



Florida Department of Environmental Protection

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Charlie Crist
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Secretary

October 11, 2010

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Michael Shrader
Lead Environmental Specialist
Progress Energy Florida, Inc.
100 Central Avenue
St. Petersburg, FL 33733

Re: Petition to Modify Site Certification PA 77-09
Ash Storage Vertical Expansion and Other Misc. Projects (Mod P)
Request for Additional Information

Dear Mr. Shrader:

On September 10, 2010 the Siting Coordination Office received a petition, and an associated fee of \$10,000, from Progress Energy Florida, Inc. (PEF) for a modification to the Crystal River Energy Complex (CREC) Site Certification. The petition is for the vertical expansion of the ash storage area, an increase in permitted flow to the south percolation pond system, reallocation of per well water use, incorporation of the CREC IW Permit (FLA016960) and IW Operations & Maintenance Plan, incorporation of the CREC North Domestic Wastewater Permit (FLA011862), and a CREC Stormwater Determination.

Additional information is needed in order to make an adequate review of the submitted petition. Due to the extent and number of projects included in this modification related to groundwater monitoring, comments from the Ground Water Section shall be provided, in a timely manner as agreed to by PEF, upon completion of their review. The Department of Environmental Protection (DEP) Southwest District Office (SWD) Solid Waste Program, Industrial Wastewater Program and ERP program have the following questions and comments:

A. SOLID WASTE PROGRAM

1. **Rule 62-701.430(1)(a), F.A.C.** Please provide documentation that demonstrates that the proposed vertical expansion will not cause or contribute to any leachate leakage from the existing landfill and shall not adversely affect the closure design of the landfill.
2. **Rules 62-701.430(1)(c) , 62-701.400, and 62 - 701.320(7)(e), F.A.C. Landfill design.** Please explain why the proposed drawings do not include a liner between the existing waste and the proposed vertical expansion? Why does PEF propose that a liner is not required?

3. **Rules 62-701.430(2) and 62-701.410(2), F.A.C. Geotechnical Investigation.**

- a. Please provide revised stability analyses that include an interface liner, equipment loading, and block and circular failures. Please include copies of the relevant portions of all references, assumptions, figures, etc., supporting the analyses.
- b. Engineering Report §5.4.2.
 - 1) This section indicates that cavities in the limestone "will be addressed with a compaction grouting program scheduled for August 2010." Please provide the procedures for this compaction grouting program.
 - 2) This section indicates that "there were no active sinkholes identified in the immediate vicinity of the CCP disposal area, ... "However, a sinkhole investigation was not provided. Please evaluate the potential for sinkholes at the site as required by Rule 62-701.410(2)(b), F.A.C. It is the Department's understanding that active sinkholes were observed onsite during the construction of the FGD pond system, and several of the boring logs identify soft/loose soils and/or losses of drilling circulation (e.g., PB-4, PB-4B, etc.).
- c. Appendix I.
 - 1) Please clarify if the figures provided in this appendix are for circular or block failures, and if the analyses included equipment loading. Please specify the equipment loading.
 - 2) Please provide revised settlement analyses that include an interface liner and equipment loading. Please include copies of the relevant portions of all references, assumptions, figures, etc., supporting the analyses.

4. **Rules 62-701.320(7)(e) and 62-701.500, F.A.C. Landfill operation.** Please provide a landfill operation plan that includes the information required by this rule. An operation plan was not provided.

5. **Rules 62-701.410(1) and 62-701.510, F.A.C. Hydrogeological investigation and groundwater monitoring plan.**

- a. Please note that Rule 62-701.320(18), F.A.C., defines the zone of discharge for the landfill to be a maximum of 100 feet from the disposal footprint. Rules 62-701.510(3)(a) and (b), F.A.C., identify wells within the zone of discharge as "detection" wells, and wells located at or immediately adjacent to the compliance line of the zone of discharge as "compliance" wells, respectively. In order to determine the appropriate designation in accordance with Chapter 62-701 F.A.C., please provide the distances from the edge of waste for each of the downgradient monitoring wells: TW-1, TW-4, MWI-2R2, TW-5 and TW-3.
- b. The transmittal letter indicates that a site-wide groundwater monitoring plan is proposed to be submitted 120 days after the vertical expansion modification of the COC is issued. Since a groundwater monitoring plan that complies with Rule 62-701.510, F.A.C., is required for the landfill prior to approval of the vertical expansion modification, please provide the revised site-wide groundwater monitoring plan.

c. Engineering Report, Table 1.

This table includes a summary of monitor well construction data. Please provide a revised table that includes latitude and longitude coordinates (in degrees, minutes, seconds) for each of the listed monitoring wells.

d. Engineering Report, Table 3.

This Table includes a summary of groundwater results for the wells TW-1, TW-2, TW-3, TW-4, and TW-5. Since these sampling results are approximately 1 year old, please provide more recent sampling results. It is the Department's understanding that these wells would be sampled at the same frequency as the existing Industrial Wastewater wells (i.e., quarterly). Please provide results for Q1, Q2 and Q3 of 2010.

6. **Rule 62-701.320(7)(e), 62-701.320(7)(f) and 62-701.330(3)(c), F.A.C. Drawings.**

- a. Please provide a more current topographic survey. It appears that the vertical expansion design is based on contours that are approximately 1 year old. Please provide revised design drawings as appropriate.
- b. Please provide drawings that include details referenced to the plan view or cross-section sheets

7. **Coal Combustion Product (CCP)/Solid Waste Materials Management Plan, (3-ring binder) revision 4, September 2010 (received September 23, 2010)**

- a. As only CD copies of this report were provided, please provide 1 paper copy of this report for the Department's files.
- b. Please provide a revised CCP Management Manual that includes the revised groundwater monitoring plan discussed above. It also appears that the groundwater monitoring discussion for "product management units" other than the ash disposal area may not have been updated based on recent construction or operational changes.

The following comment is for information only and does not require a response.

Please be advised that based on the descriptions and historic practices at the facility, some of the materials disposed in the landfill (e.g., non-CCPs and miscellaneous solid wastes) are not considered to be industrial by-products and may require management within lined or contained areas.

B. INDUSTRIAL WASTEWATER PROGRAM

Incorporation of the CREC Industrial Wastewater Permit (FLA016960)

1. The facility needs to be consistent with the naming of the IWW percolation pond for Unit 4 and 5 and the IWW percolation pond system for Units 1, 2 and 3.
2. Please propose two Groundwater Compliance Monitoring wells for the Northern boundary of the property.

Increase permitted flow to the South Percolation Pond System

3. Page three of the Supplemental Hydrogeologic Investigation and Ground Water Modeling evaluation for the IWW pond area, section 3.2, indicates that Pond 4 has an approximate

surface area of 7.2 acres. However, page eleven, section 7.1, indicates that Pond 4 has a 7.5 acre surface area. Please clarify and make corrections accordingly.

4. As stated above, comments regarding Ground Water will be provided upon receipt of comments from the Ground Water Section following completion of their review.

North Plant Area Stormwater Modeling Report

5. According to the stormwater model summary, basins 1B-i, 1B-ii, and 1B-iii were excluded from the model as they discharge to coal pile runoff ponds, constructed at the eastern end of the coal pile. However, PEF requested that the discharge from the new coal pile runoff treatment ponds has an alternative flow path to the existing coal pile runoff treatment (outfall I-CHO). Therefore, the facility needs to revise the Stormwater model to incorporate the basins 1B-i, 1B-ii, and 1B-iii into the calculation.

Incorporation of the Crystal River North Domestic Wastewater Permit

6. The Domestic Wastewater Section has no objections or comments regarding incorporation of the Domestic Wastewater plant into the Conditions of Certification.

Additional comments

7. Under the NPDES permit FL0036366 renewal, the facility requested that discharge from the new coal pile runoff treatment ponds has an alternative flow path to the existing coal pile runoff treatment system. The facility needs to provide calculation to the CR 4 & 5 IWW Percolation Pond (CRN IWW Percolation Pond) and demonstrate this pond has the capacity to handle the discharge from the new coal pile runoff treatments ponds.
8. Please provide an updated Industrial Wastewater Operation & Maintenance Plan that incorporates the protocol for the maintenance of the Crystal River Units 4 & 5 Industrial Wastewater percolation pond including dewatering, cleaning and disposal of accumulated solids.

C. ENVIRONMENTAL RESOURCE PERMITTING

Stormwater

It is recommended that PEF contact the DEP SWD ERP section prior to the submittal of an RAI response to schedule a meeting or a teleconference to discuss the response and any possible concerns with the proposed project. If you have any questions please contact Douglas Hyman at (813) 632-7600 ext. 393.

1. Pursuant to Basis of Review (BOR) Chapter 1.2.1,F.A.C., please provide all information requested in Sections A, C and E of the Application for an Environmental Resource Permit for the Crystal River Energy Complex (CREF) north plant area stormwater management system (SWMS), except as otherwise noted below.

The information required in Section E, Parts I, II, III, Items P, T, U, Part IV and Part V, Items A 1, 3, 4, 8, 10, 12, is not required at this time.

2. Please determine how the initial stages in the ponds for ICPR routing purposes were determined. For planning purposes, the procedure of BOR Section 5.2 is normally followed.

- Please provide the littoral zone areas, and as a percentage of area at normal water level.
 - Please provide all water quality calculations including water quality volumes discharged from the control structures at hours 36 and 60.
 - Please clarify how the tail water elevation in time-stage boundary node D-OCO was determined.
 - Please clarify whether all elements of the modeled SWMS are actually in the field and operational.
 - Please determine whether the entire north plant SWMS is in compliance with Chapter, 373, F.S., complete the attached Inspection Certification Form #62-3434.343.900 (6) FAC and provide a copy with the RAI response.
3. Please submit a list of north plant project areas and indicate the current phase of construction (i.e. constructed, under construction, construction not commenced). If available, a map of the north plant area indicating the locations of all projects would be preferable.
 4. Please provide a comprehensive O & M Plan for the entire north plant SWMS.
 5. Please clarify whether the 95.5-acre basin 1A is the same basin in which the IW ash pile vertical expansion and closure pond will be located. If affirmative, then is it true that the ERP calculations pertain to existing conditions in which the closure pond has not been constructed?
 6. Pursuant to Chapter 62-343.900(1) Section E, V, B., please provide reasonable assurance that there are no sinkholes or karst anomalies in any element of the SWMS.

Please determine whether any portion of the north plant area SWMS is in a sensitive karst area.
 7. Pursuant to BOR Section 3.2.3.1, please provide reasonable assurance that no element of the SWMS receives contact water runoff.
 8. Below are staff comments and/or recommendations. Your project will not be held incomplete if you do not respond to the following:
 - The introduction to the SWMS Modeling Report states that the north plant SWMS modeling effort will allow the applicant to bank the maximum modeled acreage of impervious surface with subsequent future “debits” against the bank as new areas are developed within the basins, a principal against which the Department has no objections. For planning purposes, the submittal of modification requests to the COC will normally be required in advance of the development or placement of new infrastructure.

Pursuant to Rule 62-17.293(1)(c)2., a modification fee shall be based on the number of agencies whose review is required in order to modify the Conditions of Certification (COC). The number of agencies whose review is required shall be determined by the Department based on the changes proposed to the COC. The fee for this modification may be adjusted to more appropriately reflect agency involvement in changes to the COC for this project.

If you have any questions regarding this request, you may contact Cindy Mulkey at (850) 245-2175, Susan Pelz at (813) 632-7600 ext. 386, Yanisa Angulo at (813) 632-7600, or Douglas Hyman at (813) 632-7600 ext. 393. Danny Stubbs, Susan Pelz, Yanisa Angulo, and Douglas Hyman in the SWD Office should be copied on your response.

Sincerely,

A handwritten signature in blue ink that reads "Michael P. Halpin, P.E.".

Michael P. Halpin, P.E.
Administrator,
Siting Coordination Office