FGFWFC-3 (Douglas B. Bailey letter to Hamilton Oven)--See response to FGFWFC-2 above.

RESPONSE TO FGFWFC-4 (Douglas B. Bailey letter to Hamilton Oven)--The stage and discharge measurements at various monitoring stations can be used to determine the conveyance of the streams and to establish the stage/discharge relationship. The flow data, coupled with the rainfall records, can also be used to quantify the watershed characteristics such as runoff coefficient, and curve number, etc. This information, coupled with other available data on regional hydrologic conditions, will be

essential in evaluating the pre-development and post-development runoff pattern and to assess the hydrologic impacts of the project.

RESPONSE TO FGFWFC-5 (Douglas B. Bailey letter to Hamilton Oven)--The ecological and biological assessment of the project site will, to a large degree, be based on the information and previous habitat and biota characterizations available in local mining and reclamation plans. Additional information will also be obtained from other pertinent literature sources, technical reports, and permit applications.

The actual field efforts, particularly the quantitative sampling program, have been scheduled for three specific areas of the project site:

1. Wildlife and vegetation data will be collected at the central, unmined portions of Sections 2 and 3, Township 32, Range 23 East, which will support the proposed generating plant and ancillary facilities. Although much of this area will be developed, a complete and updated inventorying of biological resources is required to (a) assess potential impacts, and (b) assist in developing a successful mitigation program. It should be noted that this area will not be mined, and currently supports a variety of upland and wetland habitats.
2. Wildlife and vegetation data is also being collected at the proposed by-product storage area located east of State Road 37 in Sections 4, 9, and 10, Township 32, Range 23 East. This area of the project site currently supports forested uplands, wetlands, and ponds not scheduled for mining. This area, along with the previous plant site area, represents the principal natural habitat of the project site.
3. Aquatic sampling (fisheries and invertebrates) will be conducted at seven stations surrounding the project site. These sampling stations correspond with the seven surface water monitoring stations.

As a result, the proposed ecological studies will be conducted on areas which will not be mined, but which will be impacted by the proposed project. No quantitative sampling or seasonal field efforts will be expended on such mined areas since their biological conditions are transitory, as correctly stated in Mr. Bailey's letter of March 25, 1991.

RESPONSE TO FGFWFC-6 (Douglas B. Bailey letter to Hamilton Oven)--Comment acknowledged. Text and Figure 4.2-5 have been revised accordingly.

RESPONSES TO THE DIVISION OF HISTORICAL RESOURCES (FDHR) COMMENTS ON TAMPA ELECTRIC COMPANY (TEC) POLK POWER STATION (PPS) DRAFT PLAN OF STUDY

RESPONSE TO FDHR-1 (George W. Percy letter to Hamilton Oven)--As discussed in Section 6.0 of the POS, the preferred linear facility corridors will be discussed extensively in Chapter 6.0 of the SCA/EA in conformance with FDER Form 17-1.211(1). As with previous power plant certifications, it is expected that the Conditions of Certification will require a cultural resources survey once a final right-of-way is selected within an approved corridor.

RESPONSES TO THE SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT (SWFWMD) COMMENTS ON TAMPA ELECTRIC COMPANY (TEC) POLK POWER STATION (PPS) DRAFT PLAN OF STUDY

RESPONSE TO SWFWMD-1 (Robert M. Viertel letter to Hamilton S. Oven)--Comment acknowledged. The SCA/EA will present the complete and detailed water balance diagrams based on the annual average daily and peak monthly daily withdrawal and discharge quantities. The diagram will depict all components of the water balance and cycle, including those addressed in the comment.

RESPONSE TO SWFWMD-2 (Robert M. Viertel letter to Hamilton S. Oven)--MODFLOW will be applied in accordance with Level 2 Comprehensive Analysis Guidelines provided in the Water Use Permit Information Manual, Part C, Water Use Design Aids.

RESPONSE TO SWFWMD-3 (Robert M. Viertel letter to Hamilton S. Oven)--Comment acknowledged. Text has been revised accordingly to include all wells in the project vicinity.

RESPONSE TO SWFWMD-4 (Robert M. Viertel letter to Hamilton S. Oven)--Section 1.4 of the POS identifies groundwater quality need for the proposed project. An important objective of the cooling water reservoir design is to minimize the makeup water requirement and to conserve groundwater resources. To the extent it is feasible, TEC will use the lowest water quality available for the intended purpose and will maximize the reuse of water in order to minimize groundwater withdrawals.

RESPONSE TO SWFWMD-5 (Robert M. Viertel letter to Hamilton S. Oven)--As described in Section 4.3.3 of the POS, the impacts of the cooling water reservoir discharge on the receiving water, as well as the treatment systems and impacts of individual plant wastewater streams on the cooling reservoir will be evaluated as part of the SCA/EA.

RESPONSE TO SWFWMD-6 (Robert M. Viertel letter to Hamilton S. Oven)--The assessment procedures described in Section 4.3.3 of the POS will include a hydrologic impact assessment which will be determined by the comparison of the pre-development, expected post-reclamation, and post-development drainage/runoff patterns. Other assessments will include water quality impact, consumptive use impacts, thermal discharge impact, etc.

RESPONSE TO SWFWMD-7 (Robert M. Viertel letter to Hamilton S. Oven)--Comment acknowledged. POS text has been revised accordingly.

RESPONSE TO SWFWMD-8 (Robert M. Viertel letter to Hamilton S. Oven)--Item 4 in Section 4.5.1.3 of the POS already addresses this comment.

RESPONSE TO SWFWMD-9 (Robert M. Viertel letter to Hamilton S. Oven)--All wetlands existing within the proposed power plant site will be mapped and described regardless of size. As required by FDER Form 17-1.211(1), the vegetation communities, including wetlands, within a 5-mile radius of the project site (i.e., offsite) will be mapped to the extent feasible given mapping constraints, such as quality of available aerial photographs and accessibility. See also response to SWFWMD-7 above.

RESPONSE TO SWFWMD-10 (Robert M. Viertel letter to Hamilton S. Oven)--All representative wetland areas within the project site which may be affected by project design will be sampled. All plant communities dominated by woody vegetation will be sampled using a belt transect methodology consisting of contiguous quadrats. All wetlands adjacent to the project site will be analyzed qualitatively or otherwise characterized based on past studies and other available information.

RESPONSE TO SWFWMD-11 (Robert M. Viertel letter to Hamilton S. Oven)--Text in Section 4.5.2.2 of the POS provides details on the wildlife resources survey techniques for each group of species, mammals, birds, and amphibians and reptiles, including threatened and endangered species.

RESPONSE TO SWFWMD-12 (Robert M. Viertel letter to Hamilton S. Oven)--Comment is acknowledged. The applicant will determine the pre-development and post-development runoff for 10-year 24-hour, 25-year 24-hour, and 100-year 24-hour storms. The stormwater management system will be designed to meet all applicable regulations.

RESPONSE TO SWFWMD-13 (Robert M. Viertel letter to Hamilton S. Oven)--Based on knowledge of site conditions, ECT's hydrologists feel that the hydrologic models HEC-1 or TR-20 should provide appropriate runoff analyses for the assessment of the surface water impacts. However, if an unique water management plan calls for the use of other computer models, ECT's experienced modelers will select the most appropriate model(s) depending on the management system design. Other potential model candidates include SWMM-IV, Interconnected Pond Routing (ICPR), RECEIV-II, SCS Unit Hydrograph, etc.

RESPONSE TO SWFWMD-14 (Robert M. Viertel letter to Hamilton S. Oven)--For this project, an "extreme storm event(s)" is one in excess of the 10-year, 24-hour storm.

RESPONSE TO SWFWMD-15 (Robert M. Viertel letter to Hamilton S. Oven)--TEC expects that conditions of certification for the proposed PPS will require some form of operational monitoring activity at the point of discharge.

RESPONSES TO THE U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) COMMENTS ON TAMPA ELECTRIC COMPANY (TEC) POLK POWER STATION (PPS) DRAFT PLAN OF STUDY AND AIR MONITORING PLAN

RESPONSE TO EPA-1 (Heinz J. Mueller's March 7, 1991 letter to Hamilton S. Oven)--Comment acknowledged. Text in the Air Monitoring Plan has been revised to clarify the height of the temperature sensor.

RESPONSE TO EPA-2 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--TEC has already sought legal opinion on whether the old unreclaimed mine cut and recently reclaimed lake are waters of the United States or of the State of Florida. The resolution of this concern will be communicated to both EPA and FDER when the opinion is obtained.

RESPONSE TO EPA-3 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--As already indicated in both Sections 4.3.2.2 and 4.4.2.2 of the POS, monitoring stations SW-6 and SW-7 have been proposed in order to evaluate the water quality, hydrology, and aquatic ecology of both the recently reclaimed lake and the old unreclaimed mine cut located on the site.

RESPONSE TO EPA-4 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--Comment acknowledged. TEC will request a formal new source determination from EPA in the near future.

RESPONSE TO EPA-5 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--Worst-case surface water quality normally is associated with low flow or high temperature. Foose[1] conducted an extensive study to characterize flows in Florida's streams. He presented 7Q10 low flows for each month of the year at selected gauging stations. According to Foose's

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[1] Foose, D.W. 1983. Selected Flow Characteristics of Florida Streams and Canals. USGS Water Resources Investigations Report No. 83-4107.

analysis, the 7Q10 low flow at South Prong Alafia River near Lithia, Florida (USGS Station No. 02301300), was the lowest in the months of May [4.9 cubic feet per second (cfs)] and April (6.7 cfs). Table 1 shows the 7Q10 low flows for every month of the year at USGS Station No. 02301300.

Environmental Consulting & Technology, Inc., (ECT) has obtained the daily flow data at South Prong Alafia River near Lithia for the period of 1963 through 1987. To demonstrate the consistency of the low flow occurrence, the 7-day low flows were determined for each year, and the results are shown in Table 2. Table 2 presents the 7-day low flow for each year; it also shows the month of occurrence of the low flow event. The results indicate that during the 25-year period, there were 13 years (52 percent) when the 7-day low flow occurred in May, 5 years (20 percent) in April, 3 years (12 percent) in June, 2 years (8 percent) in March, and 2 years (8 percent) in December. A 7-day low flow of 14.3 cfs was observed in December; however, a comparable 7-day low of 17.1 cfs was also observed in May of the same year. Therefore, the possibility that the 7-day low flow would occur in TEC's monitoring period (February through August) would be approximately 92 to 96 percent, which is appropriate for the purpose of this project.

In addition to the monitoring data, TEC intends to rely heavily on longer-term data available from USGS, other agencies, and from data from the *Alafia River Intensive Survey Documentation (WQTS 1:24)*. The longer-term data available from the historical data will permit more meaningful extrapolation of long-term baseline conditions near the proposed power plant site.

Regarding the final location of the proposed discharged point(s), it will be identified in the SCA/EA and the NPDES application. TEC has proposed in the POS to evaluate various discharge scenarios which will include discharging to the South Prong Alafia River, Payne Creek, and Little Payne Creek. As presented in Sections 4.3.2.2 and 4.4.2.2 of the POS, water

Table 1. Minimum 7-Day Average Flow, by Month, for a 10-Year Recurrence Interval (7Q10 Low Flow)

Month	7Q10 Low Flow (cfs)
January	28
February	27
March	18
April	6.7
May	4.9
June	14
July	36
August	44
September	47
October	24
November	20
December	22

Source: USGS, 1983.

Table 2. Minimum 7-Day Average Flow in Each Water-Year (1963 through 1987)

Water-Year	7-Day Low Flow (cfs)	Month of Occurrence
1963	14.6	May
1964	18.0	June
1965	16.3	June
1966	29.4	May
1967	2.5	May
1968	2.7	April
1969	33.6	May
1970	24.6	May
1971	13.4	May
1972	39.9	March
1973	25.1	May
1974	12.4	April
1975	4.6	April
1976	9.3	May
1977	4.5	April
1978	6.9	April
1979	15.0	December
1980	29.9	March
1981	1.5	May
1982	5.9	May
1983	13.0	May
1984	18.9	June
1985	2.6	May
1986	4.4	May
1987	14.3	December

Source: ECT, 1991.

quality, hydrologic, and aquatic ecology monitoring will be conducted for all three of these streams.

RESPONSE TO EPA-6 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--Comment acknowledged. The list of analytes for groundwater analysis presented in Table 4.2-2 has been modified to include the surface water analytes. Because some of this water may be used for drinking water, the organic compounds included in Florida's primary and secondary drinking water standards have been retained. Because the groundwater will be obtained from the relatively deep Floridan aquifer, analysis for pesticides, other than those listed in the drinking water standards, was deemed unnecessary.

RESPONSE TO EPA-7 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--The information collection effort, which includes collecting both existing data and field data, will rely on long-term data obtained from outside sources, water quality data collected in support of the Hardee Power Station licensing, and field data collected for the Polk Power Station. These latter data will be used to augment the data collected from the former two sources. As appropriate, the baseline descriptions and impact assessments will include the information obtained from the Hardee Power Station licensing efforts. The impact assessments will identify any potential impacts on downstream water users, including the Hardee Power Station. More importantly, state and federal regulations will require TEC to meet effluent limitations and water quality standards, therefore minimizing any potential downstream impacts.

We would like to clarify that TECO Power Services, the sister company of TEC, was the applicant for the Hardee Power Station NPDES, not TEC.

RESPONSE TO EPA-8 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--According to the 7-day low flow analyses presented in response to EPA-5 above, by sampling between February and August, TEC is sampling during the time when low flows are most likely to occur (92 to 96 percent

probability). In addition, TEC will rely heavily on historical data from outside sources to characterize *long-term* baseline conditions and conduct impact assessments.

RESPONSE TO EPA-9 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--The fact that a substance is present in concentrations above the analytical limits of detection is considered insufficient justification to include that particular analyte in the overall list of analytes. The analytes listed in Table 4.3-1 were chosen either because Florida has water quality standards for these analytes or the analytes are used to aid in interpreting water quality data. Strontium, for example, was detected once (June 1989) during Water Year 1989 at a dissolved concentration of 0.42 milligrams per liter (mg/L). Florida does not have a water quality standard for strontium. Moreover, the presence of strontium, which is chemically similar to calcium, is not unusual in water. Therefore, TEC does not believe that the inclusion of strontium is necessary to describe baseline conditions or to assess the impacts associated with the construction or operation of the power plant.

Florida does have water quality standards for aluminum; however, these standards apply to Class II (Shellfish Propagation or Harvesting) and Class III (Recreation, Fish & Wildlife) marine waters. There is no Class III freshwater standard for aluminum. The mere presence of aluminum does not justify analysis for this element.

Florida does not have a water quality standard for chlorophyll a. Moreover, the "patchy" distribution of chlorophyll a makes the data difficult to interpret. It would be misleading to attempt to characterize a surface water body based on a monthly chlorophyll a sample. It would be far more useful and relevant to use data obtained over several years from other historical sources.

Florida does have a standard for fecal coliform; however, due to the nature and complexity of the standard, comparing a monthly coliform sample

with this standard would not only be impossible, but meaningless as well. Furthermore, because of TEC's wastewater treatment practices, no fecal coliform resulting from the operation of the plant is expected. Finally, fecal coliform, like chlorophyll a, is rarely distributed uniformly. This patchy distribution makes the interpretation of the data difficult and, again, the results can be misleading. The data obtained from these samples would contribute little to the understanding of the baseline conditions or our impact assessments.

RESPONSE TO EPA-10 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--Comment acknowledged. Total *and* hexavalent chromium are both included in Florida's water quality standard for chromium, although the standard for hexavalent chromium is limited to effluent not receiving waters. To provide background information on hexavalent chromium, TEC will include hexavalent chromium in Table 4.3-1 and in subsequent analyses. The proposed priority pollutant sampling efforts will be expanded to include one sample each collected from Payne Creek and Little Payne Creek, Stations SW-4 and SW-5, respectively, in addition to the one located in the South Prong Alafia River.

RESPONSE TO EPA-11 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--The draft POS specifically addresses construction and operational impacts in Sections 4.3.3.1 and 4.3.3.2. These impacts, as well as the impacts to surface waters associated with dewatering, will be assessed for Payne Creek and Little Payne Creek, in addition to the South Prong of the Alafia River.

Regarding the number and location of the potential discharge options under consideration, please refer to response to EPA-5 above.

RESPONSE TO EPA-12 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--A detailed discussion on the impacts of the cooling water reservoir on the surficial aquifer is available in Sections 4.3.2.2 and

4.3.3 of the draft POS. Also, we have revised the text in Sections 4.2.3.2 and 4.2.3.3 to further clarify this point.

RESPONSE TO EPA-13 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--Comment acknowledged. Text revised accordingly.

RESPONSE TO EPA-14 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--Please refer to responses to EPA 9 and EPA-10 above. Table 4.2.2 has been revised to include hexavalent and total chromium, bicarbonate and carbonate. Text has been revised in Section 4.2.2.2 to include priority pollutant sampling at all monitor well locations.

RESPONSE TO EPA-15 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--Short-term permeability tests (slug tests) will be performed on all surficial and intermediate aquifer monitor wells. No full-scale, long-duration pump tests will be performed on the surficial and intermediate monitor wells. The text of the POS has been revised to clarify this point.

RESPONSE TO EPA-16 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--Please refer to response to EPA-12.

RESPONSE TO EPA-17 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--The proposed groundwater sampling schedule is believed to provide sufficient data to evaluate the potential impacts from the project.

The aquifer systems in west-central Florida are some of the most studied in the country. Data from a variety of USGS and SWFWMD reports containing hydrogeological characterization for the aquifer systems in the area have

been reviewed. Two USGS studies by Hutchinson[2] and Corral[3] contain pertinent groundwater quality data in the vicinity of the site. Other data sources such as environmental impact statements (EISs) and development of regional impact studies[4] for existing mining operations in southwest Polk County also contain groundwater quality data. Other pertinent data are available from FDER, SWFWMD, and Polk County Health Department. These available data sources indicate that short-term (1 year or less), temporal variations in groundwater quality are not significant and do not justify the need for additional monitoring.

RESPONSE TO EPA-18 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--Comment acknowledged.

RESPONSE TO EPA-19 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--The final location of the proposed discharge point(s) will be identified in the SCA/EA and NPDES application. The proposed field studies outlined in Sections 4.4 and 4.5 of the POS will address potential discharge scenarios to the South Prong Alafia River, Little Payne Creek, and Payne Creek.

RESPONSE TO EPA-20 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--Comment acknowledged.

RESPONSE TO EPA-21 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--Comment acknowledged.

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2 Hutchinson, C.B. 1978. Appraisal of the Shallow Groundwater Resources and Management Alternatives in the Peace River and Eastern Alafia River Basins. USGS WR1, 77-124. 57 p.

3 Corral, M.A. 1983. Distribution of Selected Chemical Constituents in Water from the Floridan Aquifer. SWFWMD/USGS WRI Report; 83-4041.

4 IMC Fertilizer, Inc. 1988. Application for Development Approval, Gyp Stack Expansion, New Wales Operations, Polk County, FL. Appendix A.

RESPONSE TO EPA-22 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--Comment acknowledged.

RESPONSE TO EPA-23 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--Comment acknowledged.

RESPONSE TO EPA-24 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--At this time, TEC does not intend to apply for a RCRA permit. Any hazardous wastes generated will be either treated in exempt units under 40 Code of Federal Regulations (CFR) 264.1(G)5 and 6, or disposed of offsite.

RESPONSE TO EPA-25 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--Comment acknowledged.

RESPONSE TO EPA-26 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--Comment acknowledged. Appropriate information will be reviewed to develop potential noise sources and levels.

RESPONSE TO EPA-27 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--There are no residences located east of monitoring Station NS-2. The location of Station NS-2 was chosen to lie between the cluster of residences and the potential power plant facilities and rail access noise sources. Monitoring stations NS-1, NS-2, and NS-3 are located no further away than the most-affected receptors.

RESPONSE TO EPA-28 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--Comment acknowledged. No additional monitoring stations are needed since Station NS-2 has been located to take into account the nearest residences to the potential coal train delivery access to the facilities.

RESPONSE TO EPA-29 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--Comment acknowledged.

RESPONSE TO EPA-30 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--Comment acknowledged. The SCA/EA will include this information.

RESPONSE TO EPA-31 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--Comment acknowledged. The SCA/EA will include this information.

RESPONSE TO EPA-32 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--Comment acknowledged. The SCA/EA will include this information.

RESPONSE TO EPA-33 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--Comment acknowledged. Text in POS has been revised accordingly.

RESPONSE TO EPA-34 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--Feasible noise mitigation measures will be evaluated for predicted noise levels in excess of applicable guidelines in the SCA/EA.

RESPONSE TO EPA-35 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--Comment acknowledged.

RESPONSE TO EPA-36 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--As detailed in both Sections 1.0 and 2.1 of the POS, TEC recognizes that the proposed Polk Power Station will likely be determined to be a new source under 40 CFR 423 and, therefore, an EIS will be prepared by either a third-party contractor or the EPA NEPA contractor. It is the intent of TEC to provide in the SCA/EA pertinent information on alternatives, affected environment, and environmental impact analyses. As discussed in the various subsections of Section 4.0 of the draft POS, both construction and operation impacts will be evaluated. Sections 2.2 and 5.0 clearly outline TEC's commitment to evaluate site and engineering alternatives as part of the SCA/EA.

RESPONSE TO EPA-37 (Heinz J. Mueller's April 15, 1991 letter to Hamilton S. Oven)--Comment acknowledged.

RESPONSES TO THE FLORIDA DEPARTMENT OF NATURAL RESOURCES (FDNR) ON TAMPA ELECTRIC COMPANY (TEC) POLK POWER STATION (PPS) DRAFT PLAN OF STUDY

RESPONSE TO FDNR-1 (Cheri Lynn Albin letter to Jerry L. Williams)--The information requested is outside the scope of the POS. However, this information, as discussed in Section 4.0 of the POS, will be provided as part of Sections 4.0 and 5.0 of the SCA/EA in accordance with the requirements of FDER Form 17-1.211(1) and any FDNR reclamation plan and programs provided as part of the certification process.

Regarding the onsite bald eagle's nest, this nest was abandoned in the 1988/1989 nesting season. The nest is located more than 1,500 ft from the proposed power plant facilities. However, portions of the cooling water reservoir will be located within 1,500 ft of the nest. The potential impacts of the proposed project and cooling water reservoir in this abandoned eagle nest will be addressed in the SCA/EA. An active eagle's nest is located east of the project site. This nest tree and its surrounding area is located east of the proposed cooling water reservoir and located more than 1,500 ft away from any plant facilities. No sources of disturbance will be located either within the recommended 750-ft radius primary and 750-ft radius secondary protection zones. As part of the certification process, TEC will meet with the FGFWFC to discuss the project in general and the eagle's nest in particular. As a statutory party to the certification process, FGFWFC has commented on the POS and will review the SCA/EA to determine the impacts of the proposed facility relative to all matters within their jurisdiction.

RESPONSE TO FDNR-2 (Cheri Lynn Albin letter to Jerry L. Williams)--Comment acknowledged.

RESPONSE TO FDNR-3 (Cheri Lynn Albin letter to Jerry L. Williams)--Comment acknowledged.

RESPONSE TO FDNR-4 (Cheri Lynn Albin letter to Jerry L. Williams)--The applicant will continue to work with FDNR to achieve the most cost-effective discharge alternative which fulfills all affected agencies' requirements, including those of FDNR.

RESPONSE TO FDNR-5 (Cheri Lynn Albin letter to Jerry L. Williams)--Regarding Figure 2.3-1 and Section 2.3 in general, the information requested is outside the scope of the POS. However, this information will be provided as part of the SCA/EA and any reclamation plan and programs submitted to FDNR. TEC is committed to continue working with FDNR to address the required information.

Regarding comments on Parcels A and B of Figure 2.3-1, TEC acknowledges the comments. As indicated in Section 2.3.1 of the POS, TEC does not plan to seek reimbursement from the Non-Mandatory Land Trust Fund for these parcels.

TEC recognizes that IMC Fertilizer, Inc. (IMCF) may amend its plans for mining Parcel C, which could result in a deferral of mining and reclamation in this area. TEC is currently negotiating with American Cyanamid and IMCF to acquire this property; it is expected that the purchase agreement will define the period during which the property will be mined and reclaimed. The PPS conceptual plan and SCA/EA will contain the scheduling information learned through this land acquisition.

TEC recognizes that all areas subject to mandatory reclamation liability must be restricted from activities not approved by the Department until the Department's authority expires upon final release of the reclamation obligation. As described in the POS, Area C is proposed to be used primarily as a visual buffer for the PPS, and, perhaps, for transmission line, fuel pipeline, and rail access to the facility. Area C may also be used to satisfy, in part, some of the requirements of Chapter 16C-16.0051, F.A.C., which cannot be satisfied elsewhere on the PPS site.

TEC also recognizes that any changes in the reclamation plans for this area, either temporary or permanent, would require review and approval by the Department prior to their implementation. It is this understanding which led TEC to include Area C in the POS to specifically note the possible need to amend the conceptual plan and logical reclamation unit (LRU) program to provide for either a temporary land use or a permanent change in the post-reclamation conditions, whichever is appropriate. It is TEC's intent to completely describe the impacts upon this parcel during facility construction and operation, together with its best estimates of the timing of those impacts in the conceptual plan, LRU program, and the SCA/EA, to be submitted to FDNR as part of the licensing process.

TEC acknowledges the fact that Agrico has two pending amendments filed with FDNR for the Fort Green Mine and would have to file a third amendment to revise its waste disposal plans for this area in the event the PPS were not proposed for this site. As described in the POS, the impact assessment portions of the SCA/EA will compare TEC's proposed project to what would have otherwise been the post-reclamation land conditions and uses for this property. Furthermore, TEC recognizes those comparisons must be against what would most likely occur, whether or not those plans are approved, and not against plans which all parties recognize to be obsolete.

TEC acknowledges that Areas D and H have been disturbed, but not mined. The legend in Figure 2.3-1 of the POS has been corrected.

Regarding Areas C and G's wetlands and waterbodies, the requested information will be provided as part of the SCA/EA and any reclamation plan submitted to FDNR for these areas.

Regarding TEC's use of Parcels C and G, information requested is outside the scope of the POS; however, as stated above, this information will be provided as part of the SCA/EA and any reclamation plan.

In response to the comment on the onsite eagle's nest, please refer to response to FDNR-1 above.

Comments on Parcel G are acknowledged.

TEC acknowledges that disturbance of Area G prior to its final release of the reclamation obligation would require prior approval of the conceptual plan and LRU program amendments by FDNR. The POS contained the assumption that any required amendments would be approved prior to the commencement of construction of the PPS and that final release would have occurred by that time. While TEC still believes this assumption to be correct, the POS has been amended to address the steps TEC would take to secure these amendment approvals in the event final release has not been obtained by that time.

TEC acknowledges the comment regarding LRU programs in Parcel I.

RESPONSE TO FDNR-6 (Cheri Lynn Albin letter to Jerry L. Williams)--Comment acknowledged. The point attempted to be made in the POS is that all of the other permits and approvals granted in the final certification grant final approval to commence construction. If the SCA/EA contained only conceptual plan approval by FDNR, then additional permitting would be required following certification which would be contrary to the purpose of the SCA/EA process. Accordingly, the POS has been revised to indicate that new or amended conceptual plan and LRU program submittals will be provided to FDNR in a timeframe which falls within the schedule for submittal of the SCA/EA.

RESPONSE TO FDNR-7 (Cheri Lynn Albin letter to Jerry L. Williams)--As mentioned in previous discussions with FDNR, it is TEC's understanding that Agrico has available waste disposal areas outside the proposed power plant site. Furthermore, it was indicated in previous meetings with FDNR that: (1) the Agency preferred the submittal of reclamation plans for the

SWFWMD-13

13. In addition to the HEC-1 and TR-20 stormwater modeling mentioned in the DPOS, other appropriate stormwater modeling may include the SCS Unit Hydrograph (Type II-Modified) and Interconnected Pond Routing (ICPR).

SWFWMD-14

14. The DPOS indicates that the cooling water reservoir will be designed to discharge to the stormwater management area on the west side of State Road 37 only during extreme storm events. A more precise definition of what the DPOS is defining as an extreme storm event would be helpful.

SWFWMD-15

15. The proposal to dispose of treated sanitary wastewater, plant process wastewater and stormwater runoff to the cooling reservoir and/or the reclaimed lakes/wetland system poses some interesting questions. Depending on the level of treatment from wastewater effluent, monitoring of the water quality at the final point of discharge in the unnamed tributary of the South Prong of the Alafia River may be necessary.

If you have any questions concerning our review and comments, please contact me in our Bartow office at (813) 534-7080.

Sincerely,

Robert M. Viertel

Robert M. Viertel, P.G., Director
Bartow Permitting Department
Resource Regulation

RMV/if881
cc: Mr. Jerry L. Williams, Tampa Electric Company, P.O. Box 111, Tampa, FL 33601-111
Mr. Gregory M. Nelson, Tampa Electric Company, P.O. Box 111, Tampa, FL 33601-111
Mr. Jack D. Doolittle, ECT, 5200 Newberry Road, Suite E-1, Gainesville, FL 32607
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

March 7, 1991

Mr. Hamilton S. Oven, Jr., P.E.
Administrator, Siting Coordination Section
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahaassee, FL 32399-2400

RE: Review of Draft PSD Ambient Air Monitoring Plan; TECO Proposed Polk Power Station; Polk County, Florida

Dear Mr. Oven:

The U.S. Environmental Protection Agency (EPA) has reviewed the referenced draft document submitted by the Tampa Electric Company (TECO) relative to the proposed Polk Power Station. At TECO's request, we are providing our comments directly to the State of Florida to your attention.

EPA concurs with the draft monitoring plan with one exception: the height of the temperature sensor (page 6-1) should be 2 meters as opposed to 10 meters. We also reserve judgement on the modelling and BACT analysis until the preliminary PSD application is submitted to EPA. EPA-1

The monitoring plan should perhaps consider monitoring Mercury as an air quality parameter due to the existing Mercury water quality problem in south Florida. EPA and the State may wish to discuss this further.

In addition to these comments, EPA expects to comment on TECO's "Draft Environmental Licensing Plan of Study." As you recently discussed with EPA, comments will still be timely until about the end of April. We, therefore, expect to provide comments between March 22 (TECO's target date) and April 30.

Should you have questions regarding these comments, please contact Chris Hoberg, Project Monitor, of my staff at (404) 347-3776, or Lewis Nagler, Regional Meteorologist, of the Source Evaluation Unit of the EPA Air, Pesticides and Toxics Management Division at (404) 347-2904.

Sincerely,

Heinz Mueller

Heinz J. Mueller, Chief
Environmental Policy Section
Federal Activities Branch

cc: Jerry L. Williams - TECO

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

April 15, 1991

Mr. Hamilton S. Oven, Jr., P.E.
Administrator, Siting Coordination Section
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: EPA Review of Draft Environmental Licensing Plan of Study (POS); TECO Proposed Polk Power Station; Polk County, Florida

Dear Mr. Oven:

The U.S. Environmental Protection Agency (EPA) has reviewed the referenced draft Plan of Study (POS) document submitted by the Tampa Electric Company (TECO) relative to the proposed Polk Power Station. TECO presented a study overview to EPA in a meeting in Atlanta on March 4, 1991. At TECO's request, we are providing our comments directly to the State of Florida to your attention. These comments are to supplement EPA air quality comments previously submitted to you in a letter dated March 7, 1991, regarding TECO's "Draft PSD Ambient Air Monitoring Plan" for the proposed Polk Power Station. We offer the following comments:

NPDES PERMIT

The following comments relate to prospective future National Pollutant Discharge Elimination System (NPDES) permit actions by the TECO applicant, particularly water quality monitoring and the cooling system of the proposed Polk Power Station. The subsequent "Surface Water Quality" and "Groundwater Quality" sections should also be referenced below.

[Of major concern is the TECO plan to incorporate on-site ponds which have existed for many years into the area/volume of the proposed cooling pond. From discussions at the TECO/EPA meeting in Atlanta on March 4, 1991, it appears that these on-site ponds resulted from previous mining/reclamation activities, but are well stocked and have been fished by the area residents for many years. It is recommended that TECO expeditiously seek a legal opinion as to whether or not these existing ponds constitute waters of the U.S. (WUS). Should the ponds be determined to be WUS, inclusion within the cooling pond thermal treatment system probably would be deemed unacceptable. This could impact project feasibility. Similarly, the related question of whether such ponds are waters of the State of Florida will also have to be resolved. This issue has not been included in Section 4.3.1.2, "Issues and Potential Impacts," of the draft POS] [nor is any water quality or biological assessment of these ponds apparently planned, since pages 4-45 (water quality) and 4-64 et seq. (aquatic ecology) are related only to the "recently reclaimed lake."] EPA-2 EPA-3

Additionally, although the project as presently proposed undoubtedly will be determined to be a new source subject to requirements of 40 CFR Part 423, EPA suggests that TECO expeditiously request a formal new source determination to allow EPA to public notice the determination and the future National Environmental Policy Act (NEPA) activities. EPA-4

Typical sampling for surface water and groundwater for a new source power plant usually includes a full year (12 monthly samples) as a minimum; however, TECO is just proposing to limit sampling to six monthly samples. EPA recommends 12 samples at a one per month frequency (surface and possibility groundwater sampling) because 1) TECO is considering two possible discharge points [Note: The final POS should clearly indicate the number and location of proposed discharge(s) for the construction and operation phases]; 2) the variability in the water quality of these receiving waterbodies is not fully understood; and 3) the project may cause impacts/changes in the downstream surface water quality at the recently-permitted TECO Hardee Power Station. EPA-5

Groundwater monitoring parameters (refer to "Groundwater Quality" section below) should essentially include all surface water parameters (refer to "Surface Water Quality" section below). This recommendation is made since groundwater is proposed as the source of process water and cooling pond make-up. EPA-6

As a correlary issue, what effect will the construction and operation of the proposed TECO Polk Power Station have on the downstream water quality to be used by the recently-permitted TECO Hardee Power Station, and what effect will such changes have on the water quality baseline used to develop the NPDES permit and water quality monitoring plan for the Hardee Power Station? As such, NPDES permit requirements for the Polk Power Station should consider the resultant downstream water quality for the Hardee Power Station and other downstream water users. As the applicant for both power stations, water quality should be of particular concern for TECO. EPA-7

The EPA contact for NPDES permit issues is Babu Varughese of the Permits Section at (404) 347-3012.

SURFACE WATER QUALITY

[The proposed water quality sampling regime incorporates continuous stage recording and monthly water quality sampling from February through August in order to encompass both wet and dry conditions. However, a review of USGS flow data for station USGS02301300, South Prong of the Alafia River, indicates that for any given water year, the 7-day low flow may occur in the winter or the summer. In order to ensure that samples representative of low flow conditions are collected for this study, we recommend that the monthly sampling continue for one year (12 months: February through January).] EPA-8

[Water quality data from 1985 through the present for USGS station 02301300 indicate that the following pollutants have been measured at concentrations greater than detectable limits: EPA-9

Strontium	Aluminum
Chlorophyll a	Fecal Coliforms

We, therefore, recommend that these parameters be included in monthly water quality sampling and be added to the list of parameters in Table 4.3-1 for the final POS.][In addition, the analysis of hexavalent and total chromium is suggested and surface water monitoring should include two samples for analysis of all priority pollutants.] EPA-10

It is indicated on page 4-45 of the draft POS that Payne Creek and Little Payne Creek may be impacted by construction and/or operation of the proposed Polk Power Station; however, no discussion of the vehicle for these impacts is provided. It is assumed that construction dewatering and runoff would be the primary source of impacts to these waters. With respect to operation of the plant, it is our understanding that all discharges would be to the tributary to the South Prong of the Alafia River. The final POS should include a discussion of the methods and/or sources of potential impacts to Payne Creek and Little Payne Creek in terms of both construction-related and operational processes. Such a discussion is necessary to determine the adequacy of the water quality monitoring and biological assessment of these waterbodies. [Note: As indicated above, the final POS should be more specific as to the number and location of proposed discharge(s) for the construction and operation phases.] EPA-11

The EPA contact for surface water quality issues is John Deatrick of the Water Quality Section at (404) 347-2126.

GROUNDWATER QUALITY

The draft POS provides fair detail about collecting background data and evaluating drawdown impacts from consumptive use of ground water. Evaluation of construction impacts is more vague ("baseline data and construction plans will be analyzed") and the discussion of "Operational Impacts" (page 4-37; Section 4.2.3.3) is inadequate. By definition, operational impacts are long-term and, therefore, may be much more environmentally significant than the short-term construction impacts. However, the draft POS simply enumerates potential effects from operation of the cooling reservoir, stormwater percolation, etc. The final POS should include more explicit detail about how these impacts will be evaluated, particularly the impact of the cooling reservoir on water quality in the surficial aquifer and in surface waters. EPA-12

The following specific groundwater comments are also offered for the draft POS:

- Page 4-27 - Item 8 should be expanded to read, "Evaluating potential water quality impacts of cooling reservoir recharge/seepage on the surficial aquifer and on surface water, using...water quality models" (such as MINTEQA2). EPA-13

temporary or permanent losses), and any other descriptive information. A mitigation plan should also be developed if wetland losses are expected. Such a plan is to compensate for wetland losses in terms of enhancement of existing disturbed wetlands, restoration of former wetlands, and/or creation of new wetlands at an appropriate ratio (wetland compensation vs. losses ratio) to be discussed with EPA. Both an acreage and functional replacement ratio may be appropriate.

The EPA contact for wetland issues is Mike Wylie of the Wetlands Regulatory Unit at (404) 347-2126.

FISHERIES AND BENTHIC MACROINVERTEBRATES

The fisheries and benthic macroinvertebrate procedures proposed in the draft POS appear to be adequate. EPA has conducted such studies in the greater Polk County area for another project and therefore is familiar with the species that can be expected in the pending study. EPA-22

The EPA contact for fisheries and benthic macroinvertebrate issues is Dave Smith of the Environmental Services Division at the EPA Environmental Research Laboratory in Athens, GA at (404) 546-2294.

HAZARDOUS WASTES

EPA agrees with page 2-2 of the draft POS in that the provisions in the Florida Department of Environmental Regulation (FDER) Ch. 17-700, F.A.C. are the hazardous waste rules that must be complied with in building and operating the proposed Polk Power Station. In addition to these regulations, the construction and operation of the Power Station must also use the new test to determine if a solid waste is a characteristic waste, i.e., the "toxicity characteristic leaching procedure" which was made effective by Federal Register notice on September 25, 1990. EPA-23

It is our experience through inspection of power-producing facilities that one of the largest quantities of hazardous wastes generated at such facilities commonly comes from the generation of water purification systems (such as cation/anion exchange or the cleaning of boilers with acidic and caustic solutions). The neutralization of these acidic or caustic solutions must not be done on site in any surface impoundments without a RCRA permit from the FDER. EPA-2

The EPA contact for hazardous waste issues is Daryl Himes of the Waste Compliance Unit at (404) 347-7603.

NOISE

The purpose of the noise study should be to determine the noise contributions attributable to the proposed project and to determine if the predicted contributions are significant, particularly for affected, occupied sensitive receptors (residences, churches, EPA-2

schools, hospitals, etc.). As such, noise data for baseline, plant construction and plant operational conditions should be provided. EPA offers the following comments that should conceptually be incorporated in the final POS:

- Introductory information that should be included in the final POS includes basic construction equipment noise levels documented in EPA literature (EPA 1971: "Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances"). These include: Front End Loader = 79 dBA; Truck = 91 dBA; Bulldozers = 80 dBA; Graders = 85 dBA; and Pile Drivers = 101 dBA at 50 feet. Valve release noise can also approximate 120 dBA (unknown EPA reference). EPA-26

- The location of the noise monitoring stations in Figure 4.8-1 should be reviewed to ensure that all nearby receptors are adequately represented, particularly the residences expected to be most affected by noise impacts. As such, we recommend that an additional station be added to the east of Station NS-2 to account for the cluster of residences there. Also, monitoring stations should not be located further away from the noise source than the most affected receptor to ensure that the worst noise impact is well documented. Baseline and impact noise data should be provided for each station location. EPA-27

- Collection of sufficient data for coal train delivery (roundtrip) and unloading noise should be emphasized. Of particular interest is the expected coal train noise related to the site's new railroad spur, which is proposed for site entry near the NS-2 station and would be a new source of noise attributable to the project. Data for this station will therefore be critical. If one monitoring station (NS-2) is not adequate to predict these impacts, an additional station should be added. EPA-28

- EPA agrees that noise modeling via the proposed NOISECALC model should be conducted. The most recent version of the model (Is the proposed 1985 version the most recent?) should be used to obtain state-of-the-art information. To obtain conservative modeling results, credit should not be taken for noise attenuation for vegetation located between the source and receptor unless it is a dense forest of considerable (100-200 ft) width that will not be removed. Similarly, credit should not be taken for topographic relief unless it can be ensured that such relief will not be altered during or after project construction. However, credit should be taken for attennation by distance. Page 4-100 of the draft POS should therefore be amended relative to attennation credit during modeling. EPA-29

- Noise modeling should be provided for plant operation (including train delivery noise) conditions. Because power plant construction is often long term, noise modeling for contruction conditions should also be conducted. Baseline and impact noise EPA-30

data should be provided for each station location. In addition, noise contours should be developed and illustrated for both conditions, and based on the baseline monitoring and predicted construction and operational noise conditions.

- Results of the contour modeling should be provided in tabular form. Both predicted noise elevation levels (e.g., +10 dBA) and predicted project absolute levels (e.g., 75 L_{eq}) should be provided for all affected receptors. Data should be bracketed by elevation increment (0-5; 6-10; 11-15; 16-20 dBA increase), by absolute levels of the contour lines (e.g., 55-60; 61-65; 66-70; 71-75; 76-80 L_{eq}), and by number of affected receptors. The existing or "no-build" noise levels should also be presented in this table for comparison. Specific (as opposed to bracketed) predicted noise impact data should also be given for both the construction and operational conditions for the most affected receptors that are nearest to the noise source (e.g., residence #3 elevated +12 dBA with an existing level of 61 dBA and a predicted absolute project level of 73 L_{eq} during operation). EPA-31

- Predicted noise levels should be presented as a 24-hour average (L_{eq24}) and day-night average (L_{dn}). This is particularly important given a presumed 24-hour coal train delivery schedule. Documentation of peak hour noise levels (L_{eq1}) during such a coal delivery is also recommended unless deliveries are essentially continuous (Note: the expected number of in-bound and out-bound coal train trips should be documented as to number per day, week, month and year, and if weekends and overnight deliveries are planned). Single-event (worst; loudest) noise levels (e.g., 85 dBA) should be provided for the most affected residences for construction conditions (e.g., pipe cleaning blowdowns) and operational conditions (e.g., valve releases). EPA-32

- With regard to noise impact assessment, EPA believes all increases in noise levels are impacts and that increases of +10 dBA and greater are significant impacts (a +10 dBA increase is perceived as a doubling of noise). A general EPA guideline for an acceptable edge-of-property-line noise level is 55 dBA. Federal Highway Administration (FHWA) and U.S. Department of Housing and Urban Development (HUD) noise guidelines also exist. FHWA guidelines include absolute levels of 67 dBA L_{eq} for residential sites and 72 dBA L_{eq} for commercial sites (noise mitigation is to be considered when these levels are approached or exceeded). Also, public perception of noise impact levels are described in EPA literature (EPA 1971). For example, average noise levels up to 62 L_{eq} have been perceived as "normally acceptable." The final POS should include such information in order to put results into perspective. EPA-33

- Feasible noise mitigation should be initiated by TECO if project impact level predictions are significant. Mitigative methods include: EPA-34

* Vegetated earthen berm noise barriers
* Concrete, metal or wooden noise barriers
* Dense vegetation barriers (200 ft = 10 dBA attenuation)
* Residential improvements (central air conditioning, allowing for closed windows)
* Residential soundproofing (insulation, etc.)
* Residential purchase
* Public announcements of scheduled single events (e.g., valve releases)
* Use of "hush houses" around stationary construction equipment as insulation
* Limiting construction hours to 8-10 daylight hours if receptors are nearby and are predicted to be affected.

The EPA contact for noise issues is Chris Hoberg of my staff (Environmental Policy Section) at (404) 347-3776.

AIR QUALITY

In addition to the previously-reviewed "Draft PSD Ambient Air Monitoring Plan" for which EPA provided comments in a letter dated March 7, 1991 to your attention, we have now reviewed the Appendix A "Air Quality Modeling Protocol" of the draft POS. We have no additional air quality comments at this time. EPA-35

The EPA contact for air quality issues is Lewis Nagler (Regional Meteorologist) of the Source Evaluation Unit at (404) 347-2904.

NEPA

Page 1-3 of the draft POS indicates that the Site Certification Application (SCA) will also serve as the Environmental Assessment (EA) for the proposed project. If so, it should be mentioned that for purposes of NEPA, an EA should include a project need analysis and reasonable alternatives, affected environment, and environmental impact analyses. However, the project as presently proposed undoubtedly will be determined to be an NPDES new source project subject to the requirements of 40 CFR Part 423. If so determined, we believe that an Environmental Impact Statement (EIS) as opposed to an EA would be the appropriate NEPA document, i.e., as a power plant project requiring a federal NPDES permit, the proposed project would be considered a major federal action with potential environmental and human health impacts. EPA, as the lead federal agency, would prepare the EIS through a third party contractor or the EPA NEPA contractor. The applicant (TECO) would provide the appropriate information to support the EIS development and would provide a third party contractor (to be approved by EPA), if this option is selected. EPA-36

Assuming an EIS as opposed to an EA is necessary, more extensive documentation would need to be developed. Briefly, the EIS alternatives analysis should review the various alternative sites EPA-3

considered by TECO (preferably a tabular rating of environmental, economic, and siting factors) and the reasons why alternatives were rejected. Alternative power generation methods, power conservation, and other options should also be addressed in the analysis. The project need analysis should discuss if and why (or why not) the proposed project is justified based on power need projections, etc. The discussion should include a determination/comments from the Florida Public Service Commission (PSC). The affected environment section should provide a baseline for existing conditions. The environmental impact analysis should include a reasonable worst-case scenario and perhaps an "operational" scenario which may be more representative of typical conditions. Mitigation for any unavoidable impacts should also be addressed with mitigation plans/proposals provided.

The EPA contacts for NEPA issues are myself or Chris Hoberg and Dr. Gerald Miller of my staff (Environmental Policy Section) at (404) 347-3776.

EPA appreciates the opportunity to provide these comments on the draft POS. Additional comments on the proposed project will be made to the State of Florida and/or TECO applicant as the project progresses. Should you have questions regarding our comments, do not hesitate to contact me or Chris Hoberg (Project Monitor) of my staff at (404) 347-3776, or the EPA reviewer indicated for each discipline.

Sincerely,

For Gerald F. Miller

Heinz J. Mueller, Chief
Environmental Policy Section
Federal Activities Branch

cc: Jerry L. Williams - TECO; Tampa, FL

FLORIDA DEPARTMENT OF NATURAL RESOURCES

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399

Tom Gardner, Executive Director

Lawton Chiles
Governor
Jim Smith
Secretary of State
Bob Butterworth
Attorney General
Gerald Lewis
State Comptroller
Tom Gallagher
State Treasurer
Doyle Conner
Commissioner of Agriculture
Betty Castor
Commissioner of Education

March 22, 1991

RECEIVED
MAR 27 1991
DER - BAQM

Mr. Jerry L. Williams
Director, Environmental
Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601-0111

Dear Mr. Williams:

RE: Polk Power Station Draft Environmental Licensing Plan of Study

The Department of Natural Resources' Bureau of Mine Reclamation staff have reviewed Tampa Electric Company's (TECO) Plan of Study (POS) for the Polk Power Station. Pursuant to Section 403.5063(2), Florida Statutes (F.S.), the department, now a statutory party to the Siting Certification process, is notifying TECO and the Department of Environmental Regulation (DER) of additional information which should be considered and studied in the Plan. Department comments are as follows:

1. Throughout the POS, the applicant refers to stormwater runoff the from plant site, thermal and chemical water quality of the reservoir, and wastewater to be discharged into the cooling pond. The cooling pond is to discharge into future reclamation west of S.R. 37 (area I), and potentially be connected to reclamation in areas G and C as depicted on figure 2.3-1. Be aware that in accordance with subsection 16C-16.0051(6)(b), Florida Administrative Code (F.A.C.), water within reclaimed wetlands and waterbodies shall be of sufficient quality to allow for recreation or support fish and other wildlife. Please address what assurances the applicant can provide and demonstrate through data the pond water quality, flora, and fauna which have been known to exist in similarly designed reservoirs and the receiving treatment-wetlands and waterbodies. Will there be any chemical concentrations in aquatic flora or fauna which will have the potential to cause detrimental effects to consumers. How will the on-site bald eagle be affected by this siting? What impacts will an elevated temperature have on pond and receiving wetland and waterbodies floral and faunal communities. FDNR-1

2. The department also has provisions in which all discharge entering waters of the state shall meet DER water quality standards. FDNR-2

3. Transmission and pipeline location sitings within mandatorily mined out lands will have to also be coordinated with the postreclamation land use and reclamation activity time schedule. FDNR-3

4. In the "conceptual facility design assumptions and land requirements" utilized in planning this POS, to what extent, if any, were mine reclamation requirements and rule 16C-16, F.A.C., goals considered? The bureau requests that the applicant investigate how the requirements in our rules can best be achieved. Document differing alternatives and the chosen design which the applicant feels meets the goals and intent of reclamation requirements to the fullest extent. Alternatives and compensation for not meeting requirements should not be limited to the project site as depicted on figure 1.4-2. FDNR-4

5. Figure 2.3-1: FDNR-5

Detail in this figure and in section 2.3 is insufficient to determine any compliance with reclamation requirements. Much greater detail is required along with a written description regarding design, elevations, drainage pattern, vegetation... Timing of reclamation, establishment and protection, site construction and facility utilization must be discussed to determine compliance with rules.

Note that IMCF has incorporated a portion of area A in their pending conceptual plan for this area. This indicates this acreage may be in their future mine plans.

Please take note that discussions with the bureau's Nonmandatory Phosphate Section indicate that areas A and B are not eligible for reimbursement from the nonmandatory trust fund as expressed in your POS. Although the areas were mined and disturbed prior to 1975, certain parcels were not listed as "eligible" for diverse reasons.

In TECO's mine site description, it is noted that area C will be mined out in 1991. Informal discussions with the mine operator indicate that an alternative mine sequence may leave a portion of this area to be mined at a later date. Reclamation in this area will take approximately 7 years from the initiation of contouring activities through final release of the reclamation obligation. The program area must be protected from adverse impacts until final release. How does TECO anticipate to protect this parcel from construction and plant related impacts? Further discussion regarding facility construction, use impacts and timing is required.

It is noted under items D, E, and H that "reclamation plans developed by Agrico for this parcel have been approved by FDNR". These plans are inconsistent with the mine operator's current disposal scheme; therefore, modification to the conceptual plan is pending and new programs would be required for this region. Comparison of the approved programs and/or conceptual plan for this region would be meaningless since the disposal and reclamation plans were proposed and approved under antiquated rule requirements.

The legend on this figure is not accurate. Areas D and H are noted as non-disturbed; however, as depicted on aerial maps and the mine operator's annual report both areas are highly disturbed by mining operations and will require full compliance with rule requirements.

It seems that the use of area C and G's wetlands and waterbodies is undetermined at this point. TECO must provide detailed land use and topography maps, a description of area C, G, and I's use, and sequencing in order for the bureau to adequately comment on these areas.

The diagram appears to indicate that the eagle's nest buffer will be encompassed in the cooling reservoir. If so, please investigate potential impacts of accelerated reservoir temperatures, water quality, saturation, decomposition, and erosion to substrate and vegetation. Should area F not be immersed in the pond, design of pond should be better depicted.
What months will construction activities take place in the vicinity of the nest? Timing should be coordinated with the US Fish and Wildlife Service and the Florida Game and Fresh Water Fish Commission.

Final release of area G cannot be determined at this time due to a required amendment which has not been submitted to date. However, should the program be adversely impacted prior to this period, it is possible that revegetation would be required. This would extend final release until vegetation has become established and would require protection until that time. The vegetation requirements alluded to in the above items will similarly apply to all mandatorily mined and disturbed lands as required in rule 16C-16, F.A.C.

Programs within area I are noted in the POS as being approved by the department. This is only true for one of the three LRUs in this area.

6. The conceptual plan submittal should precede LRU application submittals FDNR-6
This will allow plan comments to be incorporated into the LRUs. This sequencing would allow for more acceptable LRU submittals eliminating parallel problems in both the plan and the more detailed LRUs.

7. Please note that currently Agrico has two pending conceptual plan FDNR-7
modifications for the Fort Green Mine. Before the bureau can consider approving an alternative land use for this proposed site, Agrico's waste disposal plans must be resolved. Further, the bureau must be confident that all the reclamation requirements in section 16C-16.0051, F.A.C., are being met and adequately compensated for, where provisions are insufficient.

8. Baseline Monitoring and Impact Assessment FDNR-8

Note that geohydrology, surface water quality and hydrology, aquatic ecology, and terrestrial ecology sections are difficult to substantially comment on due to lack of detail on sampling methodology and parameters to be evaluated.

Overall however, since the bureau requires the reclamation and restoration of premining disturbance watershed boundaries, topography, and habitat, it is insufficient to use data collected at the disturbed mine site. An extensive literature review will be required. Should this be inadequate, TECO may need to supplement data with information obtained from an undisturbed reference site. Utilization of premining data in comparison to post-plant siting impacts should be analyzed for each parameter studied as defined in sections 4.2, 4.3, 4.4, and 4.5. Further, TECO must consider alternatives and compensation measures in these analyses in order to meet reclamation and restoration goals. This should not be limited to the project site as depicted on figure 1.4-2.

"Impacts from construction and operation of the proposed power plant must be compared to the current mining and planned reclamation conditions". The bureau does not agree with this statement. As stated above and under item 5, reclamation is to emulate premining conditions. The currently approved programs were approved under antiquated rules with completely different circumstances which have since changed (independent of this proposed siting). Moreover, after reclamation activities are completed in a typical mine, the area is either designated for wildlife usage, with little to no human activities, or is Mr.
designated as improved pasture with low intensity activity. Less frequently, land has been utilized for cropland which requires more intensive manipulation; however, these postreclamation activities have either a positive impact or significantly less impact than a power plant facility.

9. Geohydrology concerns which should be investigated include: FDNR-9

Groundwater and surfacewater quality impacts to the Floridan aquifer due to mining of confining layers and exposure to power plant and wastewater effluent. Alteration of planned groundwater seepage contributions from the Payne Creek and Little Payne Creek basins to the South Prong of the Alafia. Effects on upstream, downstream, intermittent tributaries, mass flow/peak flow alteration, ground/surfacewater elevations, vegetative zones and wildlife.

Determine potential impacts from cooling pond lateral seepage to reclaimed land.

10. Surface water quality and hydrology concerns which should be investigated include: FDNR-10

Indicate the source/location of groundwater seepage and what impacts interception of this flow into this closed system will have on the premining basin in which the source originally contributed.

Further detail the level of treatment of the sanitary wastewater to be discharged.

Potential changes in surfacewater drainage patterns are inconsistent with section 16C-16.0051, F.A.C. Alternatives or compensation must be adequately addressed and resolved.

Alteration, particularly a decrease in Payne Creek and Little Payne Creek average stream flows will be highly scrutinized. Hydrology modeling for these basins as well as the South Prong will be required. Detail, regarding the methodology and presentation of findings may be obtained by contacting the bureau's Technical Section.

Please address the attached comments from Mr. Steve Partney.

11. Aquatic Ecology concerns to be investigated: FDNR-11

Address impacts to downstream communities of impacted waters of the state, Payne Creek, Little Payne Creek, and the South Prong of the Alafia in comparison to premining disturbance.

Please address the attached comments from Mr. Doug Oliver.

12. Terrestrial Ecology concerns to be investigated: FDNR-12

Please identify survey period and source of the species list in table 4.5-1.

Section 4.5.1.3. indicates that the terrestrial study should be under existing conditions. Utilization of this data is insufficient to meet bureau standards. Refer to item 8 comments.

Should you have any questions regarding department comments, please call me at (904) 488-8217. Bureau staff are available to meet with you and ECT regarding the siting of this power plant.

Sincerely,

Cheri Lynn Albin
Environmental Supervisor

Enclosures

xc: Hamilton Oven, Jr., DER
Selwyn Presnell, Agrico
Gary Uebelhoer, ECT
Bobby White, DNR

CLA/seb

FLORIDA DEPARTMENT OF NATURAL RESOURCES

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399

Tom Gardner, Executive Director

Lawton Chiles
Governor
Jim Smith
Secretary of State
Bob Butterworth
Attorney General
Gerald Lewis
State Comptroller
Tom Gallagher
State Treasurer
Bob Crawford
Commissioner of Agriculture
Betty Castor
Commissioner of Education

March 26, 1991

Mr. Hamilton Oven, Jr., Administrator
Siting Coordination Section
Division of Air Resources Management
Department of Environmental Regulation
2600 Blairstone Road
Tallahassee, Florida 32399-2400

Dear Mr. Oven:

FDNR-13

We have reviewed the Draft Environmental Licensing Plan of Study for the Tampa Electric Company/Polk Power Station and offer the following comments:

Routing of transmission lines over or adjacent to natural resource lands such as parks, recreation areas, preserves or reserves should be considered a major issue and a discussion of the issue should be included in the plan of study as well as the site application.

Concerns of our Bureau of Mine Reclamation have been previously communicated to Tampa Electric, a copy of that letter is attached. We ask that these concerns be included as part of our response to the draft Plan of Study.

Sincerely,

B. J. White
Environmental Administrator
Office of Land Use Planning
and Biological Services

BJW/jp
Attachment
cc: Eugene McClellan
Office of General Counsel

MEMORANDUM

RECEIVED

Bureau of Mine Reclamation

March 15, 1991

TO: Vicki C. Sharpe, Biological Scientist
Bureau of Mine Reclamation

FROM: Doug Oliver, Biological Scientist
Technical Services Section
Bureau of Aquatic Plant Management

FDNR-14

RE: Tampa Electric Company - Draft Environmental Licensing Plan of Study

I am pleased to send the comments below concerning the Aquatic Ecology Monitoring Section of the southwest Polk County TECO Plan, as you requested.

1) On the AQUATIC ECOLOGY MONITORING cover page, I agree with the proposed approach of doing Wet Season and Dry Season sampling events. This bi-seasonal approach is very common in such environmental studies, especially in the climate of West Central Florida.

2) On the same page, is Fisheries Sampling supposed to be followed by "Seining" rather than "Sieving"?

3) Will sampling of this kind be done before initiation of construction, in 1991, 1992, or 1993? I recommend such a "Before" study, as well as an "After" study, in 1994 or 1995. Before and After comparisons should give some feedback on whether or not construction or operational startup cause significant impacts to macroinvertebrates or fish (as well as water quality).

/jdo

MEMORANDUM

TO: Cheri Albin, Vicki Sharpe

FROM: Steve Partney

SUBJECT: TECO Plan of Study

DATE: March 14

FDNR-15

The TECO plan of study indicates that they plan to shift approximately 2000 acres out of the Little Payne Creek watershed into the South Prong Alafia watershed. This is in direct conflict with 16C-16.0051(7)(b): ...watersheds shall be restored within their original boundaries.

Since the proposed change is a first order shift, the environmental and public safety consequences could affect a large portion of the state. In fact, from a quantity standpoint, the shift is in the exact opposite direction from the most beneficial plan. The Alafia River basin, especially in the lower reaches, already has flooding problems. The Peace River is notoriously dry along the upper reaches. If any change in watershed is made, the shift should be to the Peace River. At a minimum, TECO should be required to maintain the present drainage boundaries.

TECO should be required to develop a plan which will return the site drainage to the Peace River watershed (of which the Little Payne watershed is a part). The construction of a new creek may be necessary to preserve drainage patterns. Cost should not be a consideration.

The altered drainage plan needs to be modeled as described in the Plan of Study. There is no reason to evaluate the proposed plan, as it is totally unacceptable.

STATE OF FLORIDA
DEPARTMENT OF COMMUNITY AFFAIRS

2740 CENTERVIEW DRIVE • TALLAHASSEE, FLORIDA 32399

LAWTON CHILES
Governor

WILLIAM E. SADOWSKI
Secretary

April 3, 1991

Mr. Hamilton S. Oven
Department of Environmental Regulation
Office of Siting Coordination
2600 Blair Stone Road
Tallahassee, Florida 32399

Dear Mr. Oven:

We have reviewed the draft plan of study (POS) for Tampa Electric Company's proposed Polk Power Station and have the following comments:

1. Tampa Electric Company (TECO) is apparently still evaluating coal-fired power-generating technologies for its proposed 500-megawatt base-load power plant. Among coal-fired technologies the Department has a strong preference for "clean coal" technologies over conventional pulverized coal technology because of the former's cleaner emissions and wastes. Because the different energy-generating technologies do have different emission profiles and therefore differ in environmental impact, the Department desires to see a comparison of these various technologies, showing their different environmental impacts and energy-conversion efficiencies (heat rate) in the site certification application (SCA)--unless this is provided in TECO's 1991 10-Year Site Plan, as stated in the draft POS. FDCA-1

2. The evaluation of the impact of withdrawing water from the Floridan aquifer should include its effects on stream flow, wetlands, and well yields. FDCA-2

3. The POS states that the reservoir will only discharge water during extreme storm events. What is the predicted return interval for these events? What happens during these extreme storm events, in regard to discharge flow rate and impact on receiving waters? Will the presence of the reservoir exacerbate FDCA-3

the impacts of extreme storms?

4. The description of land use in the SCA should include the location of the nearest residences, residential areas, and areas designated as residential in the future land use maps of affected local governments. FDCA-4

5. When the SCA discusses the visual impact of the power plant and its associated facilities, it should estimate (a) the area within which they can be seen and (b) the population in the affected area. FDCA-5

6. By the time of application of the Polk Power Station, it is likely that both Hillsborough and Polk counties will have local comprehensive plans that have been found in compliance by the Department. Therefore the Department's standards for determining the project's impact on transportation systems will be those of the local government with jurisdiction--i.e., the project will require a determination of concurrency by the local government. FDCA-6

7. Note that land use data must be current to within 12 months of the filing of the SCA. FDCA-7

8. Measurement of ambient noise and the estimation of noise to be generated by power plant construction and operation should be done for the surrounding residential areas--both existing and designated on future land use maps. FDCA-8

Please include our comments in your response to the applicant.

Sincerely,

J. Thomas Beck

J. Thomas Beck, Chief
Bureau of State Planning

JTB/rpd

FLORIDA DEPARTMENT OF TRANSPORTATION

GOVERNOR
LAWTON CHILES

BEN G. WATTS
SECRETARY

NEF-L103-91
March 26, 1991

RECEIVED
MAR 29 1991
DER BAQM

Mr. Hamilton Oven, Jr., P.E.
Administrator, Siting Coordination Section
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RE: PRE-APPLICATION - DRAFT ENVIRONMENTAL LICENSING PLAN OF STUDY - TEC POLK POWER STATION - PRELIMINARY REVIEW COMMENTS

Dear Mr. Oven:

The Florida Department of Transportation has completed its review of the above referenced document. Our primary objective is to protect the operational integrity of the State Highway System. Our comments are based on the draft information provided us by the applicant and do not constitute a Sufficiency Response. We will forward our Sufficiency Response after we have received and reviewed the formal application for site certification. Among our concerns are the following:

Transmission line - Corridor selection - FDOT-1

The applicant indicates that they have not yet selected the corridors for their new transmission lines. We need to know their location as soon as possible. The degree that the project has impact on the State Transportation System can only be determined once the location and exact use of any proposed transmission line corridor is defined. Does the applicant plan to use any Department right of way ?

Pipeline Location

Similarly, the Department needs to know where the gas pipeline (s) will be located. Does the applicant have any plans to utilize Department right of way or tie any pipeline to Departmental bridges ? FDOT-2

Land Use/Transportation Plans

We are concerned with the compatibility of this project with the Utility Accommodation Guide, the Regional Policy Plans for the Tampa Bay and Central Florida Regional Planning Councils, as well as the Local Comprehensive Plans. FDOT-3

District One Southwest Area Office
P.O. Box 06117 4048 Evans Avenue, Suite 204 Fort Myers, FL 33906-6117
Phone: (813) 278-7120 SunCom: 729-7120 Fax: (813) 278-7014 Fax SunCom: 729-7014

Transmission Pole Location/Access Management

The Department asks to be informed as to the number of high voltage poles that the applicant intends to install. Additionally, we need to know the number and location of proposed access roads and their location along any State Highway (including the spacing between poles). FDOT-4

Safety

We ask that the applicant provide evidence to demonstrate that the proposed corridor will not pose a threat to human safety, navigation, emergency vehicle communication or hurricane evacuation. FDOT-5

The Department further requests that the applicant detail any plans for the transportation of toxic materials to and from the facility on the State Highway System.

Truck Traffic/Haul Routes

The applicant indicates that part of the fuel for the new facility will be oil and that oil will be trucked to the facility. We need to see a transportation analysis of truck traffic volumes, truck weights, and proposed hauling routes affecting the State Highway. FDOT-6

Level of Service

The transportation analysis needs to assess the current level of service (LOS) of any State road within the site study area of the proposed facility, as well as the predicted LOS with background traffic and the project added. FDOT-7

Mitigation/Costs/Indemnification

The applicant will need to submit a plan to mitigate any significant transportation impacts generated by the facility onto the State Highway System. The mitigation plan needs to identify the costs of needed improvements, the funding source (s) and a schedule of their completion concurrent with the start up of expanded operations. FDOT-8

The Department is also concerned that the applicant bear all costs of the installation of the proposed facilities, the on-going maintenance, appropriate user and permit fees, the costs of any re-location of transmission line poles or pipeline resources as well as the indemnification of the Department from any injury or negligence arising out of the installation or operation of the proposed facilities on permanent basis.

We look forward to the receipt of the formal application for site certification. If you have questions on this project please contact Stacey F. Wilson, of this office, at (813) 278-7120. Thank you for the opportunity to participate in this important review process.

Sincerely,

Norman E. Feder
District Director

NEF/SFW/km

cc: Thorton Williams, FDOT General Counsel
Suzanne Cooper, TBRPC
Brian Sodt, CFRPC
Howard Glassman, FDOT
Stacey Wilson, FDOT
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Jim Wilt, FDOT
Phil Clark, FDOT