FINDING OF NO SIGNIFICANT IMPACT

Effingham Energy Facility Combustion Turbine
Upgrades Project

Rincon, Georgia

RURAL UTILITES SERVICE
United States Department of Agriculture

Oglethorpe Power Corporation

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EFFINGHAM ENERGY FACILITY
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RINCON, GEORGIA

OGLETHORPE POWER CORPORATION
EFFINGHAM ENERGY FACILITY

DECEMBER 2022

A. INTRODUCTION

Oglethorpe Power Corporation (Oglethorpe) plans to submit a financing request to the U.S. Department of Agriculture (USDA) Rural Development's Rural Utilities Service (RUS) for financial assistance for implementation of control and mechanical changes at Oglethorpe's existing Effingham Energy Facility (Facility). The Facility, located on 406.69 acres across two parcels in Effingham County near the city of Rincon, Georgia, is a natural gas-fired combined-cycle electrical power generating facility owned and operated by Oglethorpe. The proposed Project will involve the implementation of two upgrades for the gas combustion turbines at the Facility – Advanced Gas Path (AGP) and Low Load Turndown (LLTD). The Facility's proposed AGP upgrade will improve electrical output and efficiency and extend the maintenance interval of the units. The Facility's proposed LLTD upgrade will allow the Facility's gas turbines to continue to operate at reduced power during times of low demand with less frequent shutdowns and subsequent restarts once demand increases. An Environmental Assessment (EA) for both the proposed AGP upgrade and LLTD upgrade (collectively, the Project) was prepared because the two upgrades will be implemented near in time to each other and pursuant to the same air permitting effort for the same Facility.

After completing an independent analysis of an environmental report prepared by Oglethorpe and its consultant, RUS concurred with its scope and content. In accordance with 7 CFR § 1970.102, RUS adopted the report and issued it as the Agency's Environmental Assessment (EA) for the proposed Project. RUS finds that the EA is consistent with federal regulations and meets the standards for an adequate assessment. Oglethorpe published a newspaper notice, announcing the availability of the EA for public review, in accordance with 7 CFR § 1970.102. In addition, RUS considers the proposed Project an undertaking subject to review under Section 106 of the National Historic Preservation Act (NHPA), 16 USC 470(f), and its implementing regulation, "Protection of Historic Properties" (36 CFR Part 800).

RUS has evaluated the Project's purpose and need, reasonable alternatives, and potential impacts to the environment, and has concluded that the Project will not have a significant impact on the human environment.

B. PURPOSE AND NEED

Oglethorpe is responsible for providing reliable, efficient, and low-cost power to the 38 Electric Membership Cooperative members of the not-for-profit generation cooperative who provide power to over four million Georgians.

Oglethorpe continues to evaluate methods for increasing the reliability and efficiency of its power generation while continuing to lower costs to its members. The Project will promote both of those goals. The AGP upgrade will increase capacity at the existing Facility and allow Oglethorpe to meet system demand with the Facility operating rather than starting other units or purchasing power from others. The LLTD upgrade will lower maintenance costs, reduce start-up costs due to less frequent shut down of the facility, and improve the Facility's overall operating efficiency.

The additional capacity at lower costs will meet the need of providing more efficient and less expensive power to Oglethorpe's members and the Georgians they serve.

C. PROPOSED ACTION

The Project includes hardware and software upgrades to the combined-cycle Facility to improve the performance, heat rate, and capacity of the turbines, and allow them to continue to operate during periods of low demand to reduce the frequency of shutdowns.

The mechanical upgrades would be performed during one of the routine major outages at the Facility that occurs on a regular basis after a certain number of operating hours. Currently, a major outage occurs approximately every six years. The Project would increase the interval between routine major outages to every eight years. During a major outage, the Facility is shut down for a period of time and a number of contractors and personnel are brought to the Facility to perform maintenance and, if needed, upgrades. The contractors performing maintenance during the major outage will also perform the mechanical upgrades for the Project. The Project will not require a permanent increase in personnel at the Facility. In connection with the Project, multiple one-time shipments of mechanical equipment may be required to install the mechanical upgrades, but no significant increase in traffic or equipment is proposed.

D. ALTERNATIVES EVALUATED

Other alternative sites for increased capacity were not considered, as a new site would require the construction of a large amount of infrastructure (transmission, water intake, etc.) that currently exists at the Facility site. New site construction would result in greater environmental impacts than the Project. Similarly, increasing capacity at other existing facilities could also potentially require significant infrastructure upgrades and would likely result in greater environmental impacts than the Project.

Under the No Action Alternative, the software and mechanical upgrades associated with the AGP and LLTD upgrades would not be implemented, and the Facility would continue to operate in its current state.

Under those conditions, the capacity would not increase, the price per MW of power generated would not decrease, and Oglethorpe may need to start other units or purchase power from others to meet the system demands. In addition, without the LLTD upgrade, the Facility would not be able to remain online through low load periods resulting in more shutdowns and startups, and, in turn, increased wear and tear on the equipment. For these reasons, the No Action Alternative is not preferable as it does not provide a significant environmental advantage over the Project, and it is not recommended.

E. SUMMARY OF ENVIRONMENTAL IMPACTS

The AGP and LLTD upgrades will involve software and mechanical upgrades to existing equipment within the current Facility structures. No new ground-disturbing activities will occur and no new facilities, equipment, or buildings will be constructed within or outside the current Facility footprint. As a result, the Project will have no significant impact, either directly, indirectly, or cumulatively, on aesthetics, floodplains, geology, soils, farmland, historical and cultural resources, human health and safety, land use, noise, socioeconomics, threatened and endangered species, transportation, vegetation, water resources and wetlands, and/or wildlife, because no construction or land disturbance activities will occur as part of the Project. In addition, floodplains, historical and cultural resources, and threatened and endangered species are not present at the Facility. Impacts on air quality and utilities are further discussed below.

The Project will not result in any significant adverse impacts on minority or low-income populations in the area because the Project involves only software and mechanical upgrades inside the existing Facility. There will be no new ground disturbing impacts associated with the Project.

Air Quality

New Source Review (NSR) is a pre-construction permitting program designed to protect air quality when air pollutant emissions are increased either through the modification of existing sources or through the construction of a new source of air pollution. In areas with good air quality, NSR ensures that the new emissions do not significantly degrade the air quality. This is achieved through the implementation of the federal Nonattainment NSR and Prevention of Significant Deterioration (PSD) permitting programs or state minor permitting programs.

The Project will result in increases in maximum heat input and projected actual annual emissions from the combined cycle combustion turbines (CCCTs) and pollutants emitted as products of natural gas combustion. It is anticipated that the Project may also result in an increase in potential short-term emission rate. For certain air pollutants, this would require a modification to the Facility's current operating air quality permit. Oglethorpe applied for a combined Title V operating permit modification and state construction permit from the Georgia Environmental Protection Division (EPD) to authorize the emission increases associated with the Project. However, the increase in air pollutants would not trigger additional evaluations under federal permitting programs, and no additional ambient air modeling of criteria

pollutants or mitigation is required. Emission increases directly resulting from the Project are mostly related to the two existing combined cycle combustion turbines. Some emission increases are also associated with the cooling tower (refer to Table 3.2-1 of the EA).

The combined Title V operating permit modification and state construction permit application included an evaluation of annual emissions increases from the Project using the actual-to-projected applicability test defined in the federal PSD regulations. The results of this analysis demonstrated that the two upgrades will not result in emission increases greater than the PSD Significant Emission Rates (SER) for any PSD-regulated pollutant (refer to Section 3.2 of the EA). Therefore, PSD permitting is not required, and no additional ambient air modeling or mitigation is required.

No ground-disturbing activities are proposed for the upgrades, and there will be no emissions associated with earth-moving construction equipment. As such, the Project would have no significant adverse impacts on air quality and would not contribute to any cumulative degradation of air quality in the area.

Utilities

There will be changes to the quantity of natural gas received, although no changes to the existing gas supply line infrastructure will be required to support the Project. The air emissions impacts from the increased natural gas consumption were outlined in the preceding section.

The Project will result in minor increases in water intake to supply water to the cooling towers. Oglethorpe currently obtains potable water from the City of Savannah, which utilizes the Floridian Aquifer and Abercom Creek as its two main sources of water, to supply cooling tower makeup and general service water for on-site operations at the Facility. There is no associated permit for water intake from Savannah. The Facility currently utilizes a Land Application System (LAS) (Permit number GAJ010564) to discharge cooling tower blowdown water, which includes a 2.5 million gallon holding pond, 30.33 acres of spray fields, and four monitoring wells. This LAS applies 0.17 million gallons per day (MGD) on average to the spray fields, with a permit limit of 0.24 MGD.

After the Project is completed, additional raw water will be obtained from the City of Savannah for treatment and use in the cooling towers, and there will be additional water discharged from the Facility to the existing LAS. The estimated increase of daily maximum supply water to the cooling tower is approximately 40.2 gallons per minute (gpm). A summary of the current maximum daily water usage and discharges as well as the modeled usage after AGP and LLTD upgrades can be found in Table 3.9-1 of the EA.

Since the current water composition will remain unchanged and the effluent discharge to the LAS is within the allowable discharge volumes for the Facility, no changes to Oglethorpe's LAS permit are anticipated. Additionally, the increased water usage would not affect the existing water supply infrastructure from the City of Savannah. Since there is no permit for water intake from the City of Savannah, no new permits or

modifications are necessary; therefore, no mitigation measures are proposed. As such, the proposed upgrades are unlikely to contribute to an adverse cumulative impact on water utilities.

F. PUBLIC INVOLVEMENT

The availability of the EA for public review was announced in the *Effingham Herald* newspaper on October 19, 2022, and October 26, 2022. The EA was made publicly available on the RUS project website, https://www.rd.usda.gov/resources/environmental-studies/assessments, and at the headquarters of Oglethorpe at 2100 E Exchange Pl., Tucker, GA 30084. The fourteen (14) day public comment period concluded on November 2, 2022, during which time no public or agency comments were received.

G. FINDING OF NO SIGNIFICANT IMPACT

Based on its EA, RUS has concluded that the Project would have no significant impacts to the human environment. RUS has concluded that the Project would have no effect to federally listed threatened and endangered species or critical habitat. RUS has concluded that the Project would not disproportionately affect minority or low-income populations and that no historic properties would be affected by the proposed Project.

In accordance with NEPA, as amended (42 U.S.C. § 4321 et seq.), the Council on Environmental Quality Regulations (40 CFR §§ 1500-1508), and RUS's Environmental Policies and Procedures, as amended (7 CFR Part 1970), RUS has determined that the environmental impacts from the proposed Project have been adequately addressed and that no significant impacts to the quality of the human environment would result from completion of the proposed Project. Any final action by RUS related to the Project will be subject to, and contingent upon, compliance with all relevant federal and state environmental laws and regulations. RUS's action will not result in significant impacts to the quality of the human environment; therefore, an Environmental Impact Statement will not be prepared.

H. RUS LOAN REVIEW AND RIGHT OF ADMINISTRATIVE REVIEW

This FONSI is not a decision on Oglethorpe's expected loan application and therefore not an approval of the expenditure of federal funds. Issuance of the FONSI and its notices concludes RUS's environmental review process in accordance with NEPA and RUS's Environmental Policies and Procedures (7 CFR Part 1970); however, engineering and financial analysis must also be concluded prior to the approval of the loan. Issuance of the FONSI and publication of notices will allow for these reviews to proceed. There are no provisions to appeal this decision; legal challenges to the FONSI may be filed in federal district court under the Administrative Procedures Act.

I. APPROVAL

This Finding of No Significant Impact is effective on signature.

Dated:

CHRISTOPHER MCLEAN

Digitally signed by CHRISTOPHER MCLEAN
Date: 2022.12.23 10:09:09 -05'00'

CHRISTOPHER A. MCLEAN
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Contact Information
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