



September 30, 2010

Mr. Michael Halpin, P.E.
Program Administrator
Office of Siting Coordination
Department of Environmental Protection
3900 Commonwealth Boulevard
Tallahassee, FL 32399-3000

RE: Seminole Generating Station
Site Certification Number: PA78-10
Post -Certification Submittal – Increment 1 Buildout
Response to August 17, 18 and 19, 2010 Requests for Additional Information

Dear Mr. Halpin:

Seminole Electric Cooperative, Inc. (SECI) is pleased to respond to the Florida Department of Environmental Protection's (FDEP or Department) requests for additional information (RAI) dated August 17, 18 and 19, 2010. This response letter first addresses some important matters concerning the timing and scope of this post-certification review process. Beginning on page 2 of this response letter, each of the Department's questions from the three agency review memoranda are repeated below in italics, followed by SECI's response.

As the Department is aware, the construction of Increment 1 must be completed by March, 2012, because the overall disposal capacity at the existing FGD landfill at SECI's Seminole Generating Station (SGS) will be reached by that point in time. In order to allow for the disposal of solid waste in Increment 1 by March, 2012, SECI needs to obtain FDEP approval of the construction plans for Increment 1 by no later than January, 2011. It was based on consideration of these impending dates that SECI representatives met with Department staff on more than three occasions in 2010 to discuss the details of the Increment 1 buildout in order to address as many potential FDEP questions as possible and thereby reduce the number and extent of Department requests for additional information regarding the project. SECI believes it is important to remember that the Department's technical review in this matter is a post-certification construction plan review to be conducted pursuant to Rule 62-17.191, F.A.C. and the specific conditions of certification for the SGS issued under Part II of Chapter 403, Florida Statutes. The scope of this review is specified in Condition of Certification XII. D. which provides:

SECI must provide three sets of the final landfill construction drawings and retention pond design calculations to the Florida Department of

Environmental Protection, Siting Coordination Office, for review prior to construction of landfill Increments 1 & 2 shown in attached Figure 4.

(Emphasis added.) Several Department RAI's relate to facility operational and other matters which are beyond the scope of this pre-construction review process under Rule 62-17.191, F.A.C. and Condition of Certification XII.D. set forth above. Moreover, several of the Department RAI's address matters that have previously been reviewed by the agency during the nearly 30 year existence of the FGD landfill and related solid waste operations at SGS. Finally, typical solid waste management practices at electric utility power plant facilities were summarized as part of the information exchange between the electric utility industry and the Department pursuant to former Rule 62-701.720, F.A.C., as referenced in Rule 62-701.220(4), F.A.C., and FDEP's written determinations regarding electric utility power plant solid waste disposal facilities issued thereunder. As you are aware, electric utility power plant solid waste disposal facilities are not regulated in the same manner as Class I landfills. An outline of FDEP's regulatory framework for these facilities (including the FGD landfill at SGS) is provided in Enclosure 1 for information purposes.

Again, the appropriate focus of the Department's technical review should be the Increment 1 construction drawings and specifications and CQA plan. SECI requests that FDEP's areas of inquiry relating to operational and other matters should be dealt with separately and should not delay the Department's more limited review and approval of the construction plans for Increment 1.

Review Memorandum dated August 19, 2010, Prepared by Julia Boesch

1. *Please indicate on the Drawings the vertical datum to which the elevations are in reference, and note that it shall be a nationally recognized datum (Rule 62-701.320(7) (f) 6, Florida Administrative Code (F.A.C.). Also, please ensure and confirm that groundwater elevations are in reference to the same datum.*

SECI Response: The horizontal and vertical datum to which the coordinates and elevations shown on the drawings including the groundwater elevations are referenced is the Florida State Plane Northeast Zone NAD 27 NGVD 29. This note has been added to Drawing C-1 found in Revised Section 11 (Construction Drawings) attached hereto.

2. *Please amend (and provide) the cross sections shown on Drawings C-6, and C-7 to show and label the top of the seasonal high groundwater table (SHGWT) relative to the bottom of the proposed landfill liner system, and relative to the bottom of the existing waste, for both pre and post settlement conditions.*

SECI Response: The seasonal high groundwater table was added to the cross-sections shown on Drawings C-6 and C-7 found in Revised Section 11 (Construction Drawings) attached hereto. The seasonal high groundwater table will be the same for both the pre and post settlement conditions. In Attachment 5 to Revised Section 9 (Engineering Calculations) attached to this response, cross-sections were added showing the pre and post settlement elevations for the landfill base and the seasonal high groundwater table.

3. *Please address the liner's compatibility with the expected leachate and provide the results of a leachate compatibility test for the liner, if available, in accordance with Rule 62-701.400(3) (a) 1, F.A.C.*

SECI Response: The proposed liner system is compatible with the expected leachate that will be generated from the waste that will be placed in Increment 1. The manufacturer's have tested HDPE geomembranes with a wide range of chemicals and have established the compatibility of HDPE. Included with this response in Attachment 6 to Revised Section 9 (Engineering Calculations) attached hereto are test results from the previous project completed at SGS in

2009 which included a similar lining system on the existing FGD landfill and information provided by a supplier of HDPE geomembrane materials.

4. *Please verify that the hydraulic conductivity of the proposed GCL will not be greater than 1×10^{-7} cm/sec (Rule 62-701.400(3) (c), F.A.C.), and indicate so on Drawing C-9.*

SECI Response: Per the specifications the hydraulic conductivity of the proposed GCL will not be greater than 1×10^{-7} cm/sec. This has been added to the detail on Drawing C-9 found in Revised Section 11 (Construction Drawings) attached hereto.

5. *Please verify that the hydraulic conductivity of the proposed 6-inch thick subgrade on the side slopes will be less than or equal to 1×10^{-5} cm/sec (Rule 62-701.400 (3) (c), F.A.C.), and indicate so on Drawing C-9.*

SECI Response: The proposed liner system for the side slope of Increment 1 is designed in accordance with the requirements of Rule 62-701.400(3)(c), F.A.C. Sections E and G on Drawing C-9 (found in Revised Section 11 (Construction Drawings)) reflect the use of a GCL in place of the 6-inch thick subgrade with a permeability of less than or equal to 1×10^{-5} cm/sec. The title for Detail 2 on Drawing C-9 has been changed to "Vertical Expansion." The vertical expansion over this portion of the existing landfill was designed in accordance with the requirements of Rule 62-701.430, F.A.C., which does not require that the subgrade have a hydraulic conductivity less than or equal to 1×10^{-5} cm/sec.

6. *The following comments concern the Hydrologic Evaluation of Landfill Performance (HELP) Model Program provided in Section 9 of the submittal.*
 - a. *Please explain how it was determined that the waste layer has a material texture number of 30, an initial soil water content of 0.2044 vol/vol, and a hydraulic conductivity of 0.4999×10^{-4} cm/sec.*

SECI Response: Texture number 30 comes from Table 4 "Default Soil, Waste, and Geosynthetic Characteristics" in the HELP Model Users Guide, and is the classification for "Coal-burning Electric Plant Fly Ash". Table 4, which has been included with the revised HELP Model output found in Revised Section 9 (Engineering Calculations) attached hereto, gives the Total Porosity, Field Capacity, Wilting Point, and the saturated Hydraulic Conductivity for fly ash. As explained by the note on Page 1 of the HELP Model output, "Initial moisture content of the layers and snow water were computed as nearly steady-state values by the program." So the initial soil water content is calculated based on the input parameters. With the revised parameters as described in this

response, the initial soil moisture content as calculated by the program increased from 0.2044 vol/vol to 0.3131 vol/vol.

- b. *Please note, assuming that the quality of the placement of the geomembrane will be excellent is not conservative. Please use a more conservative assumption for the quality of the placement of the Geomembrane.*

SECI Response: In order to be more conservative, the HELP Model calculation has been revised assuming that the quality of placement of the geomembrane will be "Good" rather than "Excellent."

- c. *While a runoff curve number (CN) of 95 was utilized in calculating the stormwater management system design (note: this review memo and RAI does not include a review of the stormwater management system ponds at the site) contained on page 2 of Section 7, a higher CN of 96.9 was utilized in conducting the HELP model Program, which is not a conservative CN for designing the leachate collection system. Therefore, please use a lower (i.e., a more conservative) CN when using the HELP model program for designing the leachate collection system or justify utilizing the higher CN of 96.9.*

SECI Response: The HELP model calculation has been revised using a CN of 90.

- d. *Please note, while using a value of 100% for the "Fraction of Area Allowing Runoff" is conservative and preferable when sizing the leachate ponds, it may give an artificially low value of the amount of leachate to be collected in the leachate collection system and may therefore result in an artificially low Action Leakage Rate. If this was to happen and the amount of leachate collected in the leak detection layer exceeds the predicted value, the facility would have to take action to correct the exceedance. Therefore, please either justify the use of the value of 100%, or provide (and justify) a different value. Additionally, please justify the use of an Evaporative Zone Depth of 10 inches.*

SECI Response: The HELP model calculation has been revised using 20% for the fraction of area allowing runoff, and an Evaporative Zone Depth of 1 inch.

- e. *Please explain why a surface slope of 2% and a slope length of 200 feet were utilized.*

SECI Response: The HELP model calculation has been revised using a surface slope of 1% and a slope length of 300 feet.

- f. *Please explain why precipitation data for the years 1974 through 1978 was utilized and address if the precipitation data utilized accounts for a 25 year, 24 hour storm event.*

SECI Response: Precipitation data for the years 1974 through 1978 are the default data for the HELP model and are described in monthly total rainfall. The revised HELP model calculation includes a date in August 1974 with a storm event equivalent to the 25-year 24-hour event which is 8-inches of rainfall.

7. *Pursuant to the HELP model program output provided in Section 9, the peak daily amount of leachate projected to be collected from the leak detection layer is 4.45 cubic feet per acre per day (or 33 gallons per acre per day). Please note that DEP regards this as the action leakage rate (i.e., the maximum design volume of leachate that should be collected from the leak detection layer if the liner system is operating as designed). Please confirm. Also, indicate that if that action leakage rate is exceeded, that the applicant will, at a minimum, notify DEP, will evaluate the situation, and will remediate the system if warranted. Also, please demonstrate that the action leakage rate will not result in the flooding of the leak detection system.*

SECI Response: 33 gallons per acre per day will not result in the flooding of the leak detection system. The action leakage rate concept found in Rule 62-701.400 (6)(b), F.A.C., is applicable to certain leachate surface impoundments, but is not applicable to liner systems for landfills. The Department's discretion under existing laws and regulations to require an evaluation or remediation under certain circumstances is beyond the scope of this post-certification review process.

Furthermore, indicate and address that the Facility will record in gallons per day, the quantity of leachate that is collected and removed by the primary leachate collection system, and the quantity that is collected and removed by the secondary leachate detection system, respectively. Also, indicate that the records/logs will be provided to DEP upon request, including during routine inspections.

SECI Response: SECI will record the leachate in gallons per day for both the primary leachate collection system and the secondary leachate detection system. Documentation will be kept on-site and SECI will provide the records to FDEP upon request.

8. *Please address whether the selected granular material and the geotextile that will surround it as proposed in section 9.3 of the specifications (Section 10)*

and Drawing C-9, will prevent the clogging of the leachate collection system by infiltration of fines.

SECI Response: Calculations addressing the potential for clogging and piping for the geotextile and gravel are included with this response in Attachment 7 to Revised Section 9 (Engineering Calculations) attached hereto.

9. *While the Drawings (e.g., C-4, C-5, C-10, etc.) show the minimum slopes to which the disposal area subgrade will be constructed, some of the slopes are not shown to the first decimal point. Therefore, please show and indicate that the disposal area subgrade will be constructed to have minimum slopes to the first decimal point (i.e., 2.0% instead of indicating it will be 2%).*

SECI Response: The relevant drawings are included in Revised Section 11 (Construction Drawings) attached hereto and have been changed to show minimum slopes and all slopes to the first decimal point.

10. *Subsection 5 found on Page 1 of Section 9 indicates that "These calculations demonstrate that the landfill design slope...the landfill liner will still have a minimum 1% cross slope..." Please revise to indicate that the landfill liner will still have a minimum 1.0% and not only 1% slope. Also, clarify that the minimum slope for the leachate collection system in areas which drain to lateral collection and header pipes shall be a minimum of 1.0% after predicted settlement (i.e., not 1.0 ± 0.1 foot construction tolerance and 0.01 foot survey tolerance) and that the lateral and header pipes shall be a minimum of 0.3% after predicted settlement (once again, not $0.3 \pm$ the aforementioned tolerances) in accordance with Rule 62-701.400(4) (c), F.A.C.*

SECI Response: Pages 2 and 3 of the introductory memorandum in Revised Section 9 (Engineering Calculations) attached hereto have been changed to read as requested by the FDEP.

11. *Please provide full size copies (scale of no greater than 1 inch to 200 feet) of Drawings C-3 and C-4 provided in Section 9. Please clearly show and label on the aforementioned drawings, the flow paths and the minimum slopes of the leachate collection trenches after the expected maximum settlement.*

SECI Response: The original Section 9 (Engineering Calculations) of the July 16, 2010, post-certification submittal did not include Construction Drawings C-3 and C-4. Those drawings were contained in original Section 11 (Construction Drawings) of the July 16, 2010 post-certification submittal. Construction

Drawing C-3 is titled "Existing Grade – October 20, 2009." Construction Drawing C-4 is titled "Liner Sub-grade – Grading Plan." The following four drawings were in Section 9 of the July 16, 2010 post-certification submittal and showed settlement calculations:

Sheet 1 of 4 Landfill Base with Settlement Estimate

Sheet 2 of 4 Landfill Base with Settlement Estimate

Sheet 3 of 4 Landfill Base Contours After Settlement

Sheet 4 of 4 Landfill Base Contours After Settlement

Sheet 1 of 4 showed the west portion of the landfill liner sub-grade, and Sheet 2 of 4 showed the east portion of the landfill liner sub-grade. The liner sub-grade construction elevations and slopes for these drawings were taken from Drawing C- 4 in Section 11 (Construction Drawings) of the July 16, 2010 post-certification submittal. The estimated landfill settlement contours were overlaid on the landfill liner sub-grade. SECI revised these two drawings (now Sheet 1 of 5 and Sheet 2 of 5) to include the construction point elevations and slopes for the leachate collection trenches and pipes as shown in the drawings in Attachment 5 to Revised Section 9 (Engineering Calculations) attached hereto. SECI also added the estimated post-construction elevations for each of these points and calculated the post-settlement slope based on the settlement contours.

Sheet 3 of 5 and Sheet 4 of 5 show the landfill base contours after settlement. SECI also added the construction elevations and slopes and settled post construction elevation and slopes to these drawings.

Flow arrows were added to all four drawings to show the direction of flow.

Additionally, in order to show that the leachate collection trenches will have the minimum slopes required by Rule 62-701.400(4)(c), F.A.C. after the expected maximum settlement, please provide a Drawing similar to Drawing C-4 that shows the post settlement slopes and elevations of the leachate collection and detection systems, including that of the leachate collection trenches. Of special interest to DEP is the leachate collection trench located in the top northeast corner, that starts at

elevation of 72.2 and ends at an elevation of 66.0 (pre-settlement), and that is shown to have a slope of 1.26% pre-settlement.

SECI Response: The full-size drawing requested is provided in Attachment 5 to Revised Section 9 (Engineering Calculations) attached hereto. In order to change stormwater Pond B from a dry pond to a wet pond, the landfill had to be redesigned. The landfill berm was moved west to create more space for Pond B. The referenced points of interest in RAI No. 11 for the leachate trench/pipe in the northeast corner of the landfill were adjusted. The pre-settlement El. 72.2 is now El. 71.9 (post-settlement El. 70.0). The other end of the trench/pipe originally at El. 66.0 is now at pre-settlement El. 65.9 (post-settlement El. 65.5). The pre-settlement slope between the two points is at 1.26%. The post-settlement slope between the two points is at 0.95%. The minimum post-settlement slope for a leachate collection trench/pipe is 0.30%.

12. *Please indicate that, pursuant to Rule 62-701.400(4) (c), F.A.C., the applicant will survey (and provide the survey) the bottom liner system slopes after construction completion using a 50-foot grid in areas which drain to lateral collection pipes and header pipes, and at 50-foot intervals where pipes of the leachate collection system are to be installed.*

SECI Response: This requirement is included in the note on Drawing C-4 in Revised Section 11 (Construction Drawings) attached hereto.

13. *Throughout the submittal (e.g., Drawing C-10, pages 6 and 8 of the Operations Plan (Section 8)), it is indicated that leachate from the landfill will gravity drain into Pond 8 and be pumped into Pond 9. Also, address that the ponds that will receive leachate (e.g., Ponds 8 and 9) will meet the requirements of Rule 62-701.400 (6), F.A.C. for leachate surface impoundments. Also, please provide an analysis demonstrating that Ponds 8 and 9 are adequately sized to receive runoff from active fill areas (i.e., leachate) as well as leachate from the leachate collection and detection systems.*

SECI Response: Provided in Attachment 4 to Revised Section 9 (Engineering Calculations) enclosed with this response are design calculations demonstrating that existing ponds 8 and 9 are adequately sized to receive runoff from active disposal areas as well as leachate from the proposed leachate collection and detection system. Ponds that will receive leachate from Increment 1 are already lined with a single HDPE geomembrane. Pond 8 has been used at the plant since 1984, and Pond 9 was first brought into service in 1994. These existing

ponds primarily manage process water that is reused in electric utility power plant operations and these ponds are included in the SGS wastewater management system regulated by NPDES Permit No.FL0036498. These ponds pre-dated Increment 1 and would continue to function for other purposes if Increment 1 was not utilized. These existing ponds have and will continue to serve a secondary purpose of collecting leachate from active disposal areas and the leachate collection system associated with Increment 1. Various requirements of Rule 62-701.400(6)(b), F.A.C. do not apply to these ponds because Class I landfill standards do not automatically apply to the existing SGS FGD landfill which includes Increment 1. Indeed, these ponds were lined in the late 1990's. The Department was informed of the lining of the ponds, and FDEP did not request that SECI install double liner systems for these ponds. SECI maintains that the single liner already installed for these pre-existing, multi-purpose ponds provides sufficient environmental protection.

14. *Please demonstrate that the leachate drain pipes are adequately sized to convey the necessary amounts of leachate. Also indicate what will be done to ensure that leachate from the pipes will not discharge outside the liner limits (even if the pipes leak), but that if they should, it will not have an adverse environmental impact and can be adequately monitored by the existing/ proposed monitoring system.*

SECI Response: Attachment 4 to Revised Section 9 (Engineering Calculations) attached hereto includes the calculations for the leachate force main from Pond 8 to Pond 9. The leachate force main from Pond 8 to Pond 9 has been relocated from the stormwater berm to the landfill berm so the force main will be located inside the limits of the FGD landfill groundwater monitoring system or within the zone of capture of the existing groundwater recovery system. As well, SECI will conduct daily visual inspections of aboveground leachate piping to monitor for potential leaks.

15. *Drawing C-10 shows that there will be leachate cleanouts. Please address if the cleanouts will be protected (e.g., to prevent damage during mowing events) and locked. Also, please address if the leachate collection system will be water pressure cleaned or inspected by video recording after construction but prior to initial placement of wastes.*

SECI Response: Bollards have been added to Drawing C-10 to protect the leachate cleanouts. The caps are locked with bolts. The requirement to water

pressure clean and video the pipes after construction and prior to waste placement is now included in the specifications. A note addressing this was also added to Drawing C-10. Drawing C-10 can be found in Revised Section 11 (Construction Drawings) attached hereto.

16. *Please provide a detail of the geocomposite that will be used in the design.*

SECI Response: The double-sided geocomposite detail on Drawing C-9 found in Revised Section 11 (Construction Drawings) attached hereto shows that the double-sided geocomposite includes a geonet core and 8 ounce per square yard geotextiles bonded on both sides of the geonet.

17. *The application (e.g., Drawing C-6 and C-9, etc.) indicate that a combination of a geocomposite and a textured HDPE geomembrane liner will be used for liner system construction. However, DEP is concerned with this approach, especially down the side slope of the existing landfill, because textured liners appear to provide very little frictional resistance if in direct contact with geonets. Please address this matter. Also address the various interfaces that will be created along the subject existing landfill slope by the proposed expansion, and demonstrate that sliding will not occur along those various interfaces.*

SECI Response: The proposed liner will consist of a geocomposite consisting of an upper nonwoven geotextile, a lower woven geotextile and a layer of geonet between the two fabrics. The various layers of the composite are bonded and will therefore act as a single layer. The lower woven fabric will be in contact with the textured HDPE liner. The critical slip surface will be the interface between these two surfaces. Based on site specific test data performed by Ardaman and Associates, the friction angle between the two surfaces is 23.1 degrees for woven geotextiles and 24.7 degrees for double-sided geocomposite. SECI has conservatively selected 23 degrees for the analysis. Excerpts from the Ardaman & Associates report (titled "Seminole Electric Cooperative, Inc., CQA Report for SGS Landfill Liner System") are provided in Attachment A to the Section 5 Geotechnical Investigation Report Addendum attached hereto.

18. *The slope stability analysis provided in Section 5 (Attachment C) does not appear to account for the liner system (i.e., textured geomembrane, geocomposite, etc.) that will underlie the waste, nor the liner system that will be installed along the side slope of the existing landfill. Please address, and provide the aforementioned slope stability analysis.*

SECI Response: The slope stability analysis has been revised to include the textured geomembrane and geocomposite liner system. As described in the response to RAI No. 17, the interface between the two surfaces will be the critical failure surface and was assigned the referenced friction angle. The results of the revised stability analyses are presented in Attachment B to the Section 5 Geotechnical Investigation Report Addendum attached hereto and indicate a minimum factor of safety of 1.5. The results indicate that failure along the slope of the existing liner is not a concern due to the geometry of the Increment 1 landfill buildout. Essentially, this transition slope will be located far back from the limits of the Increment 1 landfill buildout slopes, and will therefore not be of concern. This assumes that the landfill material will be placed uniformly over the build-out area and that large amounts of localized filling against the existing slope will not occur.

19. *Please note that the slope stability analysis provided in Section 5 does not appear to analyze the maximum final slopes with a final cover system. Please provide a slope stability analysis of the maximum and critical slopes (and address how the critical slopes were selected) that will account for the proposed final cover system.*

SECI Response: The slope stability analysis in Section 5 of the July 16, 2010 post-certification submittal did not address the stability of the landfill final cover system because the geotechnical investigation and stability analysis was for construction of Increment 1. In pre-application meetings with the Department, it was agreed that the FGD landfill final cover system would be addressed in a subsequent submittal for approval of the FGD landfill closure plan so as to not delay agency review and approval of the construction of Increment 1.

20. *Please explain and justify how the applicant determined the friction angles for the various materials that will comprise and underlie the proposed landfill (i.e., weak pozzocrete, weak fly ash, soft clay, etc.) and which are utilized in conducting the slope stability analysis provided in Section 5.*

SECI Response: The friction angles utilized in the slope stability analysis were estimated based on the material composition, relative densities, fines content, Atterberg Limits and compressive strength. For the landfill material, it was conservatively assumed that the existing landfill and proposed Increment 1 landfill buildout consists of the densified fly ash layer (Stratum 1D). In reality,

significant portions of the existing landfill consist of cemented pozzocrete materials (Strata 1A through 1C) which have higher strength characteristics, including friction angle. The friction angle chosen to represent the existing and proposed landfill material is 32 degrees. This value was chosen based on the referenced McLaren and DiGioia study (1987), which presents a mean value of 34 degrees for Class F fly ash. The value was further reduced to be conservative. Class F fly ash most closely describes the stratum 1D materials at this landfill. For FDEP reference, a copy of the study is provided in Attachment C to the Section 5 Geotechnical Investigation Report Addendum attached hereto.

For the underlying natural soils, the selected friction angles were based on published and well-established empirical data, correlated to fines content, relative density and plasticity. The granular fine sands were found to be in a loose to medium dense condition throughout the property. The friction angle value of 28 degrees assigned for the sands conservatively assumes loose conditions. Recommended empirical values for loose sands range from 28 to 30 degrees. The underlying soft, stiff and consolidated clays were assigned friction angles only for analysis of immediate, or end of construction stability. For clays, the friction angle is primarily dependent on the relative density and plasticity of the soil. For soft clays in the tested plasticity range (25% to 29%), friction angles of 25 to 30 degrees are recommended by Lambe and Whitman, and a value of 22 was utilized in the analysis. For the stiff clays in the tested plasticity range (15% to 17%), friction angles of 29 to 31 are recommended, and a value of 25 was utilized. For very dense consolidated clays, recommended values range from 30 to 35 degrees, and a value of 25 degrees was utilized. Excerpts of the Lambe and Whitman empirical data is provided in Attachment D to the Section 5 Geotechnical Investigation Report Addendum attached hereto. Friction angle was neglected for the clay soils when conducting the long-term stability analysis.

21. *According to Attachment A of Section 5, a friction angle of 28 degrees for the waste fill material was utilized in conducting the bearing capacity analysis. According to page 12 (paragraph 6) and the table provided on page 13 both of Tab Section 5, the fly ash fill material strength parameters are based on recommendations of McLaren and DiGioia (1987), etc. Please justify that those aforementioned strength parameter recommendations are applicable to the subject Facility's fly ash, or provide laboratory analysis of the Facility's fly ash, etc. and revise the bearing capacity analysis, etc. accordingly.*

SECI Response: The friction angle associated with the bearing capacity analysis represents the natural soils below the landfill and not the landfill material itself. The bearing weight of the landfill material on the underlying natural soils is the mechanism analyzed for bearing capacity analysis.

22. *Please verify that the liner system will be installed in accordance with the Technical Specifications and Construction Quality Assurance Plan (CQA) and with EPA Document EPA/600/R-93/182.*

SECI Response: A note providing this requirement has been added to Drawing C-1 found in Revised Section 11 (Construction Drawings) attached hereto.

23. *Please clarify that a qualified testing laboratory that is independent of the liner manufacturer, liner installer, and/or contractor, will conduct the laboratory testing associated with the project (i.e., testing of seam shear and peel strength for geomembranes, interface shear strength testing, etc.).*

SECI Response: This requirement is now included in the specifications. A note providing this requirement has been added to Drawing C-1 found in Revised Section 11 (Construction Drawings) attached hereto.

24. *Please clarify that the quality assurance engineer will observe all work, sampling (i.e., selection and obtainment of the geomembrane destructive test samples, etc.), and field testing associated with the project.*

SECI Response: This requirement is now included in the specifications. A note providing this requirement was also added to Drawing C-1 found in Revised Section 11 (Construction Drawings) attached hereto.

25. *Subsection 2.1 (paragraph 2) of Section 10, indicates "The Owner and the Engineer reserve the right to modify the design grade as well as any design*

elements during construction to maintain cut and fill balance and to expedite construction activities." Please note that some changes may require a permit modification before owner and/or engineer implements the changes. Therefore, please indicate and revise the section accordingly to indicate that prior to making changes to the design, the owner will consult with the Northeast District's Solid Waste Section.

SECI Response: The referenced sentence from Subsection 2 of Section 10 (Technical Specifications and Construction Quality Assurance (CQA) Plan) of the July 16, 2010 post-certification submittal was deleted from the specifications. The revised page is included with this response in Revised Section 10 (Technical Specifications and CQA Plan) attached hereto.

26. *Please verify that none of the slopes during operations (including internal ones) will be steeper than 3:1 (horizontal distance to vertical rise).*

SECI Response: The Operation Plan in Revised Section 8 (Operation Plan) attached hereto now includes this requirement.

27. *Page 2 of the Operation Plan indicates that sandblasting waste may be disposed at the subject disposal area. Please address the sandblasting waste, including what items may be sandblasted, whether the sandblasting waste is tested, at what frequency it is tested, etc.*

SECI Response: Provided in the Operation Plan in Revised Section 8 (Operation Plan) attached hereto is a list of the specific equipment and areas at SGS that are sandblasted. SGS conducts TCLP analysis of sandblast waste material from this equipment and these areas at least annually.

28. *Page 2 of the Operation Plan indicates that sludge may be placed into the subject disposal area. Please clarify whether the sludge is considered to be a liquid waste as defined by Rule 62-701.200(65), F.A.C. (i.e., a "Liquid waste" means any waste material that is determined to contain free liquids as defined by Method 9095 (Paint Filter Liquids Test), as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods"). If so, please address its potential impact on slope stability and note that it may not be acceptable in the disposal area.*

SECI Response: SECI proposes to perform the referenced paint filter liquids test on the various sludges that are typically landfilled and only those that are

determined not to contain free liquids will actually be landfilled. These details have been added to the Operation Plan in Revised Section 8 (Operation Plan) attached hereto.

29. *Please verify that the only waste that will be disposed of within the proposed disposal area is the waste types listed on Page 2 of the Operation Plan of (Section 8).*

SECI Response: SECI has verified that the waste types listed on page 2 of Section 8 (Operation Plan) of the July 16, 2010, post-certification submittal are correct. In addition to those wastes, the wastes identified below will be disposed of in Increment 1. The Operation Plan in Revised Section 8 (Operation Plan) attached hereto provides the list of all waste types that will be disposed of in Increment 1.

- Spill cleanup of FGD process streams mixed with limestone and/or soil (non-oily).
- Spill cleanup of wastewater/ water mixed with limestone and or soil (non-oily).
- Spill cleanup of process reagents stabilized with limestone, soil, or other similar material.
- Plant sump clean out debris (non-oily).
- Stormwater ditch clean out soils.
- Stormwater pond clean out.
- Crushed asphalt (small sized pieces less than 1 inch).

30. *Page 6, (next to last paragraph) of the Operations Plan (Section 8) indicates that "Prior to constructing Lift 2, the liner system will be extended over the existing landfill side slope from El. 95 to El 115,... 195. These liner system constructions will occur approximately every two years." Please clarify how the liner system will be connected to and/or anchored into the existing landfill side slope for each incremental lift construction. Please show and label in a construction sequence plan. Finally, please specify that the engineer of record will certify to DEP (i.e., the Solid Waste Section of the Northeast District) that the permitted construction is complete and that it was done in accordance with the plans submitted to DEP (except where minor deviation was necessary), and that the certification will be submitted on Form 62-701.900(2), for each of the aforementioned incremental constructions.*

SECI Response: The temporary anchor trench detail has been added to Drawing C-9 in Revised Section 11 (Construction Drawings) attached hereto. A note requiring certification was added to Drawing C-1 also found in Revised Section 11 (Construction Drawings). The construction drawings in Revised Section 11 (Construction Drawings) show the landfill construction stages.

31. *Please address the measures that will be implemented to minimize dust at the landfill.*

SECI Response: SECI has a water truck and waters roads and other areas as needed to control dust.

32. *Page 4 (Paragraph 1) of the Operation Plan (Section 8) indicates that waste is disposed of in the landfill Monday through Wednesday, and then on Thursday it is graded and compacted. Please demonstrate that grading and compacting the waste only once a week is frequent enough.*

SECI Response: The Operation Plan in Revised Section 8 (Operation Plan) attached hereto now requires that the waste be spread and compacted at least every other day. Since this is inorganic waste that does not require initial daily soil cover, there is no need to spread and compact the fly ash daily. The fly ash is contained within the pozzocrete berms.

33. *Please further describe the condition/state of the ash when it is deposited into the landfill, and justify that it will not be in a wetted state that may allow it to flow outside the landfill area.*

SECI Response: The fly ash from the power plant is dry and only enough water is added to control dust and reach optimum moisture content for placement, compaction and solidification.

34. *Page 4 (paragraph 2) of the Operations Plan indicates that "The conditioned fly ash is then conveyed to a stockpile or directly into trucks via a screw conveyor / radial stacker." Please address where the stockpile is located, and if it is contained (i.e., in a building or in a container) to prevent impact to the environment.*

SECI Response: The manner of waste staging, including interim stockpiling, is addressed in SECI's August 1983 solid waste management plan, which

was developed and approved by FDEP pursuant to Condition of Certification V for the SGS. These interim management activities have been implemented for nearly 30 years. As discussed earlier, typical solid waste management practices at electric utility power plant facilities were part of the information exchange between the electric utility industry and the Department pursuant to former Rule 62-701.720, F.A.C., as referenced in current Rule 62-701.220(4), F.A.C. Re-evaluation of these broad operational issues is outside the scope of the Department's more limited review of the construction drawings and calculations for build-out of Increment 1 under Rule 62-17.191, F.A.C., and Condition of Certification XII.D. Any dialogue regarding operational matters should be dealt with separately and should not delay the Department's review and approval of the construction of Increment 1.

35. *Page 4 (paragraph 5) of the Operations Plan indicates that "Various waste materials collected in vacuum trucks by SECI or by contractors are discharged into the ditch between Pond 1 and the EPF. The solids are excavated from the ditch with the backhoe loader and mixed with fly ash to a consistency that permits loading into the trucks." Please indicate and address if the ditch is lined to prevent impacts to the environment. Also, clarify the location where the fly ash is mixed with the waste excavated from the ditch, and if that area is containerized (i.e., in a building or in a container).*

SECI Response: The various waste materials are not discharged into the ditch. The wastes collected in vacuum trucks are discharged on to cured pozzocrete material at the Effluent Processing Facility (EPF) for processing and stabilization prior to landfilling. The existing ditch is not lined and the existing location of the area where fly ash is mixed with waste from the ditch is not containerized. See also response to RAI No. 34. The existing ditch is not part of the Increment 1 project, and it will be addressed in a subsequent submittal for approval of the FGD landfill closure plan so as to not delay agency review and approval of the construction drawings and calculations for buildout of Increment 1.

36. *Please note that ash and other solid waste material that is generated at the site shall be managed in a manner as to not impact the environment. Please note, the waste shall be containerized (i.e., in a building or in a container) prior to being sent to a facility or landfill authorized to accept it. Please further note that this review does not*

approve the storage of any solid waste outside containers, or outside the subject landfill.

SECI Response: See response to RAI No. 34.

37. *Please further describe the pozzocrete berms/ dikes, including how they will be constructed. Please address the measures that will be implemented to ensure the berms/dikes are adequately constructed and stable prior to discharging waste. Also, address the measures that will be implemented, while waste is being discharged and compacted, to ensure the waste material does not overtop the pozzocrete berms/dikes. Additionally address who will be responsible for ensuring the berms/ dikes are not overtopped, and if that person will be present while waste is being placed and/or compacted. Please also show in the Filling Plan (Drawing Sheet 1/3 provided in Section 8) the phased construction of the berms/dikes relative to each lift of the landfill. Finally please provide a full size drawing with a scale of no greater than 1 inch to 200 feet of the aforementioned Drawing Sheet 1/3.*

SECI Response: The Operation Plan contained in Revised Section 8 (Operation Plan) attached hereto now includes the information requested.

38. *Please address the staffing (i.e., trained operators, trained spotters, etc.) at the proposed landfill during operation hours (i.e., when waste is being discharged and/or compacted). Please also address the training that the landfill staff will be required to have to operate the landfill pursuant to Rule 62-701.320(15), F.A.C.*

SECI Response: Staffing for the operation of the FGD landfill is provided by a qualified solid waste management contractor under contract with SECI. Due to the lack of variability in the waste disposed of at the FGD landfill, restricted public access to the facility, and existing procedures to prevent the disposal of hazardous waste in the FGD landfill, SECI maintains that an additional level of training for FGD landfill operations staff is unnecessary. These requirements have not typically been applied by FDEP to electric utility power plant solid waste disposal facilities in accordance with Rule 62-701.220(4), F.A.C., and the Department's written determination regarding electric utility power plant industrial solid waste management activities.

39. *Please provide an Emergency Preparedness and Response Plan.*

SECI Response: Emergency response procedures for the SGS are contained in Revised Section 8 (Operation Plan) attached hereto.

40. *Drawing Sheet 3/3 contained within Section 8, shows that the proposed final cover system will have a textured geomembrane in contact with a geonet. Textured liners provide very little frictional resistance when in direct contact with a geonet, and therefore may cause the slope to be unstable. Please address this matter. Finally, please provide a full size drawing with a scale of no greater than 1 inch to 200 feet, of the aforementioned Drawing Sheet 3/3.*

SECI Response: This capping system will consist of a single geocomposite that includes a textured 40 mil HDPE geomembrane bonded with a geonet and a geotextile. Since the geonet is bonded directly to the geomembrane and the geotextile, there is no frictional resistance needed between the geonet and the geomembrane. Full size drawings of these details (Sheet 3 of 3) are included in Revised Section 8 (Operation Plan) attached hereto. The Closure Plan will address in detail the stability of the capping system. As agreed during the pre-submittal meetings with FDEP staff, these details will be the subject of a subsequent submittal of the FGD landfill closure plan so as not to delay agency review and approval of the construction of Increment 1.

41. *Please provide a full size drawing with a scale of no greater than 1 inch to 200 feet, of Drawing Sheet 2/3 provided in Section 8.*

SECI Response: Full size drawings are included in Revised Section 8 (Operation Plan) attached hereto.

42. *Please provide a full size drawing with a scale of no greater than 1 inch to 200 feet that shows the final contours, including the final cover system, of the entire landfill, including the existing landfill.*

SECI Response: As agreed with Department staff, SECI will be submitting the FGD landfill closure plan separately. This drawing will be submitted at that time. See also responses to RAI Nos. 19 and 40.

43. *Please note that this review does not include a review, or approval of any final uses of the ash generated at the site.*

SECI Response: SECI acknowledges this comment.

44. *Please have the respective Professional Engineer (P.E) sign and seal the Operation Plan provided in Section 8.*

SECI Response: The Operation Plan in Revised Section 8 (Operation Plan) attached hereto has been signed and sealed.

45. *Please note that this review does not include a review of the stormwater management system. Two separate reviews are being conducted of the stormwater system: One by the Solid Waste Section of those portions located within and immediately adjacent to the waste limits, and one by DEP's ERP Program of those portions immediately adjacent to and downstream of the waste limits.*

SECI Response: SECI acknowledges this comment.

46. *Please provide closure and long term care cost estimates (i.e., estimates of the total cost to close, monitor and maintain the landfill during the long term care period). The costs shall be estimated and certified by a professional engineer for a third party performing the work on a per unit basis, with the source of estimates indicated.*

SECI Response: Pursuant to the Conditions of Certification for the SGS, there is no existing requirement that financial cost estimates be provided for closure and long-term care of the FGD landfill or for any other facilities or operations at the site. Historically, financial assurance-related requirements set out in Chapter 62-701, F.A.C., have not been applied to electric utility power plant industrial solid waste disposal facilities. To the extent that the Department now wishes to investigate applying such requirements to the SGS FGD landfill or other electric utility power plant facilities throughout the state, it would be more appropriate for FDEP to address this issue in the agency rulemaking referenced in Rule 62-701.220(4), F.A.C. Thus, SECI maintains that at this time it is inappropriate to address to provide closure and long-term care cost estimates as part of the Department's post-certification review and approval of construction drawings and calculations for previously-approved Increment 1. Should FDEP wish to discuss this point further, SECI is willing to engage in such discussions but any such discussions should not delay or

otherwise impede the Department's review and approval of construction of Increment 1.

47. *There appears to be discrepancies between the slopes shown on Drawing C-4, and the slopes shown in the cross sections for those respective areas shown on Drawings C-7, C-8, etc. For example, on Drawing C-4 the leachate trench in the lower eastern corner is indicated to have a slope of 1.86%, while Cross Section B on Drawing C-7 lists it as 1.26%. Additionally, on Drawing C-4, the western berm appears to be at an elevation of 107 feet while it is listed as 112 feet on Drawing C-8. Please address this and all other discrepancies, and provide revised version(s) of the aforementioned Drawings.*

SECI Response: The slopes were revised in the landfill redesign. Corrected drawings are provided in Revised Section 11 (Construction Drawings) attached hereto.

Review Memorandum dated August 18, 2010, prepared by Michael Bogin

1. *Please note that the review only addressed those parts of the stormwater control system that have a direct impact on the fill area (e.g., those items on top or immediately adjacent to the fill area). Therefore, those elements of the stormwater management system that will be built outside of and un-adjacent to the proposed limits of the geosynthetic liner as well as the off-site drainage flow, the Pre-and Post-Development Drainage Analyses, and the ponds recovery analysis, etc., will be evaluated by the Florida Department of Environmental Protection's (DEP) Environmental Resource Permitting (ERP) Program.*

SECI Response: SECI acknowledges this comment.

2. *Please note that DEP's Northeast District Solid Waste Section must be notified concerning any changes made to the design of the stormwater management system resulting from the ERP Program's review that could have an impact on the fill area (direct or indirect).*

SECI Response: SECI acknowledges this comment.

3. *Section 7 on Page 3 of Section 2 (Project Summary) indicates that the Mean Annual/24 hour Storm was used for designing the pond. Please note, those portions of the stormwater system that are located over or adjacent to the landfill must be designed to handle the runoff from a 25-year, 24-hour storm event. Therefore, in order to verify that the bottom perimeter ditch, the benches, the top perimeter swale, and the side slope spillways are adequately sized to collect and convey runoff, please provide calculations of the peak flow from each drainage basin to be served by each stormwater structure during a 25-year, 24-hour storm event.*

SECI Response: Included in Revised Section 7 (Stormwater Management Plan) attached hereto are the required calculations which are based on the 25-year, 24-hour storm event. The calculations in Revised Section 7 (Stormwater Management Plan) are based on the total drainage area for Stormwater Pond B. The Stormwater Pond B Ultimate Buildout Drainage Basin Map is shown on Figure 1 (24" x 36" drawing). It includes both the Increment 1 buildout and the existing landfill. In the pre-submittal meeting with FDEP for the Increment 1 buildout post-certification submittal, it was SECI's understanding that the closure plan, which would include all the detailed drainage design on the

landfill closure, would be submitted with the closure plan at a later date. But FDEP requested that with the submittal for approval of Stormwater Pond B, the calculations show that Stormwater Pond B had sufficient capacity for the entire landfill. This was prudent to make sure that Stormwater Pond B has adequate capacity for the total closed landfill and not just Increment 1. Revised Section 7 (Stormwater Management Plan) shows the total drainage basin for the landfill and includes the calculations to show that Stormwater Pond B has adequate capacity for the design storm. Attachment 8 to Revised Section 9 (Engineering Calculations) attached hereto includes the stormwater drainage calculations related to the Increment 1 buildout. The stormwater drainage calculation for the remaining landfill will be submitted with the closure plan for the landfill.

4. *Please clearly delineate, identify, and illustrate the area of each drainage basin, in acres, on full size drawings.*

SECI Response: See response to RAI No. 3 above.

5. *Please provide cross sections of the bottom perimeter ditch and the top perimeter swale. If they will be constructed with variable depths, slopes, and/or widths, please identify each segment and label accordingly.*

SECI Response: Cross-sections of the bottom perimeter ditch are shown on Drawings C-6, C-7 and C-8 included in Revised Section 11 (Construction Drawings) attached hereto and the top perimeter swale is shown on the drawings (Sheet 3 of 3) included in Revised Section 8 (Operation Plan) attached hereto.

6. *Please indicate if all the benches will be built the same size. If not, please provide individual cross sections of each bench with elevations, depth, width, and slopes.*

SECI Response: All benches will be built to the same size.

7. *Please indicate if all the spillways will be built with the same size. If not, please provide individual cross sections of each structure with elevations, depth, width, and slopes.*

SECI Response: The spillways on the side slope of the landfill are the same size.

8. *The drawings do not show energy dissipaters and/or erosion control material (e.g., riprap) at the outlets of the spillways. Please either provide calculations and show erosion control in these areas, or demonstrate that it is not needed.*

SECI Response: There are no energy dissipaters for the spillways that discharge directly into Stormwater Pond B. The energy is dissipated by the water in the pond. The concrete was extended to 2 feet below the water level. Where the spillway discharges into a ditch, the concrete was extended up the opposite side of the ditch and extended laterally in the ditch.

9. *In the "Maintenance and Mowing" Section of the Operation Plan, provided on page 7, please propose the time frames in which repair activities will be performed. Also, please specify that the Landfill will be inspected within 24-hours of each 1-inch or greater rain storm event.*

SECI Response: This information has been added to the Operation Plan in Revised Section 8 (Operation Plan) attached hereto.

10. *Please demonstrate that this office will be contacted for authorization if dewatering activities are necessary for construction, and groundwater will be discharged either to surface waters or offsite. Also, please note that DEP does not authorize the discharge of groundwater to wet detention systems.*

SECI Response: This requirement has been added in a note to Drawing C-1 which is included in Revised Section 11 (Construction Drawings) attached hereto.

11. *Since Landfills are classified as industrial activities, a NPDES Multi-Sector General Permit (MSGP) is required. Please submit the permit application to NPDES Stormwater Program, 2600 Blair Stone Road, Mail Station 2500, Tallahassee, FL 32399. That Program may be contacted at 850.850.7522 for future questions. Please note that proof of the submittal must be provided prior to the issuance of the Solid Waste permit.*

SECI Response: Confirmation of this permit is attached to this response in Enclosure 8.

12. *Please remember to apply for a NPDES Generic Permit for Stormwater Discharge from Large and Small Construction Activities, if you disturb one or more acres of*

land during construction, and if stormwater runoff is discharged either to surface waters or offsite. The application should be submitted to DEP-NPDES Notices Center in Tallahassee. For additional information please visit this DEP website: <http://www.dep.state.fl.us/water/stormwater/npdes/construction3.htm>

SECI Response: This requirement has been added in a note to Drawing C-1 which is included in Revised Section 11 (Construction Drawings) attached hereto.

Review Memorandum dated August 17, 2010, prepared by MengChiu Lim

1. *Please note that the proposed stormwater management pond that's being described as "under drain system" is considered a dry detention pond with side bank filtration system based on Section No.23 of St. Johns River Water Management District (SJRWMD) handbook. This is an alternative method that not adopted by rule, for meeting the pollutant removal goals of the stormwater rule. The proposed system might not be considered an appropriate Best Management Practice (BMP) for the project due to the following reasons:*
 - a. *Filtration system is only suited for project area that is less than 5 acres based on SJRWMD handbook.*
 - b. *The filtration system is likely to become clogged often due to landfill operation and the nature of the site where soil can erode and wash into the filter.*
 - c. *The only pollutants removed are primarily in particulate form trapped by the filter media. It is far less desirable compare to other treatment systems that can remove both dissolve and particulate pollutants.*

It is highly recommended that the applicant reevaluate other treatment options for the proposed project and submit to the Department for review.

SECI Response: SECI has further evaluated the underdrain and wet detention options for the proposed pond as discussed during the conference call on August 20, 2010, between FDEP and SECI representatives regarding these stormwater management review comments. As a result, SECI has modified the pond design to a wet detention system as described in Section 14.0 of the SJRWMD Applicant's Handbook for Regulation of Stormwater Management Systems. The construction drawings in Revised Section 11 (Construction Drawings) and the calculations in Revised Section 7 (Stormwater Management Plan) have been modified accordingly.

2. *Pending the potential changes in the design plan as discussed in item No.1 above, the Department finds that the following questions or issues shall be addressed before the application can be further reviewed and processed.*
 - a. *Please note that the proposed project provides for the placement of twelve or more acres of impervious surface which constitutes 40 or more percent of the total land area, exceeds the permitting thresholds as described in 40C-4.041 (2)(b), the applicant shall demonstrate that the post-development peak rate of discharge must not exceed the predevelopment peak rate of discharge for 25 years-24 hours storm event.*

SECI Response: The design for proposed Stormwater Pond B has been revised to demonstrate that the post-development peak rate of discharge does not exceed the pre-development peak rate of discharge for both the Mean Annual and 25-Year/24-Hour Storm events (see Revised Section 7 (Stormwater Management Plan) attached hereto for calculations).

- b. According to Section 23.2 of SJRWMD handbook, the filtration system shall provide treatment volume for either of the following:*
- (i) Off-line detention with filtration of the first one inch of runoff or 2.5 inches of runoff from the impervious area, whichever is greater*
 - (ii) On-line detention with filtration of an additional one half inch of runoff from the drainage basin area over the volume specified for off-line treatment.*
- It does not appear that the proposed pond has the capacity for the treatment volume as described above. Please revise the design plan to satisfy the requirement as described above.*

SECI Response: The design for proposed Stormwater Pond B has been revised to meet the requirements of a Wet Detention System as described in Section 14.0 of the SJRWMD Applicant's Handbook for Regulation of Stormwater Management Systems.

- c. Peaking factor of UHG 323 is used in the recovery analysis. It is thought that the project surface area consists of steep cell slope with impervious cover layer that typically produce higher early peaks. Please explain the rationale of choosing the peaking factor of UHG 323, which normally reflects the runoff characteristic of rural area that tend to have ability to retain the water and therefore delay the flow.*

SECI Response: The pre- and post-development runoff hydrographs have been revised to use the standard Peaking Factor of 484 with the SCS Unit Hydrograph Method and are included in Revised Section 7 (Stormwater Management Plan) attached hereto.

- d. Please provide cross section and top view of the water control structure with design parameters.*

SECI Response: Pond outfall control structure CS-1 details have been added to Drawing C-14 in Revised Section 11 (Construction Drawings) and includes the requested information.

- e. In the side/bottom drain analysis, it is unclear why the input data only addressing 95% drawdown while the pond is required to completely recover the treatment volume within 72 hours. Please explain.*

SECI Response: This RAI is no longer relevant now that the pond has been redesigned as a wet detention system.

- f. *According to Section 23.7 of SJRWMD handbook, the filter system should be designed so that the invert elevation of the perforated pipe is above the seasonal high ground water table (SHGWT) elevation. If the pipe is proposed to be set below this elevation, contributions from the surrounding ground water may reduce the ability of the system to recover the treatment volume in the required time. Filter systems placed below the SHGWT elevation should be separated by structural means from the hydraulic contribution of the surrounding water table or ground water inflow must be considered in sizing the system to meet the required recovery time. C-14 drawing shows that the invert elevation of the pipe is at 57' NGVD, below expected SHGWT elevation. It is not believed that the proposed design has addressed design criteria as described above.*

SECI Response: This RAI is no longer relevant now that the pond has been redesigned as a wet detention system.

- g. *The side/bottom drain analysis input data for surface area at low water stage (Abot) is estimated to be 94,248 ft². It is thought that Abot is the surface area at the basin bottom, which is 1.5 acres or 65,250 ft² as indicated in the pond stage-area storage tabulations table. Please explain.*

SECI Response: This RAI is no longer relevant now that the pond has been redesigned as a wet detention system.

- h. *Please provide a phasing plan which clearly indicates which cells of the landfill are to be constructed first and the order of the landfill progression. In particular, show the development of the stormwater management facilities concurrent with each phase of the landfill.*

SECI Response: Proposed Stormwater Pond B will be constructed in the first phase.

- i. *Please provide reasonable assurance that the leachate generated by the landfill will not cause or contribute to water quality violations of the adjacent groundwater and describe how leachate is separated from stormwater.*

SECI Response: Stormwater will be separated from leachate as set forth on Page 7 of the Operation Plan in Revised Section 8 (Operation Plan) attached hereto.

- j. *Please provide a topographical map that shows pre and post runoff patterns (using arrows), and time of concentration flow path(s). The information will be*

used to verify the pre and post development drainage patterns and time of concentration. Please provide plan clearly show how stormwater runoff (both onsite and offsite) will be collected and/or routed through or around the site so as to maintain existing (pre-development) hydraulic conveyance.

SECI Response: Figure 1, Pre-Development Drainage Basin Map has been added to Revised Section 7 (Stormwater Management Plan) attached hereto to provide pre-development drainage pattern information. Figure 2, Stormwater Pond B Ultimate Buildout Drainage Basin Map has been amended and is also found in Revised Section 7 (Stormwater Management Plan) to provide post-development drainage pattern information.

- k. Please demonstrate that the swale has adequate capacity to convey runoff from the landfill area.*

SECI Response: A swale capacity analysis has been provided in Attachment 8 to Revised Section 9 (Engineering Calculations) attached hereto.

- l. Please provide justification along with the supporting documents to demonstrate that the proposed pond design has sufficient freeboard.*

SECI Response: The calculations and narrative included on page 4 of the Stormwater Management Plan in Revised Section 7 (Stormwater Management Plan) attached to this response provide documentation that the proposed pond design has sufficient freeboard (1.9 feet of freeboard in the 25-Year/24-Hour Storm and 0.9 feet of freeboard in the 100-Year/24-Hour Storm).

*

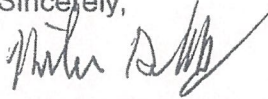
*

*

Increment 1 Buildout at Seminole Generating Station
Response to August, 2010 RAI
September 30, 2010
Page 31 of 32

SECI looks forward to working with the Department to conclude this matter so that the Increment 1 buildout can proceed in a timely manner.

Sincerely,

A handwritten signature in black ink, appearing to read "Mike Roddy", with a stylized flourish at the end.

Mike Roddy
Manager of Environmental Affairs
Seminole Electric Cooperative, Inc.

cc: Jim Maher, P.E., FDEP
MengChiu Lim, P.E., FDEP
Emerson Raulerson, P.E., FDEP
Ann Seiler, FDEP

ENCLOSURES

1. Florida Department of Environmental Protection Regulation of Electric Utility Industrial Solid Waste Disposal Facilities - Summary
2. Section 5 Geotechnical Investigation Report Addendum
3. Revised Section 7 Stormwater Management Plan
4. Revised Section 8 Operation Plan – Revised including full sized drawings, and new “Integrated Contingency Plan (ICP) for Seminole Generating Station” dated 2009.
5. Revised Section 9 Engineering Calculations
6. Revised Section 10 Technical Specifications and CQA Plan – Revised Section 2.1
7. Revised Section 11 Construction Drawings – Revised Drawings C-1 through C-17, and new Electrical Drawings E-001, E-101, E-102, E-103 and E-104. These new electrical drawings show in greater detail the relocation of the existing electrical service in the footprint of the Increment 1 buildout.
8. Confirmation of Multi-Sector Generic Permit for Seminole Generating Station, Facility ID: FLR05B869.