

INCREMENT 1 BUILDOUT

July 16, 2010

SECTION 2 - PROJECT SUMMARY

Seminole Electric Cooperative, Inc. (SECI) is requesting approval for the buildout of its Increment 1 landfill adjacent to the existing flue gas desulfurization (FGD) landfill at the Seminole Generating Station (SGS) located near Palatka, Florida.

Condition XII. D. of the Conditions of Certification for the SGS requires that construction plans, retention pond design calculations, and other information be submitted to the Florida Department of Environmental Protection (FDEP) for review prior to construction of Increment 1. The documents in this submittal provide the necessary information required for approval by FDEP to construct the Increment 1 landfill and associated stormwater pond (Pond B). SECI requests FDEP approval of the plans, calculations, and other information provided herein for the Increment 1 landfill so that SECI may start construction in January 2011.

The buildout of Increment 1 involves the lateral expansion of the existing landfill to the south (test cell area) and southeast (upland area). The Increment 1 buildout includes construction of approximately 29 acres of a double-lined landfill over the Increment 1 buildout area, a single geomembrane liner on the side slope of the existing landfill facility, a leachate collection and management system, and a new stormwater pond (Pond B) to manage the stormwater runoff from the Increment 1 buildout area. Construction of the lined disposal area will require construction of an earthen perimeter dike and the installation of a liner system on the inside slope of the perimeter dike and the side slope surface of the existing landfill.

This submittal is divided into 12 sections as shown in the Table of Contents and described below.

Section 1 includes the letter of transmittal.

Section 2 includes the Project Summary.

Section 3 includes the information submittal checklist Part G. Landfill Construction Requirements (Rule 62-701.400 F.A.C.) from DEP Form 62-701.900(1) dated January 6, 2010. This is a list of information requested by FDEP for approval of landfill construction. The form shows what information is being submitted and the location of the information in the submittal.

The two main components of this project are the construction of the Increment 1 landfill and Pond B.

The project includes the following:

- Construction of a double-lined landfill over the Increment 1 buildout area and a single geomembrane on the side slope of the existing landfill facility. A double liner is to be used off the waste pile.
- Construction of the lined disposal area will require construction of an earthen perimeter dike, and installation of a liner system on the inside slope of the perimeter dike and the side slope surface of the existing landfill. In ascending order, the Increment 1 landfill liner and leachate collection system will consist of the following:
 - Geosynthetic clay liner (GCL) placed on a minimum 6-inch compacted soil subbase.
 - 60-mil thick lower textured HDPE geomembrane liner for the secondary leakage barrier.
 - HDPE geocomposite drainage net (CDN) that serves as the leak detection layer.
 - 60-mil thick upper textured HDPE geomembrane liner for the primary leakage barrier.
 - HDPE geocomposite drainage net (CDN) for the leachate collection system.
 - A 2-foot thick drainage sand layer will be placed over the CDN. This sand serves as the upper portion of the leachate collection and removal system and as a protective layer for the upper HDPE geomembrane.
- Leachate collection piping will be installed in trenches to collect leachate from the geocomposite drainage nets and convey it to the leachate collection sump. The liners, leak detection, and leachate collection systems will be installed to the lines, grades, and locations shown on the design drawings.
- A leachate gravity pipe to Pond #8 for treatment and reuse of the leachate in the power plant or disposal of the leachate in accordance with applicable regulatory requirements.

- Construction of the stormwater pond dike, underdrain system, control structure, pipe and discharge structure.
- Seeding the outside slope of the landfill perimeter dike, stormwater pond invert and dike and all disturbed areas.
- Relocation of an existing leachate force main and electrical service.

Section 4 contains a copy of the Aerial Photograph and Certified Survey delineating boundaries of the area on the east side of the existing landfill and Increment 1 buildout area inspected by FDEP showing the landward extent of wetlands and other surface waters. This formal wetland determination has been used to establish the allowable limits of the Increment 1 buildout while avoiding impacts to the wetlands on site. The toe of the stormwater berm was set a minimum distance of 15 feet from the wetlands area line. The edge of the waste was set a minimum of 200 feet from the wetlands area line.

Section 5 contains the Geotechnical Investigation of the Increment 1 buildout Area and addresses the geotechnical assessment related to items required for landfill design and construction. Field investigations consisting of Standard Penetration Test borings and soils testing for engineering properties were conducted. The data derived from this investigation was used to evaluate foundation bearing capacity, slope stability and immediate and long term settlement under the landfill.

Section 6 contains the Water Quality and Leachate Monitoring Plan for the Increment 1 landfill. This plan describes the monitoring requirements for landfill leachate and groundwater, the physical and chemical parameters to be monitored, the frequency of monitoring, reporting requirements and a periodic review and evaluation of the monitoring plan. The locations and construction details of new wells to be installed as part of the Increment 1 buildout are described in this plan.

Section 7 contains the Stormwater Management Plan for the Increment 1 buildout. Stormwater from the Increment 1 buildout plus stormwater from the existing landfill once closed will be routed to a new Pond B to be located in the southeastern portion of the site as designated in the original Conditions of Certification. This pond will provide water quality treatment over the 118.7 acre landfill drainage area at 95% imperviousness. In accordance with FDEP requirements, the design storm for this pond is either the 25 year/24 hour storm event (if wetland impacts are involved) or the Mean Annual/24 hour Storm (if no wetlands impacts are involved). Since the Increment 1 buildout will not involve wetlands impacts, Pond B was designed to the Mean Annual/24 hour Storm. The pond is a dry pond with side bank perforated pipe underdrain for treatment volume recovery within 72 hours of a storm event.

Section 8 contains the landfill operation plan for the Increment 1 buildout and the details for the intermediate and final closure. This plan describes the quantities and characteristics of the waste to be disposed of in this landfill, processing and mixing of waste, soil and vegetative cover over

the waste, stormwater management, proposed method and sequence of filling waste and leachate collection and leak detection system operation and maintenance.

Section 9 contains the relevant engineering calculations for the Increment 1 project as indicated on the checklist in Section 3. HELP Model results predicting the quantity of leachate to be generated at this landfill, geosynthetics material capacity calculations and pipe design calculations can be found in this section.

Section 10 contains the technical specifications and Construction Quality Assurance (CQA) Plan. This document includes sections on the description of work, definitions and general conditions, site preparation and earthwork construction, installation of geosynthetics clay liners and geomembrane liners, HDPE liner installation, CQA and material specifications for pipe, concrete and other materials required for the construction of this landfill.

Section 11 contains the Construction Drawings for the Increment 1 buildout and Pond B.