

EXECUTIVE SUMMARY

Tampa Electric Company (Tampa Electric) is filing this supplemental site certification application (SCA) requesting authorization for the construction and operation of a new electrical generating unit and associated facilities at its existing Polk Power Station (PPS) in Polk County, Florida. The proposed unit will be developed by converting the four existing combustion turbine generators (CTGs) (Polk Units 2 through 5) at PPS to a nominal net 1,160-megawatt (MW) combined cycle (CC) generating unit (hereafter referred to as Polk 2-5 Conversion Project or Project). The SCA also requests that the certified ultimate site capacity be increased from 1,150 to 1,420 MW and that the site boundaries be modified to eliminate the 1,511-acre parcel donated to the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida in May 2012.

This executive summary highlights the key features of the Polk 2-5 Conversion Project. More detailed information on the Project is provided in this SCA as required pursuant to the Florida Electrical Power Plant Siting Act (PPSA).

TAMPA ELECTRIC

Tampa Electric is an investor-owned electric utility, headquartered in Tampa, Florida, that has supplied electricity to customers in the Tampa Bay area since 1899. Tampa Electric's west-central Florida service territory covers approximately 2,000 square miles, including all of Hillsborough County and portions of Polk, Pasco, and Pinellas Counties. Tampa Electric provides electric service to more than 677,000 residential, commercial, industrial, and governmental customers. Tampa Electric's owned power supply resources have a total electric generating capacity of approximately 4,700 MW (winter), including 18 units located at five generating stations: Big Bend, H.L. Culbreath Bayside, J.H. Phillips, PPS, and Partnership stations.

NEED FOR THE POLK 2-5 CONVERSION PROJECT

Through its integrated resource planning process, Tampa Electric has determined the need to construct the Polk 2-5 Conversion Project with a targeted commercial operation date of January 2017. Combined with Tampa Electric's demand-side management energy efficiency programs and supply-side resources, the Project was determined to be the most cost-effective, reliable means of serving Tampa Electric's customers energy and reliability requirements. The addition of the

Polk 2-5 Conversion Project addresses long-term strategic issues, including fuel diversity, fuel flexibility, cost stability, and enhanced environmental performance.

Tampa Electric filed its petition for determination of need for the Polk 2-5 Conversion Project with the Florida Public Service Commission (PSC) on September 12, 2012 (Docket No. 120234-EI). At the time of this SCA filing, the need petition is under review by PSC, and the PSC hearing for consideration of the need petition is scheduled for December 12, 2012. Per the docket schedule, PSC will issue its order on the determination of need for the Polk 2-5 Conversion Project on February 13, 2013.

EXISTING PPS SITE AND FACILITIES

The PPS Site was previously certified as an electrical power plant site with an ultimate capacity of 1,150 MW in January 1994 (SCA No. PA 92-32) under the PPSA. The Site is located in southwestern Polk County, approximately 11 miles south of the city of Mulberry, 17 miles south of the city of Lakeland, and 28 miles southeast of the city of Tampa. The original Site consisted of approximately 4,348 acres and is bordered by the Hillsborough County line on the west, County Road (CR) 663 (Fort Green Road) on the east, CR 630 and Bethlehem and Albritton Roads on the north, and State Road (SR) 674 and several former phosphate clay settling areas on the south. SR 37 bisects the property, running in a southwest to northeast direction. In May 2012, Tampa Electric donated the 1,511-acre portion of the Site on the west side of SR 37 to the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida as a wildlife management/recreation area. With this donation, Tampa Electric is requesting that the existing certification be amended to remove this western portion of the Site as part of this PPSA proceeding. Therefore, the descriptions and analyses presented in this SCA for the Polk 2-5 Conversion Project focus on the approximately 2,837-acre portion of the certified Site located east of SR 37.

Prior to Tampa Electric's development of the existing PPS facilities, the Site and majority of the lands surrounding the Site were impacted by phosphate mining operations.

The PPS Site currently contains five electric generating units and associated facilities. Polk Unit 1 is a nominal net 260-MW integrated gasification combined cycle (IGCC) facility that began commercial operation in 1996. Polk Unit 1 is fired with synthesis gas produced by gasifying coal and other solid fuels. Polk Units 2 through 5 are nominal 165-MW, simple-cycle CTG facilities that are fueled primarily with natural gas. These existing units have a total nominal net generating capacity of 920 MW. In addition to the generating unit facilities, other key exist-

ing facilities at the PPS include an approximately 755-acre cooling reservoir, four 230-kilovolt (kV) transmission circuits and substation, CSX Transportation, Inc. (CSX) rail spur, and Florida Gas Transmission natural gas pipeline.

Tampa Electric's decision to locate the proposed Polk 2-5 Conversion Project at the PPS Site provides numerous synergies and economic and environmental benefits for development of the new power plant. Many of the existing facilities will be integrated and used, with modifications as needed, to support the Project.

POLK 2-5 CONVERSION PROJECT

The proposed Polk 2-5 Conversion Project will involve the conversion of the four existing simple cycle CTG units (i.e., Units 2 through 5) at PPS to CC operation. The proposed Project will be a four-on-one CC unit consisting of the four existing CTGs, four new heat recovery steam generators (HRSGs), and a new steam turbine generator (STG). The CC conversion will increase the nominal net generating capacity of the four existing units from 660 to 1,160 MW. As part of this PPSA proceeding, Tampa Electric is requesting the ultimate site capacity of PPS be increased from 1,150 to 1,420 MW. Construction activities for the proposed Project are currently scheduled to begin in February 2014, and commercial operation is scheduled for January 2017.

The proposed Project will also require development of a new, approximately 27-mile offsite transmission line corridor. A new single-circuit, 230-kV transmission line will run south and west from the PPS Site to Tampa Electric's existing Mines substation in Hillsborough County just north of CR 674 and then run northeast to a new substation, known as the Aspen substation. From the Aspen substation, two single-circuit, 230-kV transmission lines will run north to Tampa Electric's existing Fishhawk substation. In addition, the Project will require the upgrade of a 5.5-mile portion of the existing Tampa Electric single-circuit, 230-kV transmission line from the PPS substation to the Pebbledale substation in Polk County. Tampa Electric is seeking certification of the proposed corridors for these new transmission lines and upgrades within this PPSA proceeding. The new Aspen substation is not included for certification within this PPSA proceeding.

CC TECHNOLOGY

The efficiency of electrical power generation is improved when a simple cycle CTG is combined with an HRSG and STG for CC operation. When CTG operate in simple cycle mode, the hot combustion gases are released to the atmosphere. In CC configuration, the hot gases from the CTG are used to produce steam in an HRSG, and the steam is then used to drive an STG to generate additional electricity without additional fuel input.

The four CTGs will be fired on natural gas as the primary fuel, with ultra-low sulfur diesel (ULSD) fuel oil as backup fuel. The four HRSGs will be designed with natural gas-fired duct burners for peaking operations. Also, evaporative coolers will be installed on the CTGs to increase power generation in warm weather by increasing the inlet air density to the CTGs. The proposed Project will be designed to allow the CTGs to be operated in simple cycle mode when the STG is out of service by using diverter dampers and bypass exhaust stacks. The CTGs may also be operated in simple cycle mode to meet peak power demands.

STATE-OF-THE-ART AIR EMISSION CONTROLS

The proposed Polk 2-5 Conversion Project will use state-of-the-art CC technology and air quality control systems to achieve low air emissions. These proposed systems meet or exceed the best available control technology to effectively minimize regulated air emissions and include:

Good combustion practice and use of low-ash fuels for PM control.

Low-sulfur natural gas and ULSD fuel oil for sulfur dioxide control.

Dry low-nitrogen oxides (NO_x) burners, selective catalytic reduction, and water injection for NO_x control.

Through use of these effective emission control systems, the Polk 2-5 Conversion Project's impacts on ambient air quality in Polk County and the region will be minimal and significantly less than all ambient air quality standards established by the U.S. Environmental Protection Agency and FDEP to protect human health and the environment.

WATER USE MINIMIZATION AND CONSERVATION

The proposed Polk 2-5 Conversion Project will be integrated into the existing PPS operations and designed to minimize the use of water and maximize the recycling/reuse of water. For the Project, the existing 755-acre cooling reservoir will be used for condenser cooling purposes similar to Unit 1 operations. A new six-cell mechanical draft cooling tower will be constructed to provide cooling for the proposed Project auxiliary systems. Also, the auxiliary cooling systems for Unit 1 will be modified to use the new cooling tower instead of the reservoir. Blowdown from the cooling tower will be recycled to the cooling reservoir.

Currently, all water for existing PPS operations is provided by groundwater withdrawn from onsite wells. To minimize the use of groundwater and support future generation expansion at PPS, Tampa Electric is currently implementing a project to treat and use reclaimed water from the city of Lakeland as an alternative water supply for PPS operations. The reclaimed water project is being developed in

partnership with the Southwest Florida Water Management District (SWFWMD). For the proposed Project, reclaimed water will be used, to the extent possible, as makeup water to the cooling reservoir and for the makeup water for the new cooling tower. Groundwater will continue to be used for a portion of the cooling reservoir makeup needs and for higher quality process water needs for both the proposed Polk 2-5 Conversion Project and Unit 1. Treated reclaimed water will also be used for a portion of the process water needs. Use of the treated reclaimed water will significantly reduce the use of groundwater for PPS operations.

STORMWATER MANAGEMENT

The Polk 2-5 Conversion Project will use the existing onsite drainage systems to control and treat stormwater runoff and minimize potential erosion and sedimentation impacts during construction and operation of the Project. These facilities have been designed in accordance with applicable requirements of FDEP, SWFWMD, and Polk County. All stormwater associated with industrial activities will be collected, appropriately treated, and routed to the cooling reservoir for re-use.

ECONOMIC BENEFITS

The construction of the Polk 2-5 Conversion Project will provide economic benefits to Polk County, the region, and the state. These benefits include the creation of an average of approximately 250 and peak of 500 jobs during the 32-month construction period. Construction and operation of the Project will generate significant sales tax revenues from purchases of goods and services directly for the plant and indirectly by workers and employees. Also, the Project will provide significant additional property tax revenues to Polk County.

ENVIRONMENTAL PROTECTION AND BENEFITS

In summary, Tampa Electric has selected and implemented designs for the Polk 2-5 Conversion Project that will avoid or minimize environmental impacts in Polk County and the west-central Florida region, while reliably and cost-effectively meeting the future energy needs of its customers. Tampa Electric's selection of the existing PPS Site for the Project offers many benefits through integration of the Project with the existing power plant infrastructure and minimizes environmental, land use, and other impacts compared to development at a new site. Tampa Electric's selection of the CC technology provides for the use of waste heat to produce additional electricity without the use of additional fuel and without additional air emissions. The utilization of state-of-the-art air emission control systems and the water-conserving water use plan will also minimize potential environmental impacts. Further, the Project will provide numerous positive direct and indirect economic benefits in Polk County and the region.