

Executive Summary

Duke Energy Florida, Inc. (DEF), is filing this site certification application (SCA) requesting certification (i.e., approval) for the construction and operation of new electric generating facilities in Citrus County, Florida. The proposed facilities will be located on an approximately 400-acre Site adjacent to the eastern boundary of DEF's existing Crystal River Energy Complex (CREC). The new generating facilities will be a natural gas-fired combined cycle plant. The proposed facilities will also include several on- and off-Site associated electrical transmission line and water pipeline linear facilities. The off-Site portions of these linear facilities will be located within the existing transmission line corridor and DEF-owned CREC property. Each combined cycle unit will have a nominal generating capacity of 820 megawatts (MW), for a total nominal generating capacity of 1,640 MW. The proposed project, which includes the electrical generating facilities and all associated facilities, will be known as the Citrus Combined Cycle Project (CCC, CCC Project, or Project).

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

Duke Energy Florida, Inc.

DEF, headquartered in St. Petersburg, Florida, is a wholly-owned subsidiary of Duke Energy Corporation. DEF serves approximately 1.7 million customers in Florida. DEF's service territory covers approximately 20,000 square miles in all or part of 35 counties from Central Florida north to the Florida-Georgia state line, including the densely populated areas around Orlando, as well as the cities of St. Petersburg and Clearwater. DEF's existing, owned generating resources are located at 14 power plant sites distributed geographically around its service territory. As of December 31, 2013, DEF had total summer generating capacity resources of 11,258 MW, consisting of 9,141 MW of owned, installed capacity and 2,117 MW of firm purchased power.

Need for the CCC Project

Pursuant to Section 403.519, Florida Statutes, the Florida Public Service Commission (PSC) is the exclusive forum for the determination of need for an electrical power plant subject to the PPSA. DEF filed its petition for determination of need for the proposed CCC Project with the Florida PSC on May 27, 2014 (Docket No. 140110-EI). At the time of this SCA filing, DEF's need petition is under review by the Florida PSC, and the commission hearing for consideration of the petition is scheduled to be held on August 26 and 27 and September 3, 2014. Per the docket schedule, the Florida PSC is expected to issue its order on DEF's determination of need for the proposed Project in October 2014.

Existing CREC Facilities

The proposed CCC Project will be located on an approximately 400-acre Site adjacent to DEF's existing CREC. The approximately 4,400-acre CREC property has been used for power generation since 1966. The complex currently contains four operating coal-fired plants (Crystal River Units 1, 2, 4, and 5) and one nuclear plant (Crystal River Unit 3), which was permanently retired in 2013. DEF currently plans on retiring the older, coal-fired Units 1 and 2 in coordination with the proposed CCC Project commercial operations.

Portions of the CREC property associated with Crystal River Units 4 and 5 were originally certified under the PPSA in November 1978 (Case No. PA 77-09). The portions of the property associated with now-retired Unit 3 nuclear plant were certified under the PPSA in 2008 (Case No. PA 77-09A2). The current conditions of certification, dated August 1, 2012, are applicable to Units 3, 4, and 5 and their associated facilities.

DEF's decision to locate the proposed CCC Project adjacent to CREC provides numerous synergies and economic and environmental benefits for development of the new electrical generating facilities.

CCC Project

The proposed CCC Project will consist of two combined cycle generating units. Each unit will consist of two advanced combustion turbine generators, two heat recovery steam generators, and one steam turbine generator. The Project also includes on-Site

associated facilities, such as closed-cycle mechanical draft cooling towers, administration/warehouse building and parking, auxiliary boiler, emergency diesel generators, firewater pump, water treatment and storage tank facilities, switchyard, stormwater management system and detention ponds, and wastewater percolation pond. In addition, the Project includes several associated linear facilities that run both on- and off-Site, including four 230-kilovolt (kV) and three 500-kV electrical transmission lines and pipelines for cooling tower makeup and blowdown water, flow augmentation water, and well water supply. All of the off-Site associated linear facilities will be located in a corridor contained within existing DEF-owned CREC property.

Construction activities for the Project are scheduled to begin in early 2016, and commercial operation is scheduled for May 2018 for the first unit and December 2018 for the second unit.

Air Emissions Controls

The proposed CCC Project will be designed to utilize technologies to effectively minimize air emissions. These air emissions controls include:

- Dry low-nitrogen oxides (NO_x) combustors and selective catalytic reduction systems for NO_x emissions control.
- State of the art combustion practices and use of natural gas for sulfur dioxide, carbon monoxide, volatile organic compounds, and particulate matter control.
- Use of natural gas and highly efficient combined cycle generation technology for greenhouse gas emissions minimization.

Also, the proposed CCC Project will allow DEF to retire the existing coal-fired Crystal River Units 1 and 2 and eliminate air emissions from these units. Therefore, the Project will result in an overall reduction in air pollutant emissions from DEF's power generation resources.

Water Use and Discharge Impact Minimization

The proposed CCC Project will be designed to minimize the use of water and associated environmental impacts. The condenser cooling system will consist of closed-loop, seawater mechanical draft cooling towers. Cooling tower makeup water will be with-

drawn from the existing CREC intake canal through the existing Crystal River Unit 3 intake structure, which will minimize fresh groundwater use through the use of sea-water. Cooling tower blowdown water will be discharged to the existing CREC discharge canal through a new discharge structure. The proposed CCC Project cooling water makeup withdrawal and blowdown discharge quantities will be significantly less than previous flows with Units 1, 2, and 3 in operation, which will significantly reduce potential environmental impacts associated with these flows.

The Project will require groundwater for plant service/process and potable water uses. This water will be provided from the existing or replacement wells on the CREC property. These water needs will not increase the existing groundwater use allocations approved by the Southwest Florida Water Management District for the existing CREC operations, which have had no adverse impacts on groundwater resources in the area.

Ecological Resources

The proposed CCC Project will be designed to minimize potential impacts to ecological resources. The Project facilities will be located on the eastern portion of the Site, which has fewer, smaller, and lower quality wetlands. Also, much of the Site area has been previously altered by past silvicultural activities. The impacts to wetlands will be fully mitigated through the purchase of wetland mitigation bank credits.

Potential impacts to aquatic ecological resources will be minimized through the use of the existing CREC intake and discharge canals for the Project's cooling tower makeup withdrawal and blowdown discharge. Coupled with the retirement of Crystal River Unit 3 and the future retirement of Units 1 and 2, the intake and discharge of cooling water via the existing CREC intake and discharge canals will be significantly reduced, and no adverse impacts to listed aquatic species, such as manatees or sea turtles, will occur due to the CCC Project.

Stormwater and Wastewater Management

The stormwater management system for the proposed CCC Project will be designed in accordance with applicable requirements to control and treat stormwater runoff associated with the construction and operation of the Project. All stormwater associated with industrial activities will be collected and treated. Low-volume wastewaters gen-

erated during Project operations will be treated, as needed, and disposed in an on-Site percolation pond system. The wastewater percolation pond system will be constructed and operated in accordance with all applicable substantive requirements, including Florida Department of Environmental Protection design and monitoring requirements, to avoid potential adverse impacts to groundwater resources.

Economic Benefits

The construction and operation of the CCC Project will provide significant economic benefits to Citrus County, the surrounding region, and the state of Florida. These benefits include the creation and payrolls associated with an average of approximately 450 and a peak of up to 700 to 1,000 workers during the 24-month construction period. The Project construction will also provide economic benefits from the expenditures by the workers and for services and materials, including local sales tax revenues.

Once operational, the Project will create economic benefits from the creation of approximately 50 and up to 75 permanent jobs and payrolls, as well as expenditures for local services and materials. The CCC Project will also provide significant additional property tax revenues to Citrus County.

Environmental Protection and Benefits

In summary, DEF has selected a Site and implemented designs for the proposed CCC Project that will avoid or minimize potential environmental impacts in Citrus County and the West-Central Florida region, while reliably and cost-effectively meeting the electricity needs of its customers. DEF's selection of the Site for the Project offers many benefits through its location adjacent to CREC and minimizes environmental, land use, and other impacts compared to development at a new site. Use of advanced, highly efficient, natural gas-fired, combined cycle technology and pollution controls minimizes potential environmental impacts. The Project also provides significant economic benefits to Citrus County, the region, and the state by the creation of jobs and additional expenditures and tax revenues.