EXECUTIVE SUMMARY

Gainesville Renewable Energy Center, LLC (GREC LLC) is filing this site certification application (SCA) for the construction and operation of the Gainesville Renewable Energy Center (GREC), a new electrical power plant and associated facilities located within the City of Gainesville in Alachua County, Florida. GREC will consist of a nominal net 100-megwatt (MW) electrical generating plant that will use clean, woody biomass material as fuel and will employ state-of-the-art air emissions and environmental control systems to provide reliable, renewable energy at a reasonable cost.

This SCA has been prepared in accordance with the requirements of: (a) the Florida Electrical Power Plant Siting Act (PPSA), Sections 403.501 through 403.518, Florida Statutes (F.S.); and (b) the rules implementing the PPSA, which have been adopted by the Florida Department of Environmental Protection (FDEP) and codified in Chapter 62-17, Part I, Florida Administrative Code (F.A.C.). This SCA follows the prescribed format and informational requirements of the FDEP Application Instruction Guide: Electrical Power Plant Sites and Associated Facilities Electrical Transmission Lines (revised September 1, 2009).

This executive summary highlights the key features of GREC. More detailed information on GREC is provided in this SCA as required pursuant to the PPSA.

GAINESVILLE RENEWABLE ENERGY CENTER, LLC

GREC LLC is the Applicant for the proposed GREC SCA. GREC LLC is a subsidiary of American Renewables, LLC (American Renewables). GREC LLC was specifically established by American Renewables to develop, construct, own, and operate the proposed GREC in Gainesville, Florida.

American Renewables is a private, for-profit renewable power producer. American Renewables develops, builds, and operates renewable energy facilities that use biomass materials as fuel. American Renewables is jointly owned by affiliates of three companies: BayCorp Holdings, Ltd. (BayCorp); Energy Management, Inc. (EMI); and Tyr Energy, Inc. (Tyr Energy). These entities bring together successful experience and expertise in energy-related project development, operations, investment, and management.

In addition to GREC, American Renewables has other biomass energy facilities of similar 100-MW size and design in various stages of development, including the Nacogdoches Power project in eastern Texas, which was recently sold to Southern Power, a subsidiary of Southern Company, and the Hamilton County Renewable Energy Center in Hamilton County, Florida.

NEED FOR GREC

The electrical output of GREC will be purchased by Gainesville Regional Utilities (GRU) under a 30-year power purchase agreement (PPA) between the City of Gainesville (d/b/a GRU) and GREC LLC. The PPA was unanimously approved by the Gainesville City Commission on May 7, 2009. The City's decision to select GREC to meet its future energy supply needs and enter into the PPA was the result of an extensive integrated resource planning process including an extensive public participation/public outreach program. An open competitive procurement process was used to identify the most cost-effective proposal that satisfied the City's goals and objectives. A key element in this process was the Gainesville City Commission's decision to only pursue renewable energy for its future energy supply needs. The selection of GREC as the best option for meeting GRU's electrical supply needs was based on: (a) the need for electric system reliability and integrity, (b) the need for fuel diversity and supply reliability, and (c) the need for electricity at a reasonable cost.

GREC LLC and GRU jointly filed a petition for determination of need for GREC with the Florida Public Service Commission (PSC) on September 18, 2009 (Florida PSC Docket No. 090451-EM). At the time of this SCA filing, the petition is under review by Florida PSC and the Florida PSC hearing for consideration of the petition is scheduled for

December 16, 2009. The docket indicates that the Florida PSC will issue its order on the determination of need for GREC on March 1, 2010.

GREC SITE

GREC will be located on an approximately 131-acre Site in northwest Gainesville that GREC LLC will lease from the City of Gainesville (d/b/a GRU). The GREC Site is located within the boundaries of the approximately 1,146-acre previously certified site for GRU's existing Deerhaven Generation Station (DGS). The GREC Site area is currently not actively used by GRU and does not contain any facilities associated with DGS. Based on consultations with FDEP's Siting Coordination Office, it is GREC LLC's understanding that FDEP will either amend the SCA for DGS or modify the conditions of certification for DGS as appropriate to delineate between the GREC Site and the certified site for DGS.

The GREC Site is presently undeveloped and has historically been used for agriculture and pine silviculture. Most of the Site currently is actively managed for timber production and has been altered by land preparation (furrowing) and periodic harvesting of timber. The Site is transected by numerous unpaved roads/trails and is surrounded by manmade swales/ditches. The current land use and vegetation types on the Site consist primarily of forested communities, including pine plantations, mixed pine and hardwoods, and several wetland types. Nonforested communities include manmade swales, trails/roads, open land, and herbaceous dry prairie.

The property adjacent to and east of the GREC Site is part of the GRU DGS property. The Alachua County Public Works Department has facilities on the land adjacent to the Site's western border. A radio tower and undeveloped land also are situated west of the Site. Northwest 128th Lane is adjacent to the north side of the Site. Undeveloped, wooded land is located north of Northwest 128th Lane. South of the Site is U.S. Highway 441 (U.S. 441), the CSX rail line and spur, and several properties that are used for commercial and retail sales. The closest residential development to the Site is the Turkey Creek subdivision located approximately 0.8 mile to the southwest of the proposed area for the power plant facilities on the Site.

GREC POWER PLANT AND ASSOCIATED FACILITIES

GREC will involve the construction and operation of a nominal net 100-MW (nominal gross 116-MW) biomass-fired electrical power plant and associated facilities on the approximately 131-acre Site. In addition, GREC will involve the development of four associated linear facilities, which will extend off the GREC Site onto GRU's DGS property. These linear facilities will include the main access road, a natural gas pipeline, a sanitary sewer force main pipeline, and a 138-kilovolt (kV) transmission line and switchyard. The main access road will also run a short distance off the DGS property across the existing CSX Transportation, Inc. (CSX) railroad line corridor and Florida Department of Transportation (FDOT) right-of-way along U.S. Highway 441 (U.S. 441). Further, during construction, an approximately 8-acre area on the DGS property will be temporarily used for construction laydown and an existing DGS maintenance road will be temporarily used for access to the laydown area. GREC LLC is seeking certification of the electrical power plant and all associated facilities within the PPSA proceeding.

POWER PLANT FACILITIES

The main electrical generating facilities for GREC will consist of a bubbling fluidized bed (BFB) boiler and conventional steam turbine generator. The BFB boiler will be capable of accommodating a wide range of clean, woody biomass fuels. In the BFB boiler, combustion of the woody biomass will take place in the dense, fluidized sand bed located at the bottom of the furnace as well as above the bed.

Flue gas from the BFB boiler will pass through air emission control equipment and exhaust to the atmosphere through one 230-foot (ft) tall stack. Other facilities in the main power block area will include an administration building; warehouse; water and wastewater treatment facilities; sand and fly and bottom ash handling and storage facilities; emergency diesel generator and firewater pump; a switchyard; and biomass fuel delivery, handling, and storage facilities.

BIOMASS FUEL PROCUREMENT

GREC will use clean, chipped/ground, woody biomass material as its primary fuel. The biomass material will consist of logging residue, mill residue, and urban wood waste. Urban wood waste typically consists of woody tree trimmings created by land clearing, right-of-way maintenance, and other nonforestry sources of woody debris. GREC will not use as fuel any form of treated, painted, or coated wood; municipal solid wastes; construction or demolition debris; coal; petroleum coke; or tires.

GREC LLC will enter into contracts with local and regional landowners and suppliers for the procurement of approximately 1 million tons per year (tpy) of biomass fuel. The biomass fuel will typically be procured from areas within a 75-mile radius of the Site. The fuel suppliers will be required to follow strict standards that were established by GRU and GREC LLC in the PPA to protect the sustainability of regional forests. The fuel suppliers also will be given the opportunity to benefit from a forest stewardship incentive program if they exceed the minimum standards established by GRU and GREC LLC.

The biomass fuel will be prepared and chipped/ground at offsite locations to meet the design specifications established by GREC LLC for the BFB. The chipped/ground wood will be delivered to the GREC Site by truck. When the truck arrives at the Site, the truck will be weighed, and then the biomass fuel will be unloaded. The biomass will be stacked in storage piles and then reclaimed as needed. The onsite biomass fuel handling and storage systems will include truck scales, truck dumpers, screens and wood hogs, automatic and manual stacker/reclaim systems, and fuel storage piles.

STATE-OF-THE-ART AIR EMISSION CONTROLS

GREC will use advanced BFB boiler technology and clean burning biomass fuel to minimize its airborne emissions. Using renewable biomass fuel also will help ensure that GREC's emissions are *carbon neutral* with regard to carbon dioxide (CO_2) and other greenhouse gases (GHGs).

GREC will also use state-of-the-art air emission control systems, which represent the best available control technology (BACT) to effectively minimize regulated air emissions. These control systems include:

- BFB boiler technology to minimize NO_x production via combustion staging.
- SCR system to control NO_x emissions.
- BFB boiler technology combined with dry sorbent injection (DSI), low-sulfur biomass fuel, and naturally occurring calcium in the wood ash to control SO_2, H_2SO_4 mist, hydrogen chloride, and hydrogen fluoride emissions.
- Fabric filter baghouse for control of particulate matter.

Through the use of these effective emission control systems, GREC's impacts on ambient air quality in Alachua County and the region will be minimal and significantly less than all ambient air quality standards established by the U.S. Environmental Protection Agency (EPA) and FDEP to protect human health and the environment.

WATER USE MINIMIZATION AND ZERO LIQUID DISCHARGE SYSTEM

GREC will be equipped with a zero liquid discharge (ZLD) system, which will allow GREC to eliminate any discharges of industrial wastewater from the facility. The ZLD system also will allow GREC to maximize the recycling and reuse of water. The ZLD system and other water conservation measures will be used to minimize the amount of water used by GREC. Nonetheless, GREC will need approximately 1.4 millions gallons per day (gpd) of water (annual average), primarily to replace the water lost through evaporation in GREC's mechanical draft cooling tower. This need will be satisfied by using groundwater withdrawn from the Upper Floridan aquifer (UFA) through two new onsite wells. To support the approval of this water use by the Suwannee River Water Management District (SRWMD) as part of this SCA process, detailed modeling and analyses of GREC's proposed groundwater withdrawals have been conducted to assess potential impacts. The results of these efforts show that the proposed water use will not harm nor adversely impact groundwater levels and quality, surface waters, wetlands, existing legal users, or other environmental resources on or in the vicinity of the Site. In addition, to offset this groundwater use, GRU has agreed to reduce the approved groundwater allocation for the GRU DGS by 1.4 million gallons per day (MGD) prior to the start of com-

mercial operations of GREC. GREC LLC also conducted a reclaimed water feasibility analysis. Though this analysis concluded that it is not currently feasible to use reclaimed water, GREC LLC has agreed to consider the use of reclaimed water in the future if it becomes reasonably available and economically feasible for GREC.

STORMWATER MANAGEMENT

GREC will have onsite drainage systems designed to manage, treat, and control stormwater runoff and minimize potential erosion and sedimentation impacts during construction and operation. These drainage facilities will be designed in accordance with all applicable requirements of FDEP, the Suwannee River Water Management District (SRWMD), and local agencies, if required. Only stormwater runoff from areas with no contact with industrial activities will be discharged from the Site.

WETLAND MITIGATION AND PROTECTION

The proposed arrangement of facilities on the GREC Site is designed to minimize impacts to wetlands. Key considerations in designing the proposed Site layout included: (1) avoiding areas with extensive, high-quality wetlands; (2) locating facilities in areas with lower quality wetlands where wetland impacts cannot be avoided; and (3) providing an average 50-ft setback buffer around all nonimpacted wetlands.

To compensate for unavoidable, permanent impacts to 0.44 acre of lower quality wetlands, GREC LLC is proposing a mitigation plan that consists of placing a permanent preservation and conservation easement on approximately 10.25 acres of high-quality wetland habitat and 12.33 acres of upland buffer surrounding the wetland.

ECONOMIC BENEFITS

The construction and operation of GREC will provide economic benefits to the City of Gainesville, Alachua County, the region, and the state. These benefits include the creation of an average of 168 and a peak of 426 jobs during the 34-month construction period, as well as an additional 44 fulltime jobs at the GREC facility once the unit begins operation. Further, during GREC operations, it is estimated that an additional 450 to 500 jobs will be created in the north Florida region, primarily in support of the biomass fuel supply activities. Construction and operation of GREC will generate significant sales

tax revenues from purchases of goods and services directly for the plant and indirectly by workers and employees. Also, GREC will provide significant ad valorem tax revenues to the City of Gainesville, Alachua County, and other taxing authorities.

GREC SCHEDULE

Currently, construction of GREC is scheduled to begin in December 2010, and commercial operation is scheduled for December 2013. Achieving this schedule has significant economic consequences for GRU and its power customers. If the biomass facility begins commercial operation by January 1, 2014, GREC will be eligible to obtain the renewable energy grant from the federal government that is contained in H.R. 1 (the American Recovery and Reinvestment Act of 2009). The savings in GRU's cost of power resulting from GREC obtaining the renewable energy grant is $8.10 per megawatt-hour (MWh), which equates to a savings of $6.4 million per year.

ENVIRONMENTAL PROTECTION AND BENEFITS

In summary, GREC LLC has selected and implemented designs for GREC that will avoid or minimize environmental impacts in Alachua County and the north-central Florida region, while reliably and cost-effectively meeting the future energy needs of GRU's customers. GREC LLC's and GRU's selection of the existing DGS property for GREC offers many benefits and minimizes environmental, land use, and other impacts compared to development of a generation facility at a greenfield site. GREC LLC's use of renewable biomass energy technology with state-of-the-art air emission control systems and the water-conserving water use plan will also minimize potential environmental impacts. Further, GREC will provide numerous positive direct and indirect economic benefits in Gainesville, Alachua County and the region.