

State of Florida



Public Service Commission

CAPITAL CIRCLE OFFICE CENTER • 2540 SHUMARD OAK BOULEVARD
TALLAHASSEE, FLORIDA 32399-0850

-M-E-M-O-R-A-N-D-U-M-

COMMISSION
CLERK

SEP -5 PM 2:04

RECEIVED-FPSC

DATE: September 6, 2012
TO: Ann Cole, Commission Clerk, Office of Commission Clerk
FROM: Charles W. Murphy, Senior Attorney, Office of the General Counsel *CM*
RE: Docket No 110262-EI / Site Remediation Documents

Please include the attached documents related to site remediation in the docket file.

DOCUMENT NUMBER-DATE

06003 SEP -5 12

FPSC-COMMISSION CLERK

Charles Murphy

From: Bryant, Howard T. [htbryant@tecoenergy.com]

Sent: Wednesday, September 05, 2012 11:36 AM

To: Charles Murphy

Cc: Carpinone, Paul L.; Beasley, Jim

Subject: Documentation

Attachments: DEP Letter Approving April 2015.pdf; Remedial Action Plan with DEP Letter of Approval.pdf

Charlie,

As part of the previously submitted Consent Order ("CO"), Tampa Electric was required to take remedial action toward its existing gypsum storage area. This was initially described in the CO on pages 10 and 11, paragraph 16.e, and further described in Attachment 2, page 5, Part 4 – Remedial Planning and Remedial Actions, paragraph 10 of that same document.

Attached to this email you will find the items listed below. A description of relevance to the CO is provided with each listing.

1. Tampa Electric's Remedial Action Plan ("RAP") attached to the DEP letter dated January 24, 2007 approving the company's RAP. The RAP developed by Tampa Electric detailed the company's action it would take to comply with the CO. The reference to lining the existing gypsum storage area is on page 6 under the section titled, "FGD Storage Area/Conveyer."
2. The May 20, 2010 letter from DEP approving the extended deadline for lining the existing site until April 2015. Tampa Electric requested a modest delay of the lining project until April 2015 and this letter approved the extension.

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9/5/2012

DOCUMENT NUMBER-DATE

06003 SEP-5 2012

FPSC-COMMISSION CLERK



File - LC 8.1.17
Florida Department of
Environmental Protection

Southwest District
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

CERTIFIED MAIL 7004 1350 0002 5571 4619
RETURN RECEIPT REQUESTED

January 24, 2007

RECEIVED

JAN 25 2007

Environmental, Health
and Safety

Mr. Hugh W. Smith, Vice-President
Tampa Electric Company, Energy Supply Trading and Service
P.O. Box 111
Tampa, FL 33601-0111

Re: TEC Big Bend Facility, 13031 Wyandotte Road, Hillsborough County
OGC Consent Order 00-1275 and IW Permit # FLA017047-002-IW1N

Dear Mr. Smith:

The Department has completed its review of the information contained in the ECAP and addendums to the ECAP submitted to the Department pursuant to paragraph 16 of Consent Order 00-1275, the information submitted with and in support of the application to renew the Industrial Waste Water Permit identified above, and the proposed Remedial Action Plan (RAP), and the site wide Groundwater Monitoring Plan. Our review also included an evaluation of surface water quality data generated by both the Department staff and TEC's consultants from samples of the surface waters immediately surrounding the industrial wastewater and waste management units at the TEC Big Bend Facility. The Remedial Corrective Plan is required pursuant to paragraph #16 and attachment #2 in Consent Order 00-1275 and §403.088(2)(f), F.S.

TEC's Remedial Action Plan and Groundwater Monitoring Plan, attached hereto is approved and is authorized to be implemented by the execution of this letter. Any additional information requested by the Department to evaluate the submittals provided by TEC in the implementation of the RAP shall be provided to the Department in accordance with paragraph 17 of Attachment #2 to Consent Order 00-1275.

As provided by Paragraph #19 of Attachment #2 of Consent Order 00-1275, once a RAP has been approved by the Department, it shall become effective and made a part of the Order and shall be initiated according to the schedules included in the RAP. All reporting and notification requirements spelled out in Part 6 of Attachment #2 to Consent Order 00-1275 shall be complied with during the implementation of the RAP tasks.

This RAP approval by the Department, will constitute the Order required by §403.088 (2)(f), F.S., and with the execution of this letter, the Department intends to issue TEC an Intent to Issue the permit to continue the operation of the Industrial wastewater system at Big Bend while the corrective actions to return the facility to compliance are implemented and completed. The proposed draft permit intent will be sent to TEC for review as soon as it is prepared.

With regard to this agency action taken by the Department concerning Respondent's proposed RAP submitted by the Respondent to the Department as required by the terms of Paragraphs 16, 22 and 23, Respondent may file a Petition for Formal or Informal Administrative Hearing. If Respondent objects to the Department's agency action pursuant to Sections 120.569 and 120.57, Florida Statutes, Respondent shall have the burden to establish the inappropriateness of the Department's agency action. The petition must contain the information set forth in paragraph 28 and must be filed (received) at the Department's Office of General Counsel, 3900 Commonwealth Boulevard, MS-35, Tallahassee, Florida 32399-3000, within 21 days of receipt of the Department's agency action the Respondent intends to challenge and must conform with the requirements of Florida Administrative Code Rule 28-106.201 or Rule 28-106.301. Failure to file a petition within this time period shall constitute a waiver by Respondent of its right to request an administrative proceeding under Sections 120.569 and 120.57, Florida Statutes. The Department's determination, upon expiration of the 21 day time period if no petition is filed, or the Department's Final Order as a result of the filing of a petition, shall be incorporated by reference into this Consent Order and made a part of it. All other aspects of this Consent Order shall remain in full force and effect at all times. If both parties agree, the Department and Respondent may mediate the dispute as provided in Section 120.572, Florida Statutes. If the parties agree to mediation, the time for filing a petition pursuant to this paragraph is tolled until such time as the mediation is unsuccessful. Upon notice from the Department that the mediation is unsuccessful, the Respondent shall have 21 days to file its petition as provided herein.

If Respondent seeks an administrative proceeding pursuant to this paragraph, the Department may file suit, including injunctive relief, against Respondent in lieu of or in addition to holding the administrative proceeding to obtain judicial resolution of all the issues unresolved at the time of the request for administrative proceeding.

Notice of Rights

Persons who are not parties to this RAP and Groundwater Monitoring Plan approval but whose substantial interests are affected by this RAP or Groundwater Monitoring Plan approval have a right, pursuant to Section 120.57, Florida Statutes, to petition for an administrative hearing on it. The Petition must contain the information set forth below and must be filed (received) at the Department's Office of General Counsel, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3400, within 21 days of receipt of this notice. A copy of the Petition must also be mailed at the time of filing to the District Office named above at the address indicated. Failure to file a petition within the 21 days

constitutes a waiver of any right such person has to an administrative hearing pursuant to Section 120.57, Florida Statutes.

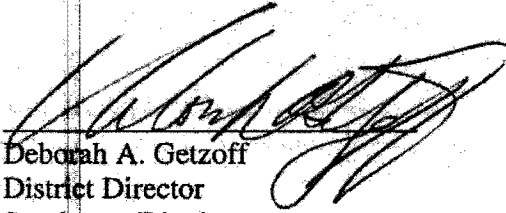
The petition shall contain the following information:

(a) The name, address, and telephone number of each petitioner; the Department's Consent Order identification number and the county in which the subject matter or activity is located; (b) A statement of how and when each petitioner received notice of the Consent Order; (c) A statement of how each petitioner's substantial interests are affected by the Consent Order; (d) A statement of the material facts disputed by petitioner, if any; (e) A statement of facts which petitioner contends warrant reversal or modification of the Consent Order; (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Consent Order; (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Consent Order.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the subject Consent Order have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 21 days of receipt of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes, and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 60Q-2.010, Florida Administrative Code.

Executed in Hillsborough County, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



Deborah A. Getzoff
District Director
Southwest District

JMF/sjp

Attachments

Copies furnished to:

Richard Garrity, PhD, HCEPC
Larry Morgan, OGC Tallahassee
Jeff Greenwell, P.E., FDEP Tampa, Water Facilities
William Kutash, FDEP Tampa, Waste

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this **NOTICE OF AGENCY ACTION** and all copies were mailed before the close of business on January 24, 2007 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to
Section 120.52(10), Florida Statutes,
with the designated Department,
Clerk, receipt of which is hereby
acknowledged.

Anna Blum

Clerk

1/24/07
Date

TEC Big Bend REMEDIAL ACTION PLAN

There are several long-term environmental initiatives proposed at Big Bend Station that Tampa Electric Company (TEC) is planning on implementing over the next few years. While some of the environmental enhancement projects are relative to the FDEP Consent Order 00-1275, there are several enhancement projects TEC plans on implementing voluntarily that are outside the requirements of the Consent Order. TEC is seeking Department concurrence on all of the proposed environmental enhancement projects.

Each unit at Big Bend Station was permitted and constructed in accordance with all applicable regulations in place at the time of their construction (1970's for units 1-3 and 1980's for unit 4). Although each component of the station met all of the applicable regulations when it was constructed, additional design requirements and standards have since been put in place. TEC will continue to work with the Department to address current regulations, current construction practices, and outstanding obligations required by the Consent Order. TEC's individual environmental enhancement projects and anticipated schedules are listed below along with the proposed Department regulatory action. The attached Improvement timeline chart outlines the anticipated implementation schedule for these environmental enhancements. (Attachment 1)

Settling and Recycle Pond

Issue

Current power plant design practices may require the lining of solids settling ponds and recycle water ponds with an impervious material. For this reason, and due to the alleged groundwater and surface water impacts that are occurring from the operation of the Settling Pond and the Recycle Pond, TEC will either line/redesign these ponds or construct new ponds with impervious bases and side walls and modify, remove or eliminate the existing pond systems from the industrial wastewater management system. The latest groundwater monitoring plan provided to the Department has the potential to demonstrate different results than the previous ground water monitoring plan. Sampling collected in accordance with the Environmental Contamination Assessment Plan (ECAP) Phase I & II have shown elevated levels of secondary constituents and some "free-from" constituents. The lining of the ponds should minimize any future potential impacts to groundwater or surface water and should ensure compliance with groundwater standards as contained in Chapters 62-520 and Chapter 62-302, Florida Administrative Code ("FAC").

Implementation Vehicle

The proposed Settling and Recycle Pond Project is a part of the RAP in accordance with Attachment 2 of the Consent Order that requires lining, remediation or redesign of the recycle and settling ponds.

Action

The existing **Settling Pond** will be lined and redesigned in place. The Settling Pond will be, designed to substantially minimize or eliminate potential ground water or surface water impacts from the unit and assure compliance with Chapters 62-302 and 62-520, FAC. The Settling Pond will either be lined with an HDPE liner, or more likely, it will be a newly designed system for solids precipitation and handling as well as groundwater protection. Conceptually, the new solids handling area will consist of three operating settling basins. One side would be used to settle material received predominantly from the FGD process area. One will be used to settle material received from other sumps in the plant. The remaining settling bin will be used while one bin is out of service for removing material for drying. A smaller lined settling pond will also be constructed as part of the system. Once the water is decanted, the material will be removed for appropriate beneficial reuse, or disposal to an appropriate FDEP permitted disposal site, if a beneficial use market is not available. Decanted wastewater, runoff or seepage from dredge material generated during material removal will be managed within the existing berms of these ponds so that all waste waters, runoff or drainage will contained and return to the wastewater system. The in-service area and the out-of-service area would be alternated similar to the operations of the existing bottom ash storage area/pond systems. Conceptually, the base and side walls would be constructed of a substantially thick impervious concrete so that equipment may enter the out-of-service area to assist with the removal of solids. The plant process water that collects in the chambers will decant to the Recycle Pond.

The new impervious recycle ponds and settling basin will be constructed while the existing pond systems remain in place thereby affording the plant continued and uninterrupted operations. The new additional recycle pond, referred to as the North Recycle Pond, will be constructed adjacent to the existing recycle pond slightly to the north in the existing unused sprayfield area.

Prior to commencing construction of the new settling structures and North Recycle Ponds, TEC will collect samples (as defined under "Sampling Protocol") to determine the depth of dredging that will be required for each existing settling and recycle ponds to meet the objective of removing a sufficient amount of material. TEC will then dredge out the bottom of the existing ponds to Department approved depths at a minimum in order to ensure that sufficient quantities of potential source material are removed. It is TEC's intention to remove reasonable quantities of dredge material that would be commensurate with the engineering requirements for pond modifications. Because TEC is not seeking a "clean closure" status with a "no further action" for these pond systems, the new or modified system will continue to support the settling and recycle water needs of the plant. Should long term groundwater monitoring adjacent to the ponds fail to demonstrate compliance or a trend toward compliance with groundwater standards, TEC may be required to pursue the installation of an engineering control as an environmental protection measure or system to protect the groundwater from potential leaching of source material that has not been removed in its entirety.

CCPs/Dredge Material Removed

TEC will document the total volume of CCPs/dredge material removed from the ponds. Following removal of CCPs/dredge material, the Department will be provided with information containing the ultimate disposition of this material. The ultimate disposition of dredged material will include appropriate beneficial use at facilities that can promote reuse as desired by the Department and/or appropriate landfill(s) where beneficial use opportunities may not be feasible.

Sampling Protocol -- Settling and Recycle Pond

Once ponds are dewatered but prior to by-product material removal, core samples of the pond sediment/soil profile will be taken and analyzed by SPLP testing to determine an excavation elevation that will demonstrate that sufficient volumes of visually discernable by-products and contaminated pond bottom materials will be removed to reasonably eliminate materials that might contribute to groundwater contamination by leaching. The Department and TEC will agree upon the elevation prior to dredging the source material. SPLP sampling will be conducted as defined in the paragraphs below in this section.

In March 2003, TEC completed a report that quantified the leaching potential for material that had accumulated in both the recycle and settling ponds. The report was provided to the Department. Of the twenty-five parameters tested in Table 1 below, thirteen parameters were detected. Of the 13 parameters detected, only one exceeded a primary water quality standard (fluoride), two exceeded a secondary water quality standard (manganese and sulfate), and two parameters were above their respective guidance concentrations (boron and molybdenum).

In Aug 2001 and May of 2003, TEC evaluated the possible impacts of these wastewater and sludge management units on adjacent ground and surface water. In addition to the parameters noted above, several additional primary, secondary and minimum criteria contaminants were identified as being above levels of concern. These parameters are identified in the table below in italics.

Based on the SPLP leaching potential characterization results of the aforementioned parameters, only 5 of the 25 parameters tested exceeded its respective primary standard, secondary standard, or guidance concentration. Based on the ECAP sampling, 7 additional parameters were identified. Prior to commencement of all dredging activities for all settling and recycle pond projects, TEC will sample the lower extent of the by-product, sediment and pond bottom soils in the pond systems in accordance with EPA Publication SW 846, Chapter nine. The material sampled will be analyzed for the 5 parameters highlighted and the seven parameters italicized in Table 1 below.

Subsequent to the sampling activity, TEC will submit a report to the Department. The report will be similar in format to the waste characterization reports that have been previously submitted to the Department. At a minimum, the report will contain information on sampling, sampling diagram, parameters sampled and analyzed, analytical method, table of results, and pertinent lab information. The report will present a proposal for a depth (elevation MSL) to which the ponds will be excavated. All excavated materials that cannot be reused will be disposed of in a permitted landfill.

If TEC and the Department are unable to reach consensus regarding the samples' analytical results regarding whether or not sufficient material will be removed during this project, then the RAP schedule will be adjusted in accordance with the time delayed until resolution is made.

Table 1
Proposed Parameters for
CCP SPLP Characterization
Recycle/Settling Ponds

PARAMETERS	Groundwater Criteria (mg/l)	Primary & Secondary Standards
<i>Aluminum</i>	0.2	S
<i>Antimony</i>	0.006	P
<i>Arsenic</i>	0.010	P
<i>Boron</i>	0.63	GC
<i>Chloride</i>	250	S
<i>Fluoride</i>	4/2	P/S
<i>Iron</i>	0.3	S
<i>Manganese</i>	0.05	S
<i>Molybdenum</i>	0.035	GC
<i>Sodium</i>	160	P
<i>Sulfate</i>	250	S
<i>Thallium</i>	0.002	P

Groundwater monitoring will be continued to demonstrate the anticipated groundwater quality improvements within this immediate area following the installation of the new system. Once the plant reclaims solids, TEC proposes to either line this pond with an impervious material or construct a replacement pond near by. The use of an impervious material in the new ponds will substantially minimize or eliminate potential ground water or surface water impacts and its structural design will be adequate to support the intended material reuse and mining activities proposed for the unit. If new ponds are constructed in the adjacent area, the final alternate use and design proposed for the existing Settling and Recycle ponds will be submitted to the Department for review and approval within the timeframe identified in the RAP schedule prior to their placement in-service.

Schedule – Settling Pond*

Bid and Award Engineering

6 months from the approval of the RAP by the Department

Engineering**

6 months after award of the engineering contract.

Bid and Award Construction

6 months from approval of final engineering

Construction

18 months after award of construction contract

Schedule – Recycle Pond*

Construction of this Project is scheduled to start after completion of the Settling Pond construction described above due to the interdependencies. Bid, engineering award and design processes for this project will be completed prior to the completion of the construction phase of the settling pond described above.

Bid and Award Engineering

6 months from the approval of the RAP by the Department

Engineering**

3 months after the award of the engineering contract

Holding for Completion of Settling Pond

12 months or after completion of settling pond construction, whichever is earlier.

Bid and Award Construction

6 months from approval of final engineering

Construction

18 months from award of construction contract

* The schedule shall be tolled if any kind of third party intervention converts agency action to proposed agency action. The schedule will be tolled until the third party intervention has been disposed of, and the Department's agency action becomes final agency action.

** Final engineering shall be submitted to the Department for review prior to issuing bids. The Department shall make its best efforts to request additional information within 30 days from the date of receipt of the information. If the Department requests additional information, the Department shall make its best efforts to complete its review and advise TEC whether the plans are approved or disapproved within 60 days from the date of receipt of that additional information. If no additional information is requested, the Department makes its best efforts to complete its review within 90 days of the receipt of the initial submittal and shall advise TEC within that time period as to approval or disapproval.

FGD Storage Area / Conveyor

Issue

Current power plant design practices require storage areas to be lined to assure compliance with groundwater and surface water standards as contained in Chapters 62-520 and 62-302, FAC. For this reason, and due to the results of the Big Bend Environmental Contamination Assessment Plan (ECAP) Phase I & II, TEC will line and/or remediate both the gypsum conveyor and FGD by-product storage area.

Implementation Vehicle

This FGC Storage Area/Conveyor Project is a part of the proposed RAP in accordance with Attachment 2 of the Consent Order (OCG 00-1275) that requires lining, remediation or redesign of the FGD storage area.

Action

The **FGD By-Product Storage Area** may be relocated to the east sprayfield area unless an alternative is approved such as lining the existing gypsum storage area or other environmentally acceptable storage concept protective of groundwater and surface water impacts and acceptable to the Department. The designated gypsum storage area within the sprayfield would contain an impervious pad, series of storage bins, a building, or other Department approved system designed to minimize groundwater/surface water impacts due to runoff or leaching from this storage area. The newly constructed FGD areas will function as an industrial by product management area. The final design of the combination of covers, such as buildings or bins, and the impervious pad will be demonstrated to be adequate to either prevent runoff of contact stormwater into adjacent groundwater or surface water and/or infiltration of leachate into the groundwater from the new byproduct management unit. A new conveyor system would be built to transport gypsum to the new handling area or directly to National Gypsum. The new conveyor system will be designed to minimize the spillage or discharge of by product from the unit during operation.

Prior to commencing mining of the remaining gypsum at the current FGD By-Product Storage Area, TEC will collect samples (as defined under "Sampling Protocol" in this section below) to determine the depth of mining that will be required to meet the objective of removing a sufficient amount of material to reasonably remove materials that may continue to leach contaminants into underlying groundwater. TEC will then mine the remaining gypsum and contaminated soils to Department approved depths (elevation) in order to ensure that sufficient quantities of potential source material are removed. It is TEC's intention to then manage the mined gypsum with final destination as an approved beneficial use product, or disposal to permitted disposal site, if a beneficial use market is not available. Once all reusable by product has been removed from the existing storage area and the conveyor path, sufficient quantities of visually discernable gypsum will be removed for disposal in a permitted landfill or Department approved reuse.

It is TEC's intention to remove reasonable quantities of gypsum material that would be commensurate with closing out the existing gypsum storage area and conveyor system. During the RAP phased, TEC is not seeking a "clean closure" status with a "no further action" demonstration following closure of the existing gypsum storage area and

conveyor system, rather only that the amount of contaminated material removed can be reasonably anticipated to result in improved ground and surface water quality in this area.

CCPs/Dredge Material Removed

TEC will document the total volume of gypsum material removed from the gypsum storage area and along the gypsum conveyor system as appropriate. Following removal of excess gypsum material, the Department will be provided with information containing the ultimate disposition of this material. The ultimate disposition of dredged material will include appropriate beneficial use at facilities that can promote reuse as desired by the Department and/or appropriate landfill(s) where beneficial use opportunities may not be feasible.

Sampling Protocol -- FGD Storage Area / Conveyor

In May 2001, TEC completed a report that quantified the leaching potential for gypsum material that is stored in the gypsum storage area. The report was provided to the Department. Of the twenty-five parameters tested in Table 2, twelve parameters were detected. Of the 12 parameters detected, two exceeded a primary water quality standard (antimony and thallium), two exceeded a secondary water quality standard (fluoride and sulfate), and no parameters were above the guidance concentrations.

In Aug 2001 and May of 2003, TEC evaluated the possible impacts of these gypsum conveyance and management units on adjacent ground and surface water. In addition to the parameters noted above, seven additional primary, secondary and minimum criteria contaminants were identified as being above levels of concern in the areas adjacent to the units. These 7 parameters are identified in the table below in italics.

Based on the leaching potential characterization and ECAP monitoring results of the aforementioned parameters that exceeded either a primary or secondary standard for the gypsum material, TEC proposes to sample the same parameters following the removal of material during the enhancement project. The eleven parameters proposed for sampling are listed in Table 2 below as either highlighted or italicized items.

Based on the SPLP leaching potential characterization results of the aforementioned parameters, only 4 of the 25 parameters tested exceeded its respective primary standard, or secondary standard. No guidance concentrations were exceeded. Therefore, when the material in the gypsum storage has been removed and the area needs to be sampled, TEC will sample the area in accordance with EPA Publication SW 846, Chapter nine.

Subsequent to the sampling activity, TEC will submit a report to the Department. The report will be similar in format to the waste characterization reports that have been previously submitted to the Department. At a minimum, the report will contain information on sampling, sampling diagram, parameters sampled and analyzed, analytical method, table of results, and pertinent lab information. The report will present a proposal for a depth (elevation MSL) to which the gypsum management area and conveyor path will be excavated.

If TEC and the Department are unable to reach consensus regarding the samples' analytical results to agree to a depth that will determine whether or not sufficient material will be removed during this project, then the RAP schedule will be adjusted in accordance with the time delayed until resolution is made.

Table 2
Proposed Parameters for
CCP SPLP Characterization
Gypsum Storage Area

PARAMETERS	Groundwater Criteria (mg/l)	Primary & Secondary Standards
Aluminum	0.2	S
Antimony	0.006	P
Arsenic	0.010	P
Boron	0.63	GC
Chloride	250	S
Fluoride	4/2	P/S
Iron	0.3	S
Manganese	0.05	S
Sodium	160	P
Sulfate	250	S
Thallium	0.002	P

Groundwater monitoring will be continued to demonstrate the anticipated groundwater quality improvements within this immediate area following the installation of the new system.

Schedule*

Construction of this Project is scheduled to start after completion of the Settling and Recycle Pond Project construction described above due to the interdependencies.

Bid and Award Engineering	6 months after the recycle pond project is completed
Engineering**	16 months after the contract for engineering has been awarded
Bid and Award Construction	12 months after approval of final engineering
Construction Completion	18 months after the construction contract has been awarded

* The schedule shall be tolled if any kind of third party intervention converts agency action to proposed agency action. The schedule will be tolled until the third party

intervention has been disposed of, and the Department's agency action becomes final agency action.

****** Preliminary detailed engineering shall be submitted to the Department for review not later than 9 months after the beginning of the engineering work. The Department shall make its best efforts to request additional information within 30 days from the date of receipt of the information. If the Department requests additional information, the Department shall make its best efforts to complete its review and advise TEC whether the plans are approved or disapproved within 60 days from the date of receipt of that additional information. If no additional information is requested, the Department makes its best efforts to complete its review within 90 days of the receipt of the initial submittal and shall advise TEC within that time period as to approval or disapproval.

Slag Storage Area

Issue

Current power plant design practices require that some solid waste management units be lined to assure compliance with groundwater and surface water standards contained in Chapters 62-520 and 62-302, FAC. TEC characterized the slag via SPLP Method 1312 as requested by the Department to determine its leaching potential. Although the SPLP analytical results were overall favorable, there were 3 parameters that revealed an exceedance of either a primary or secondary drinking water standard or a guidance concentration. Details were provided to the Department in a formal report entitled "Combustion By-Product Sampling Report" dated May 2001. Nonetheless, TEC is proceeding with a project that replaces the slag pond with totally enclosed aboveground slag bins. The slag sluice water will be routed to/from the existing lined bottom ash storage pond.

Implementation Vehicle

Because wastewater conveyance systems will be established such that recycle water can be routed from the existing slag pond to other pond systems with impervious liners such as the proposed recycle water and settling ponds then the existing slag pond should be lined as well to protect groundwater. TEC is replacing the existing slag pond with the aforementioned slag bins and therefore groundwater and surface water issues should be minimized within this system. This Slag Bins Project is approved as a part of the RAP

Action

TEC will add two or more aboveground dewatering bins designed to minimize discharges to groundwater to handle the slag from tanks on Units 1-3. Sluice water from the slag dewatering bins will be transferred to/from the existing lined bottom ash ponds. Once the slag bins are constructed and if required by Department rules, the final alternate use and design proposed for the existing Slag ponds will be submitted to the Department for review and approval prior to their placement in-service.

The slag dewatering bins and piping system will be constructed while the existing slag pond system remains in service thereby affording the plant continued and uninterrupted operations. The dewatering bins will be constructed on the south side of the plant near the power block.

Following in-service of the slag bins, but prior to by-product material removal, core samples of the pond sediment/soil profile will be taken and analyzed by SPLP testing as detailed in section below titled "Sampling Protocol", to determine an excavation elevation that will demonstrate that sufficient volumes of visually discernable by-products and contaminated pond bottom materials will be removed to reasonably eliminate materials that might contribute to groundwater contamination by leaching. TEC will then submit a report summarizing the results of the SPLP testing and proposing to dredge out the slag ponds to Department approved depths (elevations) in order to ensure that sufficient quantities of potential source material is removed. This testing will be done prior to excavating the source material and material removal will be implemented upon Department approval. TEC shall excavate to the Department approved elevation at a minimum. It is TEC's intention to remove reasonable quantities of slag/dredge material that would be commensurate with the engineering requirements for pond modifications. TEC is not seeking a "clean closure" status with a "no further action" demonstration for this pond system, rather only that the amount of contaminated material removed can be reasonably anticipated to result in improved ground and surface water quality in this area.

Slag/Dredge Material Removed

TEC will document the total volume of slag/dredge material removed from the existing ponds. Following removal of slag/dredge material, the Department will be provided with information containing the ultimate disposition of this material. The ultimate disposition of dredged material will include appropriate beneficial use at facilities that can promote reuse as desired by the Department and/or appropriate landfill(s) where beneficial use opportunities may not be feasible.

Sampling Protocol -- Slag Storage Area

Although the slag pond system is not considered to be a solid waste management unit, TEC characterized the slag via SPLP Method 1312 as requested by the Department to determine this industrial byproduct management unit's leaching potential. Although the SPLP analytical results were favorable, there were 3 parameters that revealed an exceedance of either a primary or secondary drinking water standard or guidance concentration. Details were provided to the Department in a report entitled "Combustion By-Product Sampling Report" dated May 2001.

Based on the SPLP leaching potential characterization results of the aforementioned parameters, only 3 of the 25 parameters tested exceeded its respective primary standard, secondary standard, or guidance concentration. Therefore, prior to dredging the existing ponds, the source material will be sampled to determine the depth of dredging to meet the objective of removing source material. TEC will sample the existing slag pond systems in accordance with EPA Publication SW 846, Chapter nine. The material sampled will be analyzed for the 3 parameters highlighted in Table 3 below.

Subsequent to the sampling activity, TEC will submit a report to the Department. The report will be similar in format to the waste characterization reports that have been previously submitted to the Department. At a minimum, the report will contain information on sampling, sampling diagram, parameters sampled and analyzed, analytical

method, table of results, and pertinent lab information. The report will present a proposal for a depth (elevation MSL) to which the existing slag ponds will be excavated.

If TEC and the Department are unable to reach consensus regarding the samples' analytical results regarding whether or not sufficient material will be removed during this project, then the RAP schedule will be adjusted in accordance with the time delayed until resolution is made.

Table 3
Proposed Parameters for
CCP SPLP Characterization
Slag Ponds

PARAMETERS	Groundwater Criteria (mg/l)	Primary & Secondary Standards
Boron	0.63	GC
Manganese	0.05	S
Nickel	0.1	P

Groundwater monitoring of shallow monitoring well B30 proposed in the groundwater monitoring plan submitted in April of 2004 will be initiated after construction of the new slag/bottom ash management units and continued annually to demonstrate the anticipated groundwater quality improvements within this immediate area following the construction of the new slag management system.

Schedule*

This project is scheduled to start 6 months after completion of the settling and recycle pond project described above due to the interdependencies.

Bid and Award Engineering	6 months after the recycle pond project is completed
Engineering**	18 months after the contract for engineering has been awarded
Bid and Award Construction	12 months after approval of final engineering
Construction Completion	18 months after the construction contract has been awarded

* The schedule shall be tolled if any kind of third party intervention converts agency action to proposed agency action. The schedule will be tolled until the third party intervention has been disposed of, and the Department's agency action becomes final agency action. The schedule is subject to modification due to Department approval process or any kind of third party intervention.

**** Preliminary detailed engineering shall be submitted to the Department for review not later than 9 months after the beginning of the engineering work. The Department shall make its best efforts to request additional information within 30 days from the date of receipt of the information. If the Department requests additional information, the Department shall make its best efforts to complete its review and advise TEC whether the plans are approved or disapproved within 60 days from the date of receipt of that additional information. If no additional information is requested, the Department makes its best efforts to complete its review within 90 days of the receipt of the initial submittal and shall advise TEC within that time period as to approval or disapproval.**

Solid Waste and By-Product Management Manual

Issue

Paragraph #20 of Consent Order 00-1275 required TECO to develop a Coal Combustion Product/Solid Waste Management Manual (Manual) for all solid waste and by products that details the unit specific BMP's and material management practices that will be implemented to assure compliance with 403.7045(1) (f), FS and to provide reasonable assurance that environmental standards will not be violated. The final completion of that manual will be contingent on and modified by completion of several of the corrective actions proposed above.

Implementation Vehicle

Upon submission and Department approval of the Final Waste Management Manual identified below, the requirements of Paragraph 20 of Consent Order 00- 1275 will have been met.

Action

TEC has provided to the Department 3 CCP/Solid Waste Management Manuals. The first manual was provided on October 5, 2001. FDEP provided comments to the manual and TEC provided a complete re-write of the original manual on May 30, 2002. TEC updated the manual and provided a 3rd manual to the Department on January 7, 2004 followed by additional updates provided to the Department on April 2, 2004. TEC will revise/update the manual on an as needed basis as the corrective actions outlined in this RAP are implemented.

Schedule*

As corrective actions contained in this RAP are completed, the Manual will be updated upon completion of each construction project. Upon submission and Department approval of the Final Waste Management Manual submitted after completion of all construction projects contained in this RAP, the requirements of Paragraph 20 of Consent Order 00- 275 will have been met.

Sampling Protocol Strategy and Statistics

For each of the individual Sampling Protocols outlined above intended to establish the depth of excavation for the existing recycle/settling pond system, gypsum storage area, and slag pond system , TEC can determine the number of core, SPLP or sediment

samples to be collected as provided in the procedures described in EPA publication SW-846, Chapter Nine to demonstrate that the samples collected are statistically representative of the CCP materials being characterized and that sufficient material has been removed to meet the objective of removing source material. It is TECs understanding that according to the Department, five samples should be sufficient if the CCP/material is relatively homogeneous and the materials are not time variant. Otherwise, subsequent or additional sampling rounds may be necessary to verify the statistical representation of the materials being characterized.

In general, the sampling strategy is based upon the selection of some subset of the total number of samples by a random selection process. The objective of the sampling effort is to collect a prescribed number of the individual samples at certain selected locations. The number of samples necessary to ensure the samples are reasonably representative of the CCP/material is dependent upon the magnitude of the variation within the material to be sampled. Since the variance obtained by systematic sampling is often less than that derived from simple random sampling, a grid system will be used to help locate and select the random sampling locations. Thus, a modified simple random sampling strategy will be applied. Compositing of a number of sub-samples is a technique that is often used to reduce the effects of variation and thereby improve the precision of the sampling results obtained from the program. Compositing done to reduce variability in the data acknowledges that the variability is present, but chooses to overcome the variability by smoothing the effects.

Sampling Parameters and Methods

During the project phase when CCPs are removed to close out the existing management areas, TEC proposes to use SPLP Method 1312 to determine the mobility of the inorganic analytes potentially present after the CCP/materials have been removed. The parameters proposed for chemical analyses are listed in the Tables 1-3. As applicable, EPA Method 6010 will be used.

Computational Approach

This section documents the computational approach proposed to evaluate the data. Selection of the methods for statistical analysis of the analytical data will be based on the distributional characteristics of the data. For data sets that approximate a normal distribution, or can easily be normalized, the applicable statistical methods outlined in Publication SW-846, Chapter nine will be utilized. However, most environmental data are not normally distributed. Many environmental data sets exhibit a log normal distribution and many parameters will exhibit a truncated distribution. For these data sets, or others that cannot be normalized, non-parametric statistical methods will be used.

Two evaluations will be made:

1. First, the data will be analyzed to evaluate whether a sufficient number of samples have been collected to adequately characterize the distributional characteristics of the parameters of concern. The method proposed for this analysis follows the procedures outlined in Chapter 9 of SW-846. Specifically the following equation will be used for this analysis:

DEC 21 2006

Southwest District

$$n = \frac{t_{.20}^2 s^2}{\Delta^2}$$

where:

$$\Delta = \text{Regulatory Threshold} - \bar{x};$$

If the calculated number of samples is greater than the number of samples analyzed, then the appropriate number of additional samples will be analyzed and this evaluation repeated.

2. Once the data document that the appropriate number of samples have been analyzed, then the second evaluation will be conducted.
3. The second evaluation will consist of calculating the means and the 95% upper confidence interval of the concentrations for each parameter and comparing them to the appropriate regulatory criteria.

Proposed Schedule

TEC is proposing to complete the remaining three remedial action projects in accordance with the RAP schedule that is agreed upon between TEC and the Department and then to monitor the groundwater and surface water to demonstrate and evaluate the anticipated improvements in water quality resulting from these RAP actions.

Groundwater Monitoring

TEC will continue to monitor the site by continuing the ECAP sampling once a year in the spring (March – May) of each year. This monitoring program will be as proposed in the document titled “Site Wide Groundwater Monitoring Plan, Revised April 2004, Big Bend Power Station”, as prepared by Schreuder, Inc., and as modified and summarized in the table titled “Water Quality Monitoring Plan Summary” (Attachment 2 to this RAP). This ongoing monitoring effort will allow the Department to evaluate the anticipated improvement in groundwater quality resulting from the corrective actions proposed above. The ECAP groundwater monitoring plan will be implemented and continue concurrently with the RAP corrective actions. If the Department determines that the groundwater monitoring results still show that the RAP objective described in paragraph 15 of the Attachment #2 to Consent Order 00-1275 have not been met, then TEC will meet with the Department within 60 days of notice from the Department to negotiate a resolution to those concerns. If a resolution is not negotiated by the parties, the Department reserves the right to initiate appropriate action to address those concerns.

However, if both TEC and the Department determine that additional ECAP groundwater monitoring is no longer necessary due to confirmation that the RAP corrective actions reveals satisfactory improvement to groundwater water quality, then ECAP groundwater monitoring may be terminated in accordance with the ECAP Groundwater Monitoring Termination Process described below.

ECAP Groundwater Monitoring Termination Process

In accordance with Attachment 2 of this RAP, ECAP groundwater monitoring is required. The ECAP groundwater monitoring termination process provides a method or course of action to discontinue future ECAP monitoring requirements contained in this RAP. If ECAP groundwater monitoring analytical results reveals compliance with groundwater or surface water standards or guidance concentrations, then those parameters may be discontinued from future monitoring requirements. TEC has the option to trend analytical results to demonstrate compliance based on the annual monitoring frequency as addressed in the RAP, or TEC may sample more frequently to obtain a sufficient sampling population to demonstrate compliance. When compliance with the parameter's standard or guidance concentrations are recognized, TEC may submit a letter to the Department requesting the discontinuance of further groundwater monitoring in accordance with this section. The Department would have thirty days to respond to TEC's request.

Groundwater Quality Exemption Option - Sodium

F.A.C. Chapter 62-520.500 provides an option to apply for an exemption from a groundwater quality standard if the facility can meet the objectives of the Rule. TEC shall submit an application to the Department for a water quality criteria exemption of the sodium standard listed under Chapter 62-550, F.A.C. within 90 days of the RAP effective date. If approved the facility shall only report the values of sodium and shall not be subject to the limitation as defined in Chapter 62-550.

Implementation of New Arsenic Standard

As of January 1, 2005, the groundwater quality standard for arsenic changed from 50 ug/L to 10 ug/L. TEC shall submit a plan of Study (POS) within six (6) months of the effective date of the RAP identifying the specific technology, operational, or wastewater treatment options that will be implemented and the schedule for its implementation. The facility shall have twenty-four (24) months from the approval of the POS to implement the appropriate technology so the wastewater discharge will be in compliance with the new arsenic standard at the end of this period [24 months].

Conclusion/Summary

The intent of the RAP is to comply with the requirements of the CO and to communicate with the Department TEC's approach for satisfactorily meeting the remedial actions expected by the Department.

In sum, TEC's three remaining remedial action projects include the recycle/settling ponds, new slag de-watering bins that will replace the existing IWW permitted slag pond system, and new gypsum storage area. As addressed in this report, TEC will remove the vast majority of CCP source material from the exiting systems in conjunction with construction of the new/replacement systems. Based on the sampling protocol proposed, and the opportunity to continue groundwater monitoring coupled with the engineering controls (i.e. impervious recycle/settling ponds) TEC believes that this proposal provides reasonable assurance that the environmental assessment and remediation requirements of Order 00-1275 will be met.

Attachment 2 –Water Quality Monitoring Plan Summary

I. Monitoring Locations

Unit #	Unit Name (Program Area)	Existing Well ID Numbers	Proposed Well ID Numbers	Well Type Designation	
#19	Bottom Ash Ponds (SW)	B-18		Intermediate	
			B-57	Compliance	
#23	Long-term Bottom Ash Area (SW)	B-6 UF		Compliance	
		B-7		Intermediate	
			B-34	Compliance	
#20	Fly Ash Ponds (SW)	B-17	B-17R	Intermediate	
			B-35	Intermediate	
			B-36	Compliance	
#21	FGD By-Product Storage Area (SW)	B-1		Compliance	
		B-2		Compliance	
		B-5		Intermediate	
			B-37	Compliance	
			B-38	Compliance	
			B-44	Compliance	
#1-2	Dredge disposal area DA-2 (SW)	B-14		Intermediate	
		B-15		Compliance	
			B-32	Compliance	
			B-33	Compliance	
			B-42	Compliance	
			B-43	Compliance	
		B-59 UF	Compliance		
#6	Slag pond/settling basin (SW)		B-30	Compliance	
#22	Reclaimed water pond (SW)		B-58	Compliance	
#16	Closed Spray Fields (SW and IW)	B-11		Intermediate	
		B-12		Compliance	
		B-23		To be deleted	
		B-24		To be deleted	
		B-25		To be deleted	
		B-26		To be deleted	
		B-27		To be deleted	
		B-28		To be deleted	
				B-49	Compliance
				B-50	Compliance
				B-51	Intermediate
		B-52	Intermediate		
		B-53	Compliance		

Attachment 2 – Water Quality Monitoring Plan Summary (cont'd)

I. Monitoring Locations (cont'd)

Unit #	Unit Name (Program Area)	Existing Well ID Numbers	Proposed Well ID Numbers	Well Type Designation
N/A	Background (IW & SW)	B-4R		Background
			B-39	Background
			B-40	Background
			B-41	Background
			B-56 UF	Background
#13/14	Limestone prep/waste handling (SW)	B-10		Intermediate
		B-13R		Intermediate
		B-8		Intermediate
			B-54	Compliance

"IW" Wells noted as (IW) above will be addressed as required within the IW wastewater permit and the data shared with this site wide monitoring plan.

Note-- Existing wells are completed in the surficial aquifer except for Floridan wells B-6 UF and B-31-UF

Well depths Proposed wells are intended to be completed in the surficial aquifer except for Floridan wells next to B-33 and B-39

"To be deleted" Wells B-23 through B-28 to continue to be sampled and not be abandoned until construction of improvements in the Spray Field area. MW 49-53 shall be installed following completion of construction of the RAP projects that will affect the existing sprayfields.

Existing wells to be replaced as indicated

II. Monitoring frequency and parameters

All groundwater wells shall be sampled and analyzed for the following parameters at an annual frequency unless otherwise authorized in writing by the Department. These analytical results shall be provided to the Department within 60 days of receipt.

Within 60 days following the completion of each annual sampling event, a summary report shall be submitted to the Department that evaluates any trends in the analytical results, an evaluation of the impact of the RAP corrective actions on water quality monitoring results, evaluates the adequacy of the monitoring locations, and provides recommendations for monitoring plan modifications (sampling locations, parameters and frequency) for the next years monitoring.

GROUND WATER SAMPLES

Field Parameters (to be measured during purging and at the end of purging prior to sample collection)

pH

Specific Conductance

Turbidity

Temperature

Dissolved Oxygen – SOP (FS 2200 Groundwater Sampling, Section FS 2212 Well Purging Techniques)

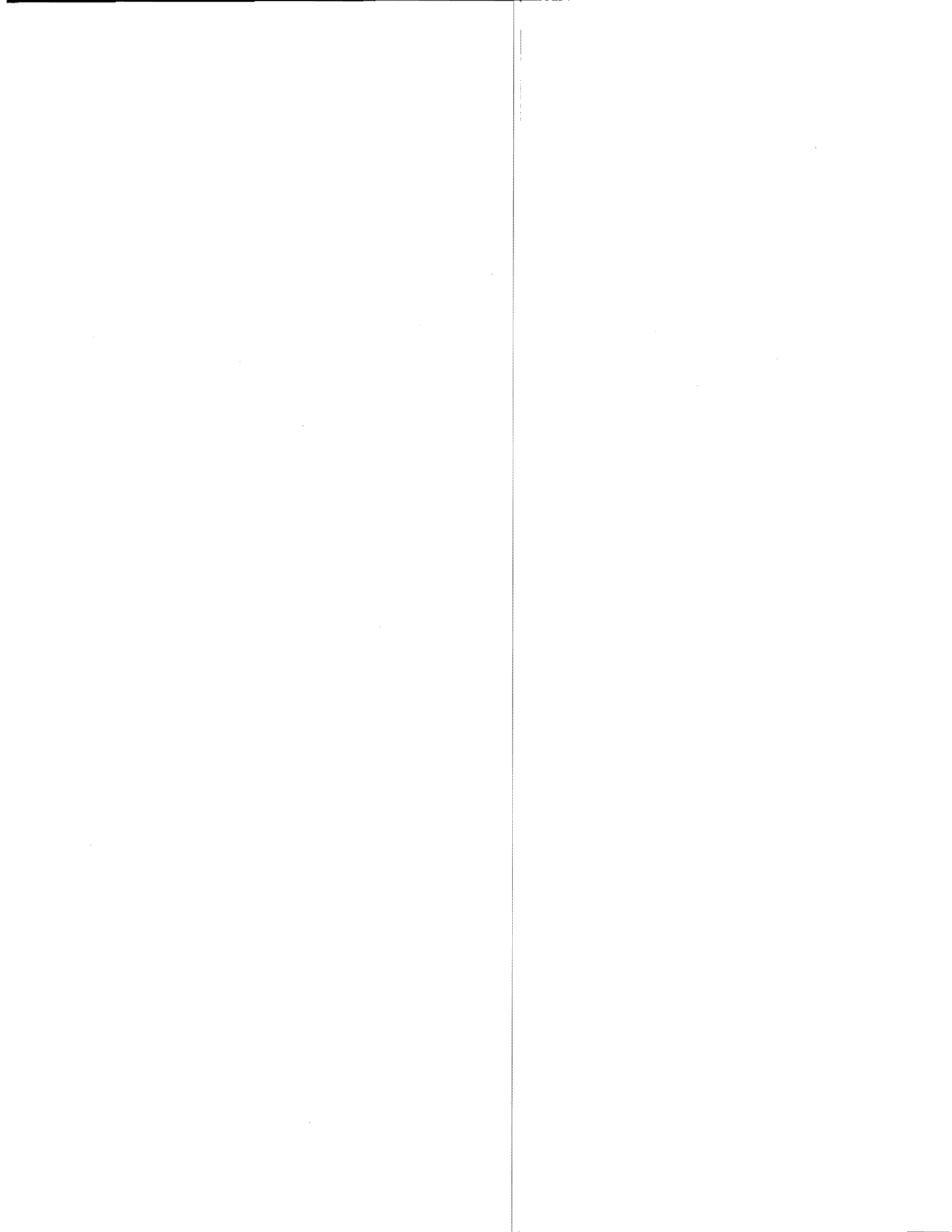
Indicator Parameters

Chloride
Gross alpha
Fluoride
Nitrate
Sulfate
Total dissolved solids

Metals/Semi-metals	
Aluminum	Lead
Antimony	Manganese
Arsenic	Molybdenum
Boron	Sodium
Iron	Thallium

SURFACE WATER SAMPLING

As provided in 62-780.690 Natural Attenuation with Monitoring, (3).
"Where surface water is or may be exposed to contaminated groundwater (based on monitoring well data, groundwater flow rate and direction, or fate and transport modeling), the point of measuring compliance with the surface water standards shall be in the groundwater from the landward side immediately adjacent to the surface water body." The Annual monitoring report will include evaluation of this aspect of the remediation monitoring rather than pursuing an actual surface water sampling plan and monitoring. Should TEC decide it would rather implement a surface water sampling plan in the future, a plan will be developed and submitted to DEP for review and approval prior to implementation.



F LC 8.1.17

Florida Department of Environmental Protection

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary



Southwest District
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926
Telephone: 813-632-7600

May 20, 2010

RECEIVED

MAY 24 2010

Environmental, Health
and Safety

Tampa Electric Company (TEC)
c/o Mr. Randall Melton, Administrator of Environmental Planning
Environmental, Health & Safety
P.O. Box 111
Tampa, FL 33601-0111

Re: Department Approval of Remedial Action Plan Schedule Modification Request
TEC Big Bend Station, Consent Order OGC Case No. 00-1275
WACS ID 95345
Hillsborough County

Dear Mr. Melton:

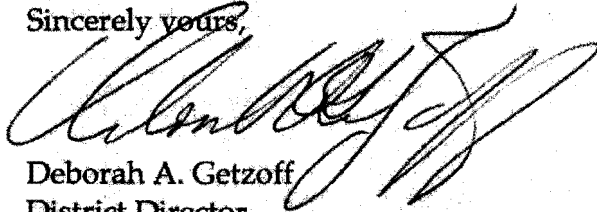
The Department received TEC's letter entitled, "Tampa Electric Company (TEC) – Big Bend Station, CO #00-1275 and Remedial Action Plan (RAP), Schedule Modification – Settling Recycle System Phase II," dated April 22, 2010, received April 23, 2010, which requested Department approval of an extension to complete the Settling Recycle Project and a resulting extension to the Gypsum Conveyor and Storage Area project schedule. TEC indicated that it encountered a delay in completion of the Settling Recycle Project due to the presence of an active Sandhill Crane nest in the South Recycle Pond and the requirements to comply with provisions of the Migratory Bird Treaty Act. This delay was further described in TEC's letter, entitled, "CO #00-1275 and Remedial Action Plan (RAP) Update, March-April 2010," dated April 30, 2010, received May 5, 2010.

The current completion date for the Settling Recycle Project, which was approved by the Department's January 24, 2007 RAP approval letter, is August 3, 2010. TEC has requested an extension to complete the Settling Recycle Project by December 27, 2010. The currently approved completion date for the Gypsum Conveyor and Storage Area, the final RAP task, is February 18, 2015. TEC has requested an extension to complete the Gypsum Conveyor and Storage Area by April 29, 2015. The approximately 150-day extension to complete the Settling Recycle Project would result in an overall 60-day extension to complete the final RAP task. An overall extension of the currently approved RAP schedule of 60 days appears to the Department to be a reasonable request.

Paragraph #29 of Consent Order OGC Case No. 00-1275 (the Order) indicates that events may occur which cause delay in TEC's compliance with the requirements of the Order. The Department agrees that the delay caused by the Sandhill Crane nest in the South Recycle Pond constitutes circumstances beyond TEC's reasonable control. Therefore, Department approves the extension requested in TEC's April 22, 2010 letter. As provided by Paragraph #29 of the Order, the time for performance of the remaining RAP tasks shall be extended for a period equal to the agreed delay resulting from such circumstances, which are identified in TEC's April 22, 2010 letter and attachment entitled, "Big Bend RAP Schedule" (enclosed for reference).

If you have any questions about this letter, please contact Ms. Stephanie Watson by telephone at (813) 632-7600 extension 451, or by email at stephanie.m.watson@dep.state.fl.us.

Sincerely yours,



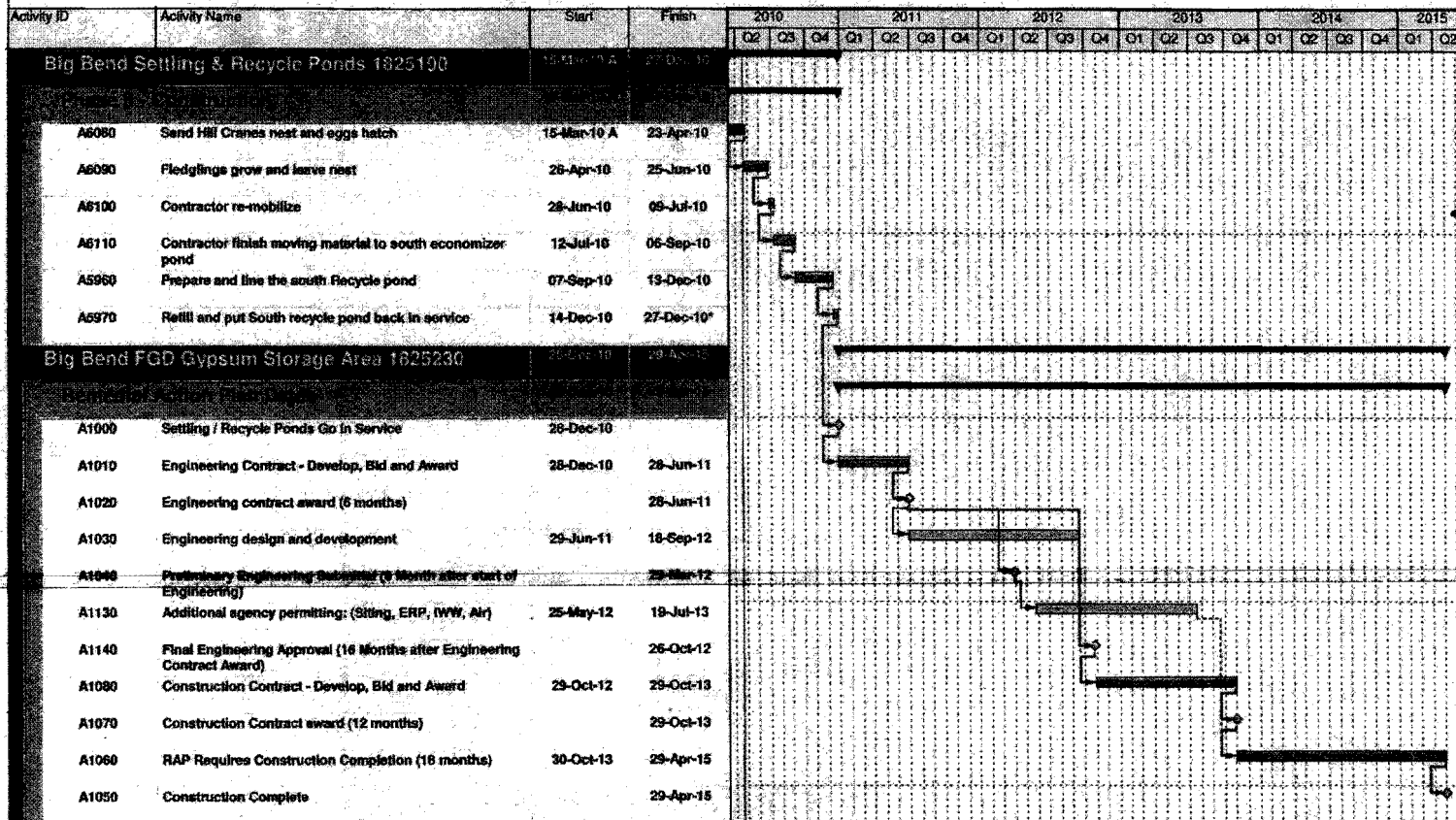
Deborah A. Getzoff
District Director
Southwest District

Enclosure
dag/sw

ec: William Kutash, P.G., FDEP SWD, Waste Program Administrator
Susan Pelz, P.E., FDEP SWD, Solid Waste
Steve Morgan, FDEP SWD, Solid Waste
John Morris, P.G., FDEP SWD, Solid Waste
Ilia Balcom, FDEP SWD, Industrial Wastewater

Big Bend RAP Schedule

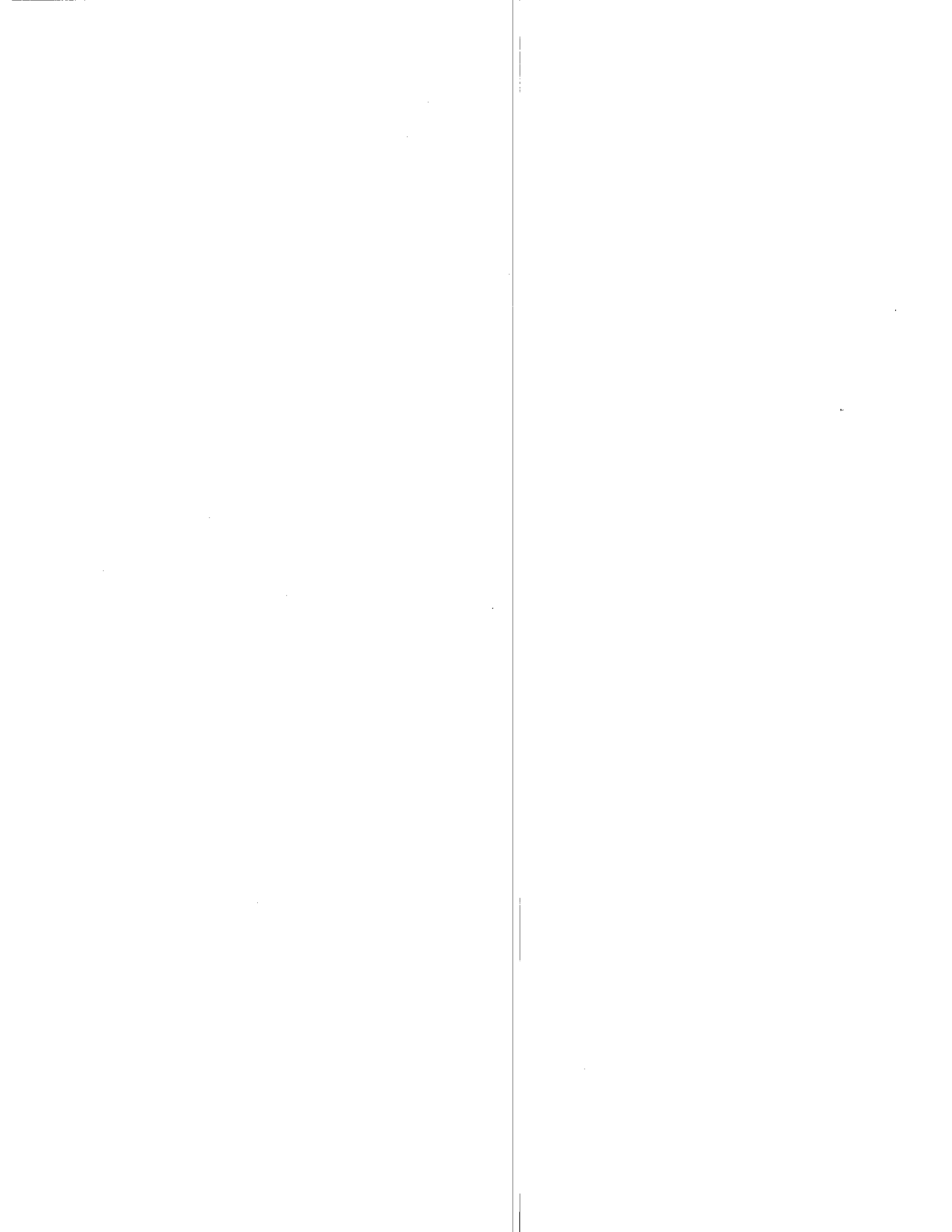
22-Apr-10



Actual Work ◆ Milestone
 Remaining Work — % Complete
 Critical Remaining Work ⇨ Summary

Data Date: 19-Apr-10
 Printed On: 22-Apr-10

FLORIDA DEPARTMENT OF
 ENVIRONMENTAL PROTECTION
 APR 23 2010
 SOUTHWEST DISTRICT
 TAMPA



Charles Murphy

From: Bryant, Howard T. [htbryant@tecoenergy.com]
Sent: Friday, August 31, 2012 2:36 PM
To: Charles Murphy
Subject: Consent Order
Attachments: Big Bend Consent Order 1275 Final 4-10-2001.pdf

Charlie,
Attached is the consent order we discussed. Thanks, Howard

NOTICE: This email is intended only for the individual(s) to whom it is addressed and may contain confidential information. If you have received this email by mistake, please notify the sender immediately, delete this email from your system and do not copy or disclose it to anyone else. Although we take precautions to protect against viruses, we advise you to take your own precautions to protect against viruses as we accept no liability for any which remain.

D.E.P.

APR 09 2001

D.E.P.

APR 11 9 2001

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest District Tampa

Southwest District Tampa

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

IN THE OFFICE OF THE
SOUTHWEST DISTRICT

Complainant,

OGC FILE NO. 1275

vs.

Tampa Electric Company
Big Bend Station

Respondent.

CONSENT ORDER

1. This Consent Order is entered into between the State of Florida Department of Environmental Protection ("Department") and Tampa Electric Company ("Respondent") to reach settlement of certain matters at issue between the Department and Respondent.

2. The Department finds the following:

The Department is the administrative agency of the State of Florida having the power and duty to protect Florida's air and water resources and to administer and enforce the provisions of Chapters 403 and 376, Florida Statutes, and the rules promulgated thereunder, Florida Administrative Code Rule Title 62. The Department has jurisdiction over the matters addressed in this Consent Order.

3. Respondent is a person within the meaning of Section 403.031(5), Florida Statutes.

4. Respondent is the owner and is responsible for the operation of Big Bend Power Station, which consists of four coal-fired, steam-electric generating units with a total capacity of 1822.5 megawatts ("Facility"). Waste generated from these processes may consist of industrial wastewater, recycle water, and solid waste. Respondent operates the on-site wastewater treatment system under Department Wastewater Permit No. FLA017047-02 ("Permit"), that expires on February 11, 2002. The wastewater generated consists of coal pile runoff, plant floor drain water, demineralizer wastes, equipment wash water and cooling tower blow down which are routed to a settling pond and returned to the recycle storage pond of 30 MG capacity. Excess water from the recycle storage pond is diverted to two sprayfields with a total area of approximately 42 acres, for disposal by land application and evaporation. Other sources of freshwater for the plant operations include: 1) Hillsborough County's and South County Treatment Plant's reclaimed water, 2) stormwater falling on the Facility, and may also include 3) recycle wastewater from Tampa Electric Company's F.J. Gannon Station. Industrial Wastewater, solid waste streams and industrial byproducts from Respondent's operations are managed at this site with a series of sprayfields, ponds, impoundments and waste management units located as indicated in Attachment #1. The Facility is located at Big Bend Road, Apollo Beach, Hillsborough County, Florida, Latitude: 27° 47' 48" N, Longitude: 82° 23' 50" W. The Facility is owned by and is operated under the name of Tampa Electric Company.

5. On February 2, 2000, the Department collected grab samples of wastewater from Disposal Area 2 ("DA-2") identified as Unit 1 on Attachment #1, an orange-colored seepage stream from the east side of DA-2, wastewater from the Industrial Wastewater recycle pond identified as Unit 18 on Attachment #1, and water within the Big Bend Road ditch. The water quality analysis results, presented below, indicated violations of State surface water standards for iron and levels of boron above the guidance criteria. This is an unauthorized discharge to predominantly fresh but seasonally marine surface waters of the State and thence to Tampa Bay.

Contaminant	Recycle Pond	DA-2 Seepage	DA-2 Inside	Big Bend Rd. Ditch by Recycle Pond	Big Bend Rd. Ditch Background
Cadmium	8.96	<0.22	53.0	<.20	<2.0
Copper	<25	<35	<60	<20	<20
Lead	5.9	<1.3	4.2	<1.3	<1.3
Selenium	<97	<50	1660	<25	<6.0
Thallium	<4.6	<2.5	7.4	<2.5	<2.5
Zinc	520	<23	420	<13	<16
Nickel	127	<4.0	416	<4.0	<4.0
Aluminum	860	300	1920	<91	<97
Arsenic	<4.0	<7.2	12	<14	<11
Boron	36900	453000	457000	57300	62
Chromium	<6.9	<7.0	<35	<3.5	<0.70
Iron	843	56700	1570	1580	210

All contaminant concentrations are reported in ug/l

6. A Department File Review determined that the Permit effluent limits for the discharge from the recycle pond, Unit 18, had been exceeded for flow and total suspended solids. The groundwater Zone of Discharge for the two sprayfields has frequently shown elevated levels for arsenic, chlorides, sodium, gross alpha and total dissolved solids.

7. TEC discovered ground water exceedances in the DA-2 area during an internal records review. These exceedances were reported to the Department, and with Department approval, TEC conducted a Contamination Assessment of the area. After review of the Preliminary Contamination Assessment Report submitted to the Department on August 2, 1999, and site inspections conducted on April 3, 2000, by Solid Waste staff, the Department found that several areas of concern existed at the TEC Big Bend facility. The areas of concern are those where management of industrial wastewaters and solid waste even though in accordance with applicable permits, resulted in discharges of contaminants to ground and surface waters. Respondent needs to provide reasonable assurance that these discharges will not or have not exceeded applicable surface and/or groundwater standards. These areas of concern include those addressed under Paragraphs 8, 9, 10 and 11 below.

8. The solid waste disposal unit DA-2, which is located in the northeast corner of the property, consists of three cells (A, B and C). As documented in the above-referenced Contamination Assessment Report, initially the following contaminants in the concentrations listed below were found on site and to have moved offsite of the DA-2 disposal unit in the groundwater at levels in excess of groundwater standards. TEC has purchased impacted property adjacent to DA-2.

<u>Contaminant</u>	<u>Concentration</u>
Thallium	0.0047 mg/l
Sulfate	2150 mg/l
Sodium	2020 mg/l
Manganese	0.8497 mg/l
Chloride	4610 mg/l

9. The industrial wastewater, as characterized by the applicant in Feasibility Study, Dec. 14, 1995, has been found to contain the following parameters :

<u>Contaminant</u>	<u>Concentration</u>
Cadmium	0.006 mg/l
Nickel	0.220 mg/l
Thallium	0.021 mg/l
Aluminum	0.950 mg/l
Chloride	1300 mg/l
Iron	12 mg/l
Sulfates	1700 mg/l
TDS	5000 mg/l

Industrial wastewater is used to hydraulically sluice bottom ash to Units #19 and #20. The Bottom Ash management unit for generating Unit #4 was found to have several significant breaches in its liner system and a follow up site inspection on September 18, 2000, indicated that this unit continued to be in operation. TEC submitted a schedule for repair/replacement of the liner to the Department and has agreed to repair/replace the liner by June 19, 2001. Respondent needs to provide reasonable assurance that these discharges will not or have not exceeded applicable surface and/or groundwater standards.

10. The untreated Flue Gas Desulfurization ("FGD") chloride purge wastewater stream that was routed to DA-2 and that is a component of the recycle stream was characterized by Respondent as containing the following contaminants in the concentrations listed below. These are:

<u>FGD Contaminate</u>	<u>Concentration</u>
Aluminum	38 mg/l

Arsenic	0.0611 mg/l
Cadmium	0.501 mg/l
Chromium	1.104 mg/l
Iron	25.22 mg/l
Lead	0.1296 mg/l
Nickel	2.064 mg/l
Selenium	5.668 mg/l
Thallium	0.0734 mg/l
Sulfate	3700 mg/l
Chloride	30,000 mg/l

The routing of this industrial wastewater stream to DA-2 was discontinued in 2000.

Respondent needs to provide reasonable assurance that the waste management and disposal process has been changed to minimize stormwater contact with material in DA-2 such that the past and ongoing discharges of this wastewater will not violate applicable ground and surface water standards. TEC has agreed to corrective actions designed to minimize these discharges as detailed in paragraph 16 f.

11. The long term bottom ash storage area immediately south of Unit #19 has been receiving industrial wastewater overflow discharges from Unit #19, as previously approved by the Department in a letter dated June 9, 1991. The long-term bottom ash storage area also receives stormwater from Unit #21, the Gypsum Storage Unit, as the Department was notified on October 3, 1989. Respondent needs to provide reasonable assurance that these discharges of wastewater will not violate applicable ground and surface water standards.

12. On February 18, 2000, Warning Letter No. WN00-002IW29SWD was issued for the unauthorized discharge of condenser tube cleaning plugs to the

Respondent's discharge canal and thus to surface waters of the State. Respondent is authorized to discharge once-through cooling water, intake screen wash water and treated Flue Gas Desulfurization wastewater to surface waters of the State under NPDES Permit No. FL0000817 Rev. A ("NPDES Permit"), which expires on August 25, 2002. This permit did not address the discharge of the cleaning plugs. Respondent advised the Department that the plugs were inadvertently discharged during the condenser tube cleaning process. Respondent stated that the discharge was the result of some plugs, which had become lodged in a condenser tube and gone undetected, being dislodged and flushed out when the unit was put back in service. Respondent employed a plywood barrier as a means for containing plugs during the cleaning process. Upon notification, Respondent immediately implemented a review of their then-current procedures for containing the plugs and notified the Department that a fine mesh net would be installed as an additional means for containment. In addition, Respondent proposed the use of a containment boom across the discharge canal as a method for determining the effectiveness of the mesh net and as a further means for containing the plugs. The Department, in a letter dated September 21, 2000, approved the use of the boom on an interim basis for a period of six (6) months in order to allow Respondent to demonstrate the effectiveness of the corrective measures. This boom was installed on March 16, 2001. Respondent also installed a debris filter on the intake for one generating unit and determined that the use of this filter reduced the number of times that unit's condenser tubes required cleaning and thus reduced the potential for inadvertent discharge of cleaning plugs. Respondent has now completed the

installation of debris filters on three generating units and intends to install this filter on the remaining unit by June 1, 2001, while the unit is off line for routine maintenance.

13. The Department issued Warning Letter No. WN00-008IW29SWD on August 23, 2000, for three unpermitted discharges to surface waters of the State that occurred at the Facility. These are:

a. a February 15, 2000, discharge of between 50 and 100 gallons of demineralizer effluent and leak detector dye to the intake canal and thus to Tampa Bay;

b. a May 14, 2000, discharge of approximately 3,000 gallons of slag sluice wastewater onto the ground and to the discharge canal and thus to Tampa Bay for which water quality analysis indicated contraventions of surface water quality standards for copper, pH, cadmium, zinc, lead, nickel and iron; and

c. a May 25, 2000, spill of between 240 and 500 gallons of boiler makeup water which contravened surface water quality standards for pH, copper and iron was discharged to the inlet canal and thus Tampa Bay.

Respondent notified the Department during a March 16, 2001, meeting that a new position has been established in order to address the Department's concerns regarding environmental issues at the Facility and that an engineer experienced in environmental regulation and electric power generation has been hired to fill this position.

Respondent indicated that this engineer would have the responsibility for conducting routine onsite inspections in order to identify potential problems prior to violations occurring and to recommend appropriate action. Additionally, Respondent is in the process of developing a revised Best Management Plan ("BMP") to address Departmental concerns.

14. On November 7, 2000, Respondent was issued Warning Letter No. WN00-0026IW29SWD for failure to operate the fine mesh screens in accordance with the Conditions of Certification, PA79-12 ("Certification"), and the above-referenced NPDES Permit. The screens are required to be in operation beginning March 15 and continuing through October 15 as a means for controlling entrainment mortality. Respondent, in a letter dated February 24, 2000, notified the Department that, due to mechanical problems, the screens would have to be by-passed. During a trial operation of the screens, Respondent had found that there was a deposition of silt material on the track on which the screens rotate and that dredging would be required in order for the screens to be operational. The United States Army Corps of Engineers had issued Respondent a Screenwell Dredge Permit, Permit No. 199600529, on February 20, 1996. This permit authorized Respondent to perform dredge maintenance of up to 9,000 cubic yards of silt from the cooling intake structures; however, it prohibited performance of dredging activities during manatee wintering season, which is November 15 through March 15. Due to this provision of the dredge permit, Respondent was unable to perform the dredging activity necessary in order to place the screens in service. Respondent made a request to the Corps of Engineers for a modification to the Screenwell Dredge Permit in order to obtain permission to dredge as needed prior to the time the screens must be placed in service. The Corps approved the modification. Future dredging will be done by a diver using a hand-held dredge equipped with a cutoff valve and, therefore, poses very minimal risk to manatees. In addition, the manatees would more likely be found congregated in the

outlet canal due to the warm water discharge during this period and not in the colder water of the intake canal.

Having reached resolution of the matter, the Department and the Respondent mutually agree and it is,

ORDERED:

15. Respondent shall within 180 days after the effective date of this Order, submit documentary assurance that liner in the pond identified as Number-19 on Attachment #1 has been repaired or replaced. The pond identified as Number 20 on Attachment #1 will be evaluated for liner integrity. All visible areas will be inspected within 180 days after the effective date of this order.

16. Within 120 days after the effective date of this Order, each of the waste or wastewater management units identified below shall be evaluated by an environmental contamination assessment plan ("ECAP") and any corrective actions found to be necessary to protect or restore surface or groundwater standards shall be implemented as set forth in Attachment #2, within the time frames set forth therein. The Units to be included are:

- a. Bottom and Fly Ash Ponds (Numbers 19 and 20 on Attachment #1). TEC shall complete repair/replacement of the liner in Unit Number 19 by June 19, 2001.
- b. Wastewater Recycling/Waste Management Ponds (Numbers 17 and 18 on Attachment #1),
- c. Wastewater Sprayfields (multiple areas identified as Number 16 on Attachment #1),
- d. Bottom Ash Dry Storage Unit (unnumbered unit south of Units #19 and #20),

e. Gypsum Byproduct Storage Unit (Unit #21 on Attachment #1), and

f. Waste Disposal/Management Unit located at the north end of the property

known as DA-2 (identified as Unit #1 on Attachment #1) TEC has agreed to cover DA-

2(A) and DA-2(B) with rain cell covers as provided in the scope of work submitted to the

Department. This activity will commence on April 4, 2001 and be complete by June 4,

2001. In addition, TEC has agreed to evaluate the need for a liner for unit DA-2(C).

17. If, for any reason, the Facility has an un-permitted discharge of wastewater, the facility shall immediately provide the Department with the following information:

(a) A description of and cause of the discharge; and

(b) The period of discharge, including dates and times; or, if not corrected, the anticipated time the discharge is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the discharge.

The facility shall be responsible for any and all damages that may result and may be subject to enforcement action by the Department for penalties and or for corrective actions.

18. Respondent shall update and resubmit a groundwater monitoring permit application for this facility within 6 months of the effective date of this Order and implement the conditions of the permit within 3 months after Department approval, unless the permit imposes a different compliance schedule.

19. In order for the on and offsite site management of industrial byproducts to be exempt from the Department's solid waste rules, Respondent will need to demonstrate compliance with several criteria as indicated in Section 403.7045(1)(f).

Florida Statutes, within 90 days after the effective date of this Order. This demonstration shall include the following information:

a. waste generation and management data sufficient to demonstrate that the majority of the industrial byproducts are sold, used or reused within 1 year;

b. that industrial byproducts are not discharged, deposited, injected, dumped, spilled, leaked, or placed upon any land or water so that such industrial byproducts, or any constituent thereof, may enter other lands or be emitted into the air or discharged into any waters, including groundwaters, or otherwise enter the environment such that a threat of contamination in excess of applicable department standards and criteria is caused; and

c. that the industrial byproducts are not hazardous wastes as defined under § 403.703 and rules adopted under this section.

Should Respondent fail to demonstrate compliance with these criteria, then a solid waste permit application as required by applicable rules for the management and/or disposal of these industrial byproducts must be submitted within 90 days after notice to Respondent by the Department that compliance with the exemption criteria has not been demonstrated.

20. Within 6 months after the effective date of this Order, Respondent shall submit a combustion by-products and solid waste management manual to the Department for review and approval. This manual shall detail the unit specific BMPs and material management practices that will be implemented at Big Bend to assure compliance with § 403.7045(1)(f), Florida Statutes, and to provide reasonable assurance that environmental standards will not be violated.

21. Respondent shall comply with the terms and conditions contained in the Department's September 21, 2000, letter of approval for the use of the temporary containment boom installed across the discharge canal. This letter is incorporated hereto as Attachment #3. The Respondent shall determine what, if any, measures are necessary to achieve compliance with the NPDES Permit and shall include these in the renewal application for that Permit, which is due in the Industrial Wastewater Section of the Department's Tallahassee offices on or before February 25, 2002.

22. Respondent shall complete the proposed revisions to the Facility's BMP and submit the revisions to the Department within 60 days after the effective date of this Order, and implement the revised BMP's within 180 days after the date of Department approval. Respondent shall notify the Department in writing within 30 days of completion of this plan that it is available for Departmental review. If the periodic spills continue after implementation of the BMP, the Department may require additional revisions to the BMP and/or other necessary measures.

23. Respondent shall be in compliance with Subsection II.B.2.(2)1 of the Certification within 90 days of the effective date of this Order. Respondent shall review the inspection and maintenance program for the fine mesh screens that was submitted to the Siting Coordination Office on July 21, 1987, and which was required to be implemented by the Certification, in order to determine if the plan is adequate to address the current operation of the screens or requires revision. This review shall be conducted within 90 days of the effective date of this Order and Respondent shall notify the Department in writing within 30 days after completion of this review as to what actions if any will need to be undertaken to update the specific terms of the plan.

Should the Department find that the current or revised plan requires revision, Respondent shall provide a revised plan to both the Southwest District Industrial Wastewater Program and to the Siting Coordination Office within 30 days of notice by the Department that such revision is necessary and shall implement the revised plan within 180 days after Department approval of the revised plan. Respondent shall notify the Southwest District Industrial Wastewater Program in writing of the date on which the screens are placed in to operation. If further difficulties with the operation of the fine mesh screens during the required time period are encountered, the Department may require additional measures.

24. Within 30 days of the effective date of this Consent Order, Respondent shall pay the Department \$123,592 in settlement of the matters addressed in this Consent Order. This amount includes \$117,092 in civil penalties for alleged violations of Section 403.161, Florida Statutes, and of the Department's rules and \$6500 for costs and expenses incurred by the Department during the investigation of this matter and the preparation and tracking of this Consent Order. Payment shall be made by cashier's check or money order. The instrument shall be made payable to the "Department of Environmental Protection" and shall include thereon the OGC number assigned to this Consent Order and the notation "Ecosystem Management and Restoration Trust Fund".

A. The Departments Cost and expenses shall be paid within as outlined above within 30 days after the execution of this Order.

B. In lieu of the remaining penalty balance of \$117,092.00, the

Department will allow a credit for pollution prevention actions taken by Respondent

pursuant to the following terms:

a. Within 30 days of the effective date of this Consent Order, the Respondent shall submit written notice to the Department that TEC intends to submit a Waste Audit Report for review and approval. The Waste Audit Report shall include all of the information called for in the document entitled "Components of a Waste Audit Report" which is attached and incorporated herein as Attachment # 4 and shall be submitted no more than 90 days after the effective date of this Order.

b. If the Waste Audit Report is not approved by the Department, the Respondent shall have 30 days after written notification by the Department that the report is not acceptable in which to resubmit a revised report. If, after one re-submittal, the Waste Audit Report is not approved, the Respondent shall pay the balance of \$117,092 in accordance with paragraph 24. above. Payment shall be made within 30 days of receipt of notice that the resubmitted Waste Audit Report is not approved. The Department may grant extensions.

c. If the Waste Audit Report is approved by the Department, Respondent shall develop a detailed Pollution Prevention Project Plan (Project Plan) based on the approved Waste Audit Report, particularly section II, Pollution Prevention Opportunity Assessment. The Project Plan shall include all of the information called for in the document entitled "Components of a P2 Project Plan" which is attached and incorporated herein as Attachment #5. The

Respondent shall submit the Project Plan to the Department for review and approval within 60 days of Department approval of the Waste Audit Report.

d. If the Project Plan is not approved by the Department, the Respondent shall have 30 days after written notification by the Department that the Project Plan is not acceptable in which to resubmit the plan. If, after one resubmittal, the Project Plan is not approved, the Respondent shall pay the balance in accordance with paragraph 24 above within 30 days of receipt of notification that the resubmitted Project Plan is not acceptable. The Department may grant extensions.

e. Within 30 days of notification by the Department that the Project Plan has been approved, the Respondent shall begin implementation of the Project Plan.

f. Respondent shall submit quarterly progress reports, the first report being due 90 days after approval of the Project Plan. Each report shall provide a statement of the Respondent's progress in development or implementation of the Project Plan as of the date of the report and shall address any requirements listed in the approved Plan of Attachment # 5 ["Components of a P2 Project Plan"]. A list of equipment ordered, purchased, or installed shall also be included if applicable.

g. Respondent shall implement the approved project(s) by the completion date specified in the approved Project Plan. The Department may grant extensions. A final report shall be submitted to the Department within 30

days of the project completion date, detailing the implementation of the Project Plan including the following:

- (1) a description of the methods used to quantify wastes;
- (2) all of the information called for in Section III (Environmental Benefits) of Attachment # 5 ["Components of a P2 Project Plan"];
- (3) an expense report, receipts and other documents itemizing costs expended on preparing and implementing the project, pursuant to paragraph 14.B.i. below.

h. The Department shall review the final report submitted in accordance with paragraph 14.B.g above and determine:

- (1) whether the project has been implemented in accordance with the Department approved Project Plan; and
- (2) which expenses apply toward pollution prevention credits.

i. If the Pollution Prevention Plan is approved by the Department and implemented according to paragraphs 14.B.a. through 14.B.g., a \$1 credit for each dollar spent on applicable costs will be applied against the civil penalty set aside amount of \$117,092.

(1) The following costs may, in accordance with paragraph 14.B.h, apply toward pollution prevention credits:

- (a). preparation of a Project Plan;
- (b). design of the Project;
- (c). installation of equipment for the Project;
- (d). construction of the Project;
- (e). testing of the Project;

(f). training of staff concerning the implementation of the Project;

(g). capital equipment needed for the Project;

(2) The following costs shall not apply toward Pollution Prevention

Credits:

(a). costs incurred in conducting a waste audit;

(b). maintenance and operation costs involved in implementing a Project;

(c). monitoring and reporting costs;

(d). salaries of employees who perform their regular job duties;

(e). costs expended to bring the facility into compliance with current law, rules and regulations;

(f). costs associated with a Project that is not implemented;

(g). costs associated with a Project that has not been approved by the Department;

(h). legal costs.

j. If any balance remains after the pollution prevention credits are applied, it shall be paid, in accordance with paragraph 24 above, commencing within 30 days of written notification by the Department to the Respondent that the balance is due.

k. The Department may terminate the Project Plan at any time during the development or implementation of it, if the Respondent fails to comply with the above requirements, act in good faith in preparing and implementing the project, or fails to develop and implement the Project in a timely manner.

I. The Respondent may terminate the Project Plan at any time during its development or implementation, at which time, payment of the full balance of the penalty becomes due and owing in accordance with paragraph 24 above.

25. Respondent agrees to pay the Department stipulated penalties in the amount of \$2000 per day for each and every day Respondent fails to timely comply with any of the requirements of Paragraphs 15 through 24 of this Consent Order, inclusively. A separate stipulated penalty shall be assessed for each violation of this Consent Order. Within 30 days of written demand from the Department, Respondent shall make payment of the appropriate stipulated penalties to "The Department of Environmental Protection" by cashier's check or money order and shall include thereon the OGC number assigned to this Consent Order and the notation "Ecosystem Management and Restoration Trust Fund". Payment shall be sent to the Department of Environmental Protection, 3804 Coconut Palm Drive, Tampa, Florida 33619. The Department may make demands for payment at any time after violations occur. Nothing in this paragraph shall prevent the Department from filing suit to specifically enforce any of the terms of this Consent Order. If the Department is required to file a lawsuit to recover stipulated penalties under this paragraph, the Department will not be foreclosed from seeking civil penalties for violations of this Consent Order in an amount greater than the stipulated penalties due under this paragraph.

26. The Department, for and in consideration of the complete and timely performance by Respondent of the obligations agreed to in this Consent Order, hereby waives its right to seek judicial imposition of damages or civil penalties for alleged violations outlined in this Consent Order; provided, however, should the Department

conclude that clean up of the contaminated area to Site Rehabilitation Levels, is not feasible; or should Respondent not completely implement the Remedial Action Plan as approved by the Department; the Department expressly reserves its right to seek restitution from Respondent for environmental damages resulting from Respondent's actions. Within 20 days of receipt of Department written notification of its intent to seek said restitution, Respondent may pay the amount of the damages or may, if it so chooses, initiate negotiations with the Department regarding the monetary terms of restitution to the state. Respondent is aware that should a negotiated sum or other compensation or environmental damages not be agreed to by the Department and Respondent within 20 days of receipt of Department written notification of its intent to seek restitution, the Department may institute appropriate action, either administrative through a Notice of Violation, or judicial, in a court of competent jurisdiction through a civil complaint, to recover Department assessed environmental damages as provided by law.

27. Respondent acknowledges and waives its right to an administrative hearing pursuant to Sections 120.569 and 120.57, Florida Statutes, on the terms of this Consent Order. Respondent acknowledges its right to appeal the terms of this Consent Order pursuant to Section 120.68, Florida Statutes, and waives that right upon signing this Consent Order.

28. Respondent shall publish the following notice in a newspaper of daily circulation in Hillsborough County, Florida. The notice shall be published one time only within 20 days after the effective date of the Consent Order.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF CONSENT ORDER

The Department of Environmental Protection gives notice of agency action of entering into a Consent Order with Tampa Electric Company pursuant to Section 120.57(4), Florida Statutes. The Consent Order addresses the development and implementation of corrective actions necessary to address the alleged groundwater and surface water violations at the facility and to return the facility's operation to compliance with Department rules and standards, at Tampa Electric Company's Big Bend facility, near Apollo Beach, Hillsborough County. The Consent Order is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at the Department of Environmental Protection, 3804 Coconut Palm Drive, Tampa, Florida 33619.

Persons whose substantial interests are affected by this Consent Order have a right to petition for an administrative hearing on the Consent Order. The Petition must contain the information set forth below and must be filed (received) in the Department's Office of General Counsel, 3900 Commonwealth Boulevard, MS-35, Tallahassee, Florida 32399-3000, within 21 days of receipt of this notice. A copy of the Petition must also be mailed at the time of filing to the District Office named above at the address indicated. Failure to file a petition within the 21 days constitutes a waiver of any right such person has to an administrative hearing pursuant to Sections 120.569 and 120.57, Florida Statutes.

The petition shall contain the following information: (a) The name, address, and telephone number of each petitioner; the Department's identification number for the Consent Order and the county in which the subject matter or activity is located; (b) A statement of how and when each petitioner received notice of the Consent Order; (c) A statement of how each petitioner's substantial interests are affected by the Consent Order; (d) A statement of the material facts disputed by petitioner, if any; (e) A statement of facts which petitioner contends warrant reversal or modification of the Consent Order; (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Consent Order; and (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Consent Order.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the subject Consent Order have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 21 days of receipt of this

notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Sections 120.569 and 120.57, Florida Statutes, and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-106.205, Florida Administrative Code.

A person whose substantial interests are affected by the Consent Order may file a timely petition for an administrative hearing under Sections 120.569 and 120.57, Florida Statutes, or may choose to pursue mediation as an alternative remedy under Section 120.573, Florida Statutes, before the deadline for filing a petition. Choosing mediation will not adversely affect the right to a hearing if mediation does not result in a settlement. The procedures for pursuing mediation are set forth below.

Mediation may only take place if the Department and all the parties to the proceeding agree that mediation is appropriate. A person may pursue mediation by reaching a mediation agreement with all parties to the proceeding (which include the Respondent, the Department, and any person who has filed a timely and sufficient petition for a hearing) and by showing how the substantial interests of each mediating party are affected by the Consent Order. The agreement must be filed in (received by) the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, within 10 days after the deadline as set forth above for the filing of a petition.

The agreement to mediate must include the following: (a) The names, addresses, and telephone numbers of any persons who may attend the mediation; (b) The name, address, and telephone number of the mediator selected by the parties, or a provision for selecting a mediator within a specified time; (c) The agreed allocation of the costs and fees associated with the mediation; (d) The agreement of the parties on the confidentiality of discussions and documents introduced during mediation; (e) The date, time, and place of the first mediation session, or a deadline for holding the first session, if no mediator has yet been chosen; (f) The name of each party's representative who shall have authority to settle or recommend settlement; and (g) Either an explanation of how the substantial interests of each mediating party will be affected by the action or proposed action addressed in this notice of intent or a statement clearly identifying the petition for hearing that each party has already filed, and incorporating it by reference; and (h) The signatures of all parties or their authorized representatives.

As provided in Section 120.573, Florida Statutes, the timely agreement of all parties to mediate will toll the time limitations imposed by Sections 120.569 and 120.57, Florida Statutes, for requesting and holding an administrative hearing. Unless otherwise agreed by the parties, the mediation must be concluded within sixty days of the execution of the agreement. If mediation results in settlement of the administrative dispute, the Department must enter a final order incorporating the agreement of the

parties. Persons whose substantial interests will be affected by such a modified final decision of the Department have a right to petition for a hearing only in accordance with the requirements for such petitions set forth above, and must therefore file their petitions within 21 days of receipt of this notice. If mediation terminates without settlement of the dispute, the Department shall notify all parties in writing that the administrative hearing processes under Sections 120.569 and 120.57, Florida Statutes, remain available for disposition of the dispute, and the notice will specify the deadlines that then will apply for challenging the agency action and electing remedies under those two statutes.

29. If any event, including administrative or judicial challenges by third parties unrelated to the Respondent, occurs which causes delay or the reasonable likelihood of delay, in complying with the requirements of this Consent Order, Respondent shall have the burden of proving the delay was or will be caused by circumstances beyond the reasonable control of the Respondent and could not have been or cannot be overcome by Respondent's due diligence. Economic circumstances shall not be considered circumstances beyond the control of Respondent, nor shall the failure of a contractor, subcontractor, materialman or other agent (collectively referred to as "contractor") to whom responsibility for performance is delegated to meet contractually imposed deadlines be a cause beyond the control of Respondent, unless the cause of the contractor's late performance was also beyond the contractor's control. Upon occurrence of an event causing delay, or upon becoming aware of a potential for delay, Respondent shall notify the Department orally within 24 hours or by the next working day and shall, within seven calendar days of oral notification to the Department, notify the Department in writing of the anticipated length and cause of the delay, the measures taken or to be taken to prevent or minimize the delay and the timetable by which Respondent intends to implement these measures. If the parties can agree that the delay or anticipated delay has been or will be caused by circumstances beyond the

reasonable control of Respondent, the time for performance hereunder shall be extended for a period equal to the agreed delay resulting from such circumstances. Such agreement shall adopt all reasonable measures necessary to avoid or minimize delay. Failure of Respondent to comply with the notice requirements of this Paragraph in a timely manner shall constitute a waiver of Respondent's right to request an extension of time for compliance with the requirements of this Consent Order.

30. With regard to any agency action taken by the Department concerning Respondent's proposals submitted by the Respondent to the Department as required by the terms of Paragraphs 16, 22 and 23, Respondent may file a Petition for Formal or Informal Administrative Hearing. If Respondent objects to the Department's agency action pursuant to Sections 120.569 and 120.57, Florida Statutes, Respondent shall have the burden to establish the inappropriateness of the Department's agency action. The petition must contain the information set forth in paragraph 28 and must be filed (received) at the Department's Office of General Counsel, 3900 Commonwealth Boulevard, MS-35, Tallahassee, Florida 32399-3000, within 21 days of receipt of the Department's agency action the Respondent intends to challenge and must conform with the requirements of Florida Administrative Code Rule 28-106.201 or Rule 28-106.301. Failure to file a petition within this time period shall constitute a waiver by Respondent of its right to request an administrative proceeding under Sections 120.569 and 120.57, Florida Statutes. The Department's determination, upon expiration of the 21 day time period if no petition is filed, or the Department's Final Order as a result of the filing of a petition, shall be incorporated by reference into this Consent Order and made a part of it. All other aspects of this Consent Order shall remain in full force and

effect at all times. If both parties agree, the Department and Respondent may mediate the dispute as provided in Section 120.572, Florida Statutes. If the parties agree to mediation, the time for filing a petition pursuant to this paragraph is tolled until such time as the mediation is unsuccessful. Upon notice from the Department that the mediation is unsuccessful, the Respondent shall have 21 days to file its petition as provided herein.

If Respondent seeks an administrative proceeding pursuant to this paragraph, the Department may file suit, including injunctive relief, against Respondent in lieu of or in addition to holding the administrative proceeding to obtain judicial resolution of all the issues unresolved at the time of the request for administrative proceeding.

31. Nothing herein shall be construed to limit the authority of the Department to undertake any action against the Respondent in response to or to recover the costs of responding to conditions at or from the site that require Department action to abate an imminent hazard to the public health, welfare or the environment. Nothing herein shall be construed as a waiver of any defenses that Respondent may have to any actions brought by the Department under this paragraph and paragraph 30 preceding.

32. The Respondent shall provide within a reasonable time at its expense a permanent safe drinking water supply meeting all drinking water standards set forth in Florida Administrative Code Chapter 62-550 to replace any potable water well that is shown by chemical and hydrogeologic analyses to be contaminated by the Respondent's operations.

33. Entry of this Consent Order does not relieve Respondent of the need to comply with applicable federal, state or local laws, regulations or ordinances.

34. The terms and conditions set forth in this Consent Order may be enforced in a court of competent jurisdiction pursuant to Sections 120.69 and 403.121, Florida Statutes. Failure to comply with the terms of this Consent Order shall constitute a violation of Section 403.161(1)(b), Florida Statutes.

35. Respondent is fully aware that a violation of the terms of this Consent Order may subject Respondent to judicial imposition of damages, civil penalties up to \$10,000 per day per violation and criminal penalties.

36. Respondent shall allow all authorized representatives of the Department access to the property and Facility at reasonable times for the purpose of determining compliance with the terms of this Consent Order and the rules and statutes of the Department.

37. The Department hereby expressly reserves the right to initiate appropriate legal action to prevent or prohibit any violations of applicable statutes or the rules promulgated thereunder that are not specifically addressed by the terms of this Consent Order.

38. No modifications of the terms of this Consent Order shall be effective until reduced to writing and executed by both the Respondent and the Department.

39. All submittals and payments required by this Consent Order to be submitted to the Department shall be sent to the Florida Department of Environmental Protection, c/o William Kutash, Southwest District Environmental Administrator, Waste Management Division, at 3804 Coconut Palm Drive, Tampa, Fla. 33619, unless stated otherwise in this Order.

40. In the event of a sale or conveyance of the facility or of the property upon which the facility is located, if all of the requirements of this Consent Order have not been fully satisfied, Respondent shall, at least 30 days prior to the sale or conveyance of the property or facility, (1) notify the Department of such sale or conveyance, (2) provide the name and address of the purchaser, or operator, or person(s) in control of the facility, and (3) provide a copy of this Consent Order with all attachments to the new owner. The sale or conveyance of the facility, or the property upon which the facility is located shall not relieve the Respondent of the obligations imposed in this Consent Order.

41. Within 30 days of the effective date of this Consent Order, Respondent shall comply with the requirements of Section 403.7255, Florida Statutes.

42. This Consent Order is a settlement of the Department's civil and administrative authority arising under Florida law to resolve the matters addressed herein. This Consent Order is not a settlement of any criminal liabilities that may arise under Florida law, nor is it a settlement of any violation, which may be prosecuted criminally or civilly under federal law.

43. Respondent shall use all reasonable efforts to obtain any necessary access for work to be performed in the implementation of this Consent Order. If necessary access cannot be obtained, or if obtained, is revoked by owners or entities controlling access to the properties to which access is necessary, Respondent shall notify the Department within (5) business days of such refusal or revocation. The Department may at any time seek to obtain access as is necessary to implement the terms of this Consent Order. The Respondent shall reimburse the Department for any

damages, costs, or expenses, including expert and attorneys fees, that the Department is ordered to pay, or that the Department incurs in connection with its efforts to obtain access as is necessary to implement the terms of this Consent Order. Respondent shall pay these sums to the Department or arrange a payment schedule with the Department within 30 days of written demand by the Department.

44. This Consent Order is a final order of the Department pursuant to Section 120.52(7), Florida Statutes, and it is final and effective on the date filed with the Clerk of the Department unless a Petition for Administrative Hearing is filed in accordance with Chapter 120, Florida Statutes. Upon the timely filing of a petition this Consent Order will not be effective until further order of the Department.

FOR THE RESPONDENT:

April 9, 2001
DATE

Hugh W. Smith
Hugh W. Smith
Vice President
Energy Supply Trading and Service

DONE AND ORDERED this 10th day of April, 2001,
in Tampa, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

FILING AND ACKNOWLEDGEMENT
FILED, on this date, pursuant to S120.52 Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Anna Blau 4/10/01
Clerk Date

Deborah Getzoff
Deborah Getzoff,
Director of District Management
Southwest District

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

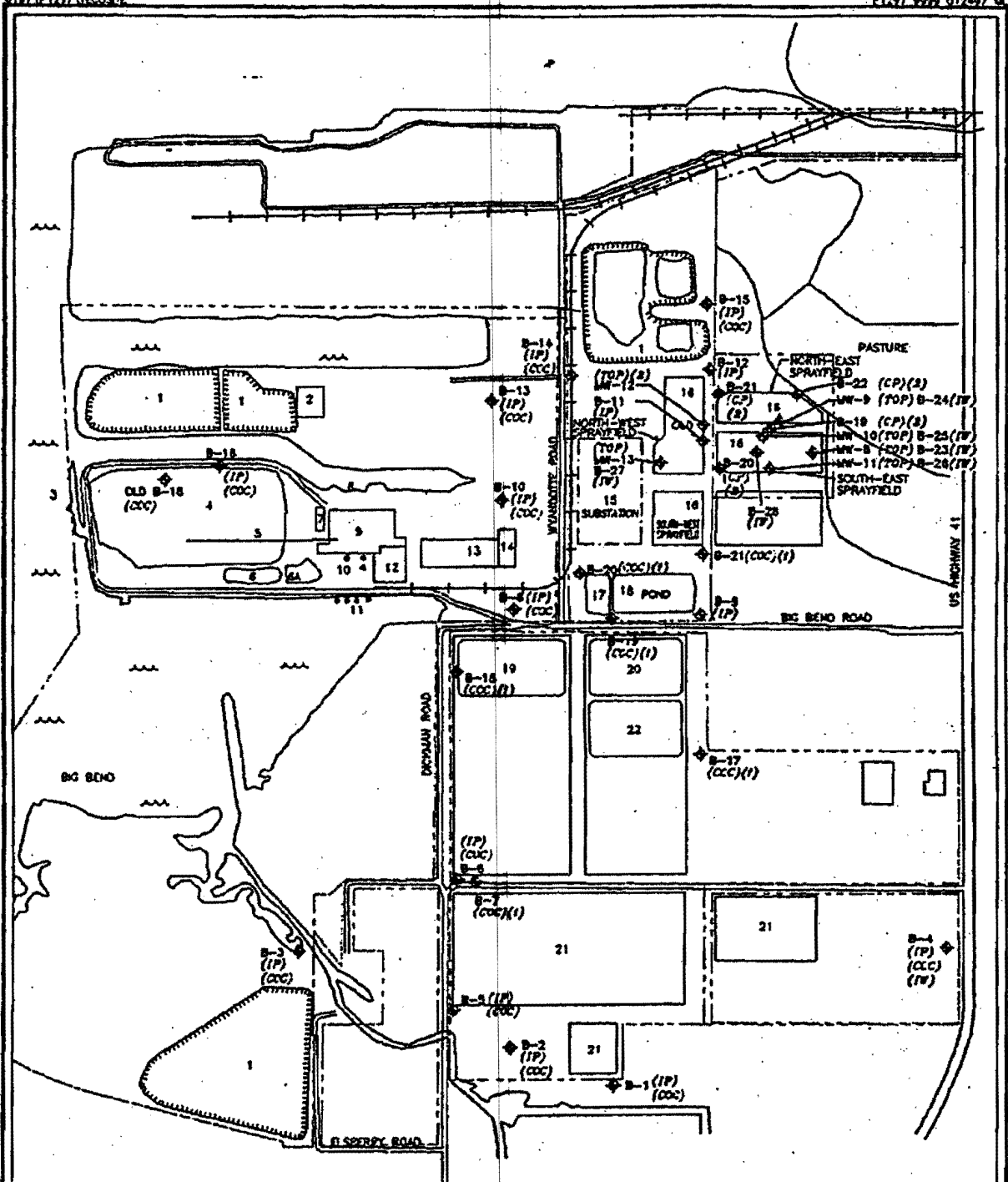
Anna Blake

Clerk

4-10-01

Date

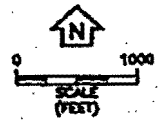
cc: Larry Morgan
Tim Parker
William Kutash



LEGEND

- | | |
|-------------------------------------|--------------------------------|
| 1 DREDGE DISPOSAL AREAS | 13 LIMESTONE PREPARATION |
| 2 GAS TURBINE GENERATORS | 14 HANDLING AREA |
| 3 COAL UNLOADING | 15 LIMESTONE STORAGE |
| 4 COAL PILE | 16 SUBSTATION |
| 5 COAL CONVEYOR | 17 SPRAY FIELDS |
| 6 SLAG POND/FRESH-WATER | 18 SETTLING POND |
| 6A SETTLING BASIN | 19 RECYCLE POND |
| 7 AUXILIARY GAS TURBINE CONDENSATOR | 20 BOTTOM ASH POND |
| 8 COOLING WATER INTAKE | 21 FLY ASH POND |
| 9 BOILERS AND TURBINES | 22 FLUE GAS DESULFURIZATION |
| 10 STACKS | BY PRODUCT STORAGE AREA |
| 11 COOLING WATER DISCHARGE | 22 COUNTY RECLAIMED WATER POND |
| 12 FLUE GAS DESULFURIZATION AREA | |

- ◆ MONITORING WELL
 (1) DRILLED
 (2) ABANDONED



IP	INDUSTRIAL WASTEWATER PERMIT	1025-164989 (IP) 4/85/94, EXP. DATE
COC	CONDITIONS OF CERTIFICATION	PA 72-12 (COC)
CP	CONSTRUCTION PERMIT	1025-13841 (CP) 5/1/91, EXP. DATE
TOP	TOP PERMIT	1025-81812 (TOP) 8/15/98, EXP. DATE
IV	INDUSTRIAL WASTEWATER PERMIT	1025-164989 (IV) 8/11/98, EXP. DATE

REVISED 5/26/98
 887761.DWG

**BIG BEND STATION
 GROUNDWATER MONITORING WELLS -- HISTORICAL**



ATTACHMENT II

Part 1 Quality Assurance

All organization(s) and laboratory(s) performing sampling and analysis must have a Department approved Comprehensive Quality Assurance Plan (Comp QAP) in which each is approved for the sampling and analysis activities each will perform as part of the assessment and corrective actions at the site. All identified organizations and laboratories must follow the protocols outlined in their respective CompQAP(s) in order for the data to be reliable.

The Department reserves the right to reject any results generated by the Respondent if any organization performs an activity that is not specifically approved in its CompQAP, if there is reasonable doubt as to the quality of the data or method used, if the sampling and analysis were not performed in accordance with the approved CompQAP or if the CompQAP of any organization expires.

Part 2 Contamination Assessment

1. Within sixty (60) days of the effective date of the Order incorporating these contamination assessment actions, Respondent shall submit to the Department a detailed written Contamination Assessment Plan (CAP). Applicable portions of the CAP shall be signed and sealed pursuant to Rule 62-103.110(4), F.A.C. The purpose of the CAP shall be to propose methods for collection of information necessary to meet the objectives of the Contamination Assessment.

A. The objectives of the Contamination Assessment shall be to:

- (1) Establish the horizontal and vertical extent of soil, sediment, surface water and ground water contamination;
- (2) Determine or confirm the contaminant source(s); mechanisms of contaminant transport; rate and direction of contaminant movement in the soils, surface water and ground water; and rate and direction of ground water flow;
- (3) Provide a complete characterization, both onsite and offsite, of any and all contaminated waste or wastewaters;
- (4) Describe pertinent geologic and hydrogeologic characteristics of affected and potentially affected hydrogeologic zones;
- (5) Describe geologic and hydrogeologic characteristics of the site which influence migration and transport of contaminants; and
- (6) Provide a summary of all relevant historical data as specified in Paragraph 1.C. (1).

B. The CAP shall specify the tasks necessary to achieve the applicable objectives described in Paragraph 1.A. above. The tasks may include, but are not limited to, the following:

- (1) Use of piezometers or wells to determine the horizontal and vertical directions of the ground water flow;
- (2) Trace extent of ground water contamination;
- (3) Use of fracture trace analysis to discover linear zones in which discrete flow could take place;
- (4) Use of permanent monitoring wells to sample ground water in affected areas and to determine the vertical and horizontal extent of the ground water plume;
- (5) Sampling of public and private wells;
- (6) Sampling of surface water and sediments;
- (7) Analysis of soils or any other media for contaminant characterization;
- (8) Determination of the horizontal and vertical extent of soil and sediment contamination;
- (9) Use of soil and well borings to determine pertinent site-specific geologic and hydrogeologic characteristics of affected and potentially affected hydrogeologic zones such as aquifers, confining beds, and unsaturated zones;
- (10) Use of geophysical methods, aquifer pump tests and representative slug tests to determine geologic and hydrogeologic characteristics of affected and potentially affected hydrogeologic zones; and
- (11) As a mandatory task, preparation and submittal of a written Contamination Assessment Report ("CAR") to the Department.

C. The CAP shall provide a detailed technical approach and description of proposed methodologies describing how proposed tasks are to be carried out. The CAP shall include, as applicable, the following information:

- (1) A detailed site history for each Unit including: a description of all by-products and wastes (including waste constituents) generated and disposed or managed during the operation of the facility; and a summary of known spills or releases of materials which may be potential pollution sources;
- (2) Details of any previous site investigations including results of any preliminary ground water flow evaluation and/or stratigraphy investigation. If no reliable information exists, consider following a phased approach or conducting a limited pre-CAP investigation to determine groundwater flow direction and stratigraphy.
- (3) Proposed sampling locations and rationale for their placement;
- (4) A description of methods and equipment to be used to identify and quantify soil or sediment contamination, including dry

bulk density, soil porosity, soil moisture and total organic carbon (for site specific leachability cleanup goals);

(5) A description of water and soil sampling methods;

(6) Parameters to be analyzed for, analytical methods to be used, and detection limits of these methods with justification for their selection;

(7) Proposed piezometer and well construction details including methods and materials, well installation depths and screened intervals, well development procedures;

(8) A description of methods proposed to determine aquifer properties (e.g., aquifer pump tests, representative slug tests, permeability tests, computer modeling);

(9) A description of geophysical methods proposed for the project;

(10) A description of any survey to identify and sample public or private wells that are or may be affected by the contaminant plume;

(11) A description of the regional geology and hydrogeology of the area surrounding the site;

(12) A description of site features (both natural and man-made) pertinent to the assessment;

(13) A description of methods and equipment to be used to determine the site specific geology and hydrogeology; and

(14) Details of how drill cuttings, development and purge water from installation of monitoring wells will be collected, managed and disposed of.

(15) Tables, which summarize the proposed samples, analyses, and method detection limits for each medium compared to state standards. Include the appropriate number and type of quality assurance samples.

(16) Provide a reasonable time schedule for completing each task, preparing the CAR and submitting the CAR.

2. The Department shall review the CAP and provide the Respondent with written responses to the plan.

3. In the event that additional information is necessary for the Department to evaluate the CAP, or if the CAP does not adequately address the CAP objectives set forth in Paragraph 1.A, the Department will make a written request to the Respondent for the information. The Respondent shall provide all requested revisions in writing to the Department within thirty (30) days from receipt of said request. If the requested information requires additional time for a response, the Respondent shall submit a written reasonable schedule for completing the work needed to provide the requested information.

4. If the Department determines upon review of the resubmitted CAP that the CAP adequately addresses the objectives set forth in paragraph

1, then the Department shall approve the CAP. If the Department determines that the CAP still does not adequately address the objectives and/or requirements in Paragraph 1.A, the Department may choose one of the options listed in Paragraph 25.

5. Once a CAP has been approved by the Department, it shall become effective and made a part of the Order and shall be initiated within thirty (30) days of the Department's written notification to the Respondent that the CAP has been approved. The approved CAP shall incorporate all required modifications to the proposed CAP identified by the Department. All reporting and notification requirements spelled out in Part 6 shall be complied with during the implementation of the CAP tasks.

Part 3 Contamination Assessment Report (CAR)

6. The Respondent shall submit a written Contamination Assessment Report (CAR) to the Department in accordance with the CAP schedule approved by the Department. Applicable portions of the CAR shall be signed and sealed pursuant to Rule 62-103.110(4), F.A.C. The CAR shall:

A. Summarize all tasks that were implemented pursuant to the CAP;

B. Provide the results, discussion and conclusions regarding the Contamination Assessment objectives outlined in Paragraph 1.A;

C. Include, the following tables and figures as appropriate:

(1) A table with well construction details, top of casing elevation, depth to water measurements, and water elevations (The top of casing elevations should be referenced to the National Geodetic Vertical Datum (NGVD) of 1929 if at all possible.);

(2) A site map showing water elevations, water table contours and the groundwater flow direction for each aquifer monitored for each sampling period;

(3) A table with water quality information for all monitor wells and surface water sampling locations;

(4) Site maps showing contaminant concentrations and contours of the contaminants for all contaminated media;

(5) Cross sections depicting the geology of the site at least to the top of the first confining unit. In general there should be at least one north to south cross section and one east to west cross section;

(6) A table with soil and sediment quality information;

(7) A map showing the locations of all monitor wells, soil, surface water, and sediment samples; and

(8) If applicable, a map showing the locations of all potable wells located within a quarter mile of the site. A table with

the names and addresses of private and public potable wells should be included.

D. Include copies of field notes pertaining to field procedures, particularly of data collection procedures; laboratory results to support data summary tables, and soil boring logs, well construction logs, and lithologic logs, and

E. Summarize conclusions regarding the CAP objectives and include a recommendation for either No Further Action (NFA), a Groundwater Monitoring Plan modification, a Feasibility Study (FS) or remedial actions requiring a Remedial Action Plan (RAP).

7. The Department shall review the CAR and determine whether it has adequately met the objectives specified in Paragraph 7.A. In the event that additional information is necessary for the Department to evaluate the CAR or if the CAR does not adequately address the CAP objectives set forth in Paragraph 7.A, the Department will make a written request to the Respondent for the information. The Respondent shall provide all requested revisions in writing to the Department within thirty (30) days from receipt of said request, unless the requested information requires additional time for a response, in which case the Respondent shall submit in writing to the Department, within thirty (30) days of the Department's request, a reasonable schedule for completing the work needed to provide the requested information.

8. If the Department determines upon review of the CAR or the CAR Addendum that all of the CAP objectives and tasks have been satisfactorily completed and that the recommended next action proposed is reasonable and justified by the results of the contamination assessment, the Department will provide written approval of the CAR, Ground water monitoring Plan modification, or NFA as applicable to the Respondent. If the Department approves a "no further action" proposal, this approval shall terminate Respondent's assessment and remedial actions under the Order for that Unit.

9. If the Department determines upon review of the CAR or the CAR Addendum that the CAR still does not adequately address the objectives in Paragraph 1.A, or that the next proposed action is not acceptable, the Department may choose one of the options listed in Paragraph 25.

Part 4 Remedial Planning and Remedial Actions

10. The Department, at its option, shall also determine from review of the CAR and other relevant information whether the Respondent should prepare and submit a FS to the Department. The Respondent may request the option to prepare a FS. Applicable portions of the FS shall be signed and sealed pursuant to Rule 62-103.110(4), F.A.C. The FS evaluates remedial technologies and remedial alternatives with the objective of identifying the most environmentally sound and effective

remedial action to achieve clean up of the site. The FS shall be completed and a report submitted within sixty (60) days of receipt of written notice that a FS is required or within the time frame approved by the Department. The FS shall include the following tasks:

A. Identify and review pertinent treatment, containment, removal and disposal technologies;

B. Screen technologies to determine the most appropriate technologies;

C. Review and select potential remedial alternatives using the following criteria:

(1) long and short term environmental effects;

(2) implementability;

(3) capital costs;

(4) operation and maintenance costs;

(5) operation and maintenance requirements;

(6) reliability;

(7) feasibility;

(8) time required to achieve clean-up;

D. Select the most appropriate remedial alternative that meets the objective of the FS and the criteria under paragraph C above.

11. The FS Report shall:

A. Summarize all FS task results; and

B. Propose a conceptual remedial action plan based on the selection process carried out in the FS.

12. The Department shall review the FS Report for adequacy and shall determine whether the Department agrees with the proposed remedial action based upon the objective and the criteria specified under paragraph 10.C. In the event that additional information is necessary to evaluate the FS report, the Department shall make a written request and Respondent shall provide all requested information within thirty (30) days of receipt of said request.

13. If the Department does not approve of the proposed remedial action, the Department will notify the Respondent in writing of the determination. The Respondent shall then have forty-five (45) days from the Department's notification to resubmit a proposed alternate remedial action.

14. If the Department determines upon review of the resubmitted remedial action proposal that it does not agree with the proposal, the Department may choose one of the options listed in paragraph 25.

15. Within sixty (60) days of receipt of written notice from the Department, Respondent shall submit to the Department a detailed RAP. Applicable portions of the RAP shall be signed and sealed pursuant to Rule 62-103.110(4), F.A.C. The objective of the remedial action shall be to achieve the clean up of the contaminated media. The RAP shall

summarize the CAR findings and conclusions. The RAP shall include as applicable:

A. Design and construction details and specifications for the remedial alternative selected;

B. Operational details of the remedial action including the disposition of any effluent, expected contaminant concentrations in the effluent, an effluent sampling schedule if treated ground water is being discharged to soils, to ground water or to surface waters, and the expected concentrations and approximate quantities of any contaminants which are reasonably expected to be discharged into the air as a result of remedial action;

C. Tables which summarize the proposed samples and analyses for each pertinent medium and include the appropriate number and type of quality assurance samples;

D. Details of the treatment or disposition of any contaminated soils or sediments;

E. Proposed methodology including post remedial action soil sampling and ground water monitoring as applicable for evaluation of the site status after the remedial action is complete to verify accomplishment of the objective of the RAP; and

F. Schedule for the completion of the remedial action.

16. The Department shall review the proposed RAP and provide Respondent with a written response to the proposal.

17. In the event that additional information is necessary for the Department to evaluate the RAP, or if the RAP does not adequately address the objectives and requirements set forth in Paragraph 15, the Department will make a written request to the Respondent for the information. The Respondent shall provide all requested revisions in writing to the Department within forty five (45) days from receipt of said request, unless the requested information requires additional time for a response, in which case the Respondent shall submit in writing to the Department, within forty five (45) days of the Department's request, a reasonable schedule for completing the work needed to provide the requested information.

18. If the Department determines upon review of the resubmitted RAP that the RAP adequately addresses the objectives set forth in paragraph 15, then the Department shall approve the RAP. If the Department determines that the RAP still does not adequately address the requirements of the RAP, the Department may choose one of the options listed in Paragraph 25

19. Once a RAP has been approved by the Department, it shall become effective and made a part of the Order and shall be initiated within thirty (30) days from receipt of the Department's notification to the Respondent that the RAP has been approved. The approved RAP shall incorporate all required modifications to the RAP identified by

the Department. All reporting and notification requirements spelled out in Part 6 below shall be complied with during the implementation of the RAP tasks.

Part 5 Termination of Remedial Actions

20. Following completion of monitoring requirements pursuant to the approved remedial action and post remedial action monitoring, the Respondent shall submit a report to the Department for approval. The report shall contain documentation that site cleanup objectives have been achieved. Applicable portions of the report shall be signed and sealed pursuant to Rule 62-103.110(4), F.A.C.

21. Within sixty (60) days of receipt of the report, the Department shall approve the report or make a determination that the report does not contain reasonable assurances that site clean-up objectives have been achieved. If the Department determines that the report is not adequate based upon information provided, the Department will notify the Respondent in writing. Site corrective activities shall not be deemed completed until such time as the Department provides the Respondent with written notice that the report is approved.

Part 6 Progress Reporting and Notifications

22. On the 28th day of each month, or on another schedule approved by the Department after initiating a CAP or RAP, Respondent shall submit written progress reports to the Department. These progress reports shall evaluate progress, describe the status of each required CAP and RAP task, and discuss any new data. The effectiveness of the RAP shall be evaluated. The Progress Reports shall propose modifications and additional work as needed. The reports shall be submitted until planned tasks have been completed in accordance with the approved CAP or RAP. Each final report shall be signed and sealed by the appropriate professional pursuant to Rule 62-103.110(4), F.A.C. The final report shall include all data, manifests, and a detailed summary of the completed work.

23. The Respondent shall notify the Department at least ten days prior to installing monitoring or recovery wells, and shall allow Department personnel the opportunity to observe the location and installation of the wells. All necessary approvals must be obtained from the water management district before the Respondent installs the wells.

24. The Respondent shall notify the Department at least ten (10) days prior to any sampling, and shall allow Department personnel the opportunity to observe sampling or to take split samples. When the

Department chooses to split samples, the raw data shall be exchanged between the Respondent and the Department as soon as the data are available.

Part 7 Conflict Resolution and Other Requirements

25. In the event that the Department determines a document to be inadequate or if there are disagreements, the Department, at its option, may choose to do any of the following:

A. Draft specific modifications to the document and notify the Respondent in writing that approval of the document is being granted contingent upon those modifications being incorporated into the document.

B. Resolve the issues through repeated correspondence, telephone discussions, and/or meetings.

C. Notify the Respondent that Respondent has failed to meet the stated objectives for the document, in which case the Department may do any or all of the following: take legal action to enforce compliance with the Order; file suit to recover damages and civil penalties; or complete the corrective actions outlined herein and recover the costs of completion from the Respondent.

26. The Respondent is required to comply with all applicable local, state and federal regulations and to obtain any necessary approvals/permits from local, state and federal authorities in carrying out these corrective actions.

27. The Respondent shall immediately notify the Department of any circumstances encountered by the Respondent which require modification of any task in the approved CAP or RAP, and obtain Department approval prior to implementing any such modified tasks.

28. With regard to any agency action or determination made or taken by the Department under any of the provisions of this document, that portion of the Order containing dispute resolution procedures and remedies shall apply.



Jeb Bush
Governor

Department of Environmental Protection

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

September 21, 2000

Ms. Gwen L. Shofner, P.E.
Consulting Engineer
Environmental Affairs
Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601-0111

ATTACHMENT 3

Re: Tampa Electric Company (TEC)
Big Bend Station
Condenser Tube Cleaning Plugs

Dear Ms. Shofner:


We have reviewed your letter, dated August 14, 2000, proposing temporary installation of a containment boom as a means of determining the effectiveness of the measures presently implemented to contain condenser tube cleaning plugs. The proposal is acceptable.

The boom is to be installed on a temporary basis and for a period of 6 months. The results indicating the number of escaped pigs from the catchment system are to be reported to the Department on a monthly basis. The report will be due on the last day of the month following the month of installation and on the last day of each subsequent month.

The results of the test will also be used to determine the feasibility of approval of an eventual permit modification request.

For inquiries, please contact Ms. JoAnn Herron at telephone number (813) 744-6100, extension 406.

Sincerely,


Timothy J. Parker, P.E.
Water Facilities Administrator

cc: Chris Dunn, HCEPC



Pollution Prevention Fact Sheet

DEVELOPING A FACILITY PLAN COMPONENTS OF A P2 PROJECT PLAN

This fact sheet is design to assist the reader in the development of a pollution prevention project. The steps outlined below build upon the evaluations made during a pollution prevention opportunity assessment. For more information on opportunity assessments please refer to the fact sheet *Components of a Waste Audit Report*.

Units used in the project plan should be mass per unit time or volume per unit time. Concentrations are not considered appropriate units. The time unit should be sufficient to average out abnormalities. Some typical units used are "drums per month" (hazardous waste), "gallons per week" (wastewater), or "pounds per year" (air emissions). All "waste" quantities should take into account hazardous waste shipments, air emissions, and wastewater streams.

I. Process Description

At this stage, it is important to describe the current operation of the affected process. This should be a detailed description, more accurate and in depth than the ballpark figures used in the waste audit report. The process description will aid in the project's design and provide a benchmark for measuring the project's success. The detailed description should include:

- 1) Flow diagram of the process
- 2) Mass balance of the process
- 3) Current operating costs (maintenance, operation, utilities, waste disposal, etc.)
- 4) Supporting documentation (purchase orders, waste manifests, monitoring reports, etc.)

II. Pollution Prevention Project Description

This section should describe, in detail, the modifications that will be made to the process. Again, this detailed description will aid in design and provide a benchmark for measuring the project's success. The project description should include:

- 1) Description of process modification
- 2) Any modifications to the flow diagram
- 3) Mass balance for the new process
- 4) Itemized costs of the project including:
 - a) Design
 - b) Capital equipment
 - c) Installation
 - d) Testing
 - e) Training
 - f) Total project cost
- 5) Other costs

- a) Maintenance
- b) Operation
- c) Other
- 6) Supporting documentation (vendor literature and price quotes, research, endorsements)

III. Environmental Benefits

This section should describe, in detail, the environmental benefits associated with the project including:

For each waste stream eliminated or reduced:

- a) Type of waste
- b) Mass reduction in waste per unit time
- c) Mass reduction in waste per unit of production
- d) Method of waste management
- e) Effect on worker health and safety
- f) Supporting documentation

For each waste stream created or increased:

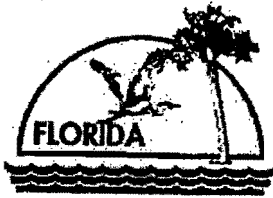
- a) Type of waste
- b) Mass increase in waste per time
- c) Mass increase in waste per unit of production
- d) Method of waste management
- e) Effect on worker health and safety
- f) Supporting documentation

IV. Schedule for Implementation

This section should contain a brief discussion of the steps necessary to implement the project and expected dates of completion. This should include:

- 1) Milestones
- 2) Anticipated problems and options
- 3) Project completion date

This fact sheet has been assembled by Florida's Pollution Prevention Program, a free, non-regulatory service to help industries prevent pollution at the source while saving money. Confidentiality can be requested for proprietary and financial information. For additional information, contact the Pollution Prevention Program c/o the State of Florida Department of Environmental Protection, 2600 Blair Stone Road, Tallahassee, FL 32399-2400, or call (850) 488-0300 (fax (850) 921-8061).



Pollution Prevention Fact Sheet

DEVELOPING A FACILITY PLAN COMPONENTS OF A WASTE AUDIT REPORT (WAR)

This fact sheet is designed to assist the user in the development of a facility pollution prevention plan. It is only intended to explain those components that should be included in a facility Waste Audit Report (WAR). Other information may be found in the Pollution Prevention Program fact sheets titled:

Definition of Pollution Prevention
Components of a P2 Project Plan

The WAR should be divided into 2 sections:

- I) An audit of current facility practices and their associated waste streams; and
- II) An opportunity assessment including a compilation of available pollution prevention opportunities, a feasibility assessment, and an environmental assessment of acceptable options.

Section I, Current Facility Practices, will show where improvements can be made and will provide a baseline for measuring changes. Section II, the Opportunity Assessment, should produce a complete laundry list of available options for improvement, both feasible and infeasible. These options are then evaluated for economic and technical practicality and environmental benefit.

In each section, brief descriptions of the processes, options, waste streams, benefits, etc., can be entered into a table for easy comparison. These tables should be supplemented by more in-depth descriptions.

Units used in the WAR should be in mass per unit time or volume per unit time. Concentrations are not considered appropriate units. The time unit should be sufficient to average out abnormalities. Some typical units used are "drums per month" of hazardous waste, "gallons per week" for waste water, and "pounds per year" for air emissions. Waste quantities should include solid and hazardous wastes, waste water, and air emissions.

Source reduction has the highest potential for environmental health, economic benefit, and worker safety. For these reasons, source reduction has the highest priority in a pollution prevention project. Waste minimization and on-site recycling rank second and third respectively. All of these terms are defined in the fact sheet titled *Definition of Pollution Prevention*.

Section I. Current Facility Practices

This section of the report should include:

- 1) Basic facility information, including name, address, number of employees and a brief description of the facility;
- 2) Names and phone numbers of personnel involved in the WAR;
- 3) Identification and description of processes or operations producing waste streams;
- 4) Mass balances which identify and quantify input materials for each process, materials consumed during each process, and waste streams produced from each process;
- 5) Simple flow charts or diagrams; and
- 6) Supporting documentation such as waste profile sheets.

Section II. Pollution Prevention Opportunity Assessment

This section of the report should include a comprehensive list of the following P2 options and their corresponding considerations for each process that produces a waste stream:

- | | |
|----------------------------------|--|
| 1) Process Elimination - | Can an acceptable product be achieved without this process? |
| 2) Process Substitution - | Can an acceptable product be achieved with a cleaner process? |
| 3) Input Material Substitution - | Can a less polluting chemical or substance be used in the process? |
| 4) Waste Reduction - | Can the process be run with less waste? |
| 5) In-process Recycling/Reuse - | Can used process materials be used instead of virgin materials in the same process? |
| 6) Out-process Recycling/Reuse - | Can used process materials, instead of virgin materials, be reused in another process within the facility? |
| 7) Waste Segregation - | Will the segregation of wastes result in any usable waste products? |

8) Improved Maintenance and Housekeeping -

Can facility operations be run more efficiently with improved equipment maintenance and housekeeping skills?

9) Improved Operational Procedures and/or Scheduling -

Will improving facility operational procedures and/or scheduling reduce the generation of waste?

10) Improved Equipment Layout, Piping and/or Automation -

Will upgrading facility process equipment reduce the generation of waste?

At this point, all P2 options should be considered, and recorded. Many of them may be eliminated in the next section which is an evaluation of the feasibility of each option with respect to technology, economics, environmental health, and worker safety. This section should include:

- 1) A description of each process;
- 2) A description of any P2 option considered for each process;
- 3) The technical feasibility of each P2 option;
- 4) The approximate cost of implementing process modifications or changes;
- 5) A quantitative description of the waste to be reduced;
- 6) A quantitative description of any waste stream that will increase;
- 7) Other benefits such as worker safety; and
- 8) Supporting documentation such as waste stream analytical test results or vendor information on proposed new equipment.

This fact sheet has been assembled by Florida's Pollution Prevention Program, a free, non-regulatory service to help industries prevent pollution at the source while saving money. Confidentiality can be requested for proprietary and financial data. For additional information, contact the Pollution Prevention Program c/o the State of Florida Department of Environmental Protection, 2600 Blair Stone Road, Tallahassee, FL 32399-2400, or call 850-488-0300 (fax 850-921-8061).