

Environmental Assessment: Non-Capacity Amendment of License

NORTH GEORGIA HYDROELECTRIC PROJECT
FERC No. 2354-152
Georgia and South Carolina

Re-published as DOE/EA-2298

**U.S. Department of Energy, Loan Programs Office –
Title XVII Energy Infrastructure Reinvestment Program**



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Lead Federal Agency: U.S. Department of Energy

Title: Environmental Assessment for Non-Capacity Amendment of License, North Georgia Hydroelectric Project, FERC No. 2354-152, Georgia and South Carolina

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Proposed Action

The United States Department of Energy (DOE), Loan Programs Office (LPO) may provide loan guarantees for energy infrastructure projects under section 1706 of Title XVII of the Energy Policy Act of 2005 (Energy Policy Act), as amended by the Inflation Reduction Act of 2022 (42 U.S.C. 16517) (the EIR Program). The purpose of the EIR Program is to finance projects and facilities in the U.S. that retool, repower, repurpose, or replace energy infrastructure that has ceased operations or enable operating energy infrastructure to avoid, reduce, utilize, or sequester air pollutants or anthropogenic emissions of greenhouse gases (42 U.S.C. 16517(a)(2)).

LPO is considering whether to issue a loan guarantee of a funding facility to the Georgia Power Company (GPC or Applicant) pursuant to its authority under the EIR Program. In its application, GPC has identified the **Tugalo Development Units 1-4 Replacement and Upgrade Project (Project)** for inclusion in the funding facility that is the subject of DOE's loan guarantee. The Tugalo Development (dam) is located on the Talullah River in Habersham County, Georgia and Oconee County, South Carolina. The Tugalo Development is one of six hydroelectric developments in the North Georgia Hydroelectric Project.

GPC proposes modernizing and refurbishing electrical systems to extend the life of the turbines, generating units, instrumentation, and controls so that the Tugalo powerhouse can continue to meet the operational requirements in its existing license. GPC proposes to refurbish and upgrade all turbine components, replace the existing four generators, replace control panels and instrumentation in the control room, balance plant electrical and mechanical systems, upgrade the cooling system, and replace the spillway gates and trash racks. GPC proposes to use a previously disturbed parking lot at the nearby Tugalo Park recreation site as a staging area and laydown site. The proposed upgrades would not change existing project operations, reservoir levels, the project boundary, or the approved Recreation Plan. GPC would use bulkheads for the spillway gate replacement, so no drawdowns would be necessary for spillway gate replacement.

The purpose and need for DOE's proposed action, the issuance of a Federal loan guarantee, is to implement DOE's authority under Title XVII of the Energy Policy Act, as amended.

National Environmental Policy Act Review

The decision whether to provide a loan guarantee (federal financial assistance) constitutes a major Federal action, which requires DOE to conduct an environmental review under the National Environmental Policy Act (NEPA). In accordance with the Council on Environmental Quality's (CEQ) Memorandum to the Heads of Federal Departments and Agencies, issued on February 19, 2025, and with Executive Order 14154 issued on January 20, 2025, DOE LPO is conducting this environmental review accordance with DOE's NEPA implementing procedures consistent with the text of NEPA, E.O. 14154, and the CEQ memorandum. LPO is using the NEPA process to inform its decision whether to issue a loan guarantee to the Applicant to support the Project.

Pursuant to NEPA, an Environmental Assessment (EA) was prepared by the Federal Energy Regulatory Commission (FERC) for the *Non-Capacity Amendment of License, North Georgia Hydroelectric Project, Georgia and South Carolina*, (December 1, 2022). DOE was not a cooperating agency in the preparation of the FERC EA. Subsequently, DOE has conducted an independent review of the FERC EA and has determined that the actions analyzed in FERC's EA and DOE's proposed action are substantially the same. Additionally, the FERC EA meets the standards for a sufficient environmental assessment under the DOE's NEPA procedures.

DOE will rely upon the FERC EA for its decision-making and, accordingly, is re-publishing the FERC EA as DOE/EA-2298, along with DOE's draft Finding of No Significant Impact for a 30-day public comment period.

Required Consultations and Other Reviews

Endangered Species Act, Section 7

Section 7 of the Endangered Species Act (ESA)¹ requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally listed threatened or endangered species or result in the destruction or adverse modification of the critical habitat of such species.

On July 1, 2025, LPO received an official species list indicating potential for eight federally listed species to occur in the Project area: gray bat (*Myotis grisescens*), northern long-eared bat (*Myotis septentrionalis*), tricolored bat (*Perimyotis subflavus*), persistent trillium (*Trillium persistens*), small whorled pogonia (*Isotria medeoloides*), smooth coneflower (*Echinacea laevigata*), white fringeless orchid (*Platanthera integrilabia*), and monarch butterfly (*Danaus plexippus*). There is no designated critical habitat in the project area.

Given that Project activities would occur within the existing powerhouse, on nearby project works, and on associated previously disturbed work/laydown areas and would not require any cutting or trimming of trees, LPO has reached a *no effect* determination for its action.

¹ 16 U.S.C. § 1536.

National Historic Preservation Act, Section 106

Under section 106 of the National Historic Preservation Act (NHPA),² and its implementing regulations,³ federal agencies must take into account the effect of any proposed undertaking on properties listed or eligible for listing in the National Register of Historic Places (National Register), defined as historic properties, and afford the Advisory Council on Historic Preservation (Advisory Council) a reasonable opportunity to comment on the undertaking.

In June and July 2021, GPC submitted a summary of the proposed upgrades and held initial consultations with the FERC, Georgia SHPO, South Carolina SHPO, and potentially affected Indian Tribes.

On July 30, 2021, and August 12, 2021, the South Carolina SHPO and the Georgia SHPO, respectively, concurred with GPC's conclusion that the project, as proposed, would adversely affect historic properties because it would alter the historic powerhouse. The SHPOs also concurred with the mitigation measures proposed. The FERC, the SHPOs, and GPC executed a Memorandum of Agreement (MOA) to mitigate the adverse effect of removing the generator and turbines, which are contributing resources to the National Register-eligible North Georgia project works. The MOA was executed on September 15, 2022, thereby satisfying the FERC's obligations under the NHPA as the lead federal agency for the undertaking.

GPC's application for a Federal loan guarantee from DOE LPO for the Project introduces an additional Federal nexus triggering a review of this undertaking under Section 106 of the NHPA. FERC remains the lead federal agency for the undertaking. DOE LPO consulted with the FERC and the Georgia SHPO to document DOE LPO's concurrence with the terms of the MOA as well as FERC's and SHPO's concurrence that the MOA resolves the adverse effects on historic properties inclusive of the proposed Federal financial support from DOE LPO for the undertaking.

Public Involvement

DOE did not participate as a cooperating agency in the preparation of the FERC EA; therefore, DOE is re-publishing the EA as DOE/EA-2298 for a period of 30 days. DOE's EA is available at the following locations:

- DOE LPO website: <https://www.energy.gov/lpo/environmental-assessments>
- DOE NEPA website: <https://www.energy.gov/nepa/office-nepa-policy-and-compliance>

² 54 U.S.C. § 306108.

³ 36 C.F.R. pt. 800 (2021).

Draft Finding of No Significant Impact

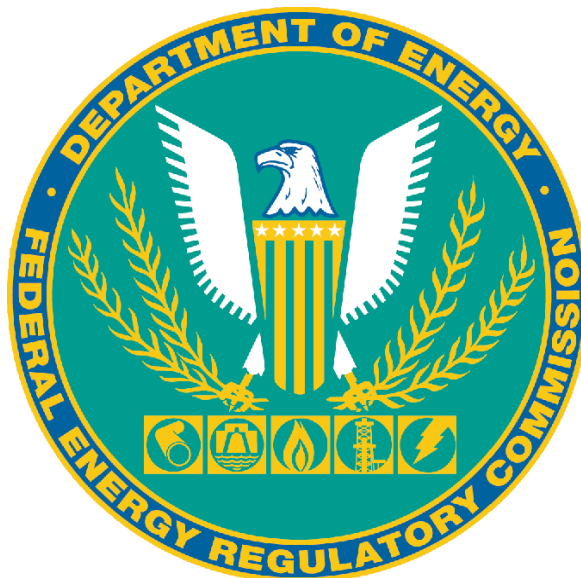
Based on DOE/EA-2298, DOE has determined that providing a federal loan guarantee to GPC for the **Tugalo Dam Units 1-4 Replacement and Upgrade Project** will not have a significant effect on the human environment. The preparation of an environmental impact statement is therefore not required, and DOE is issuing this Finding of No Significant Impact. This Finding of No Significant Impact should not be construed as a final decision about the issuance of a loan guarantee.

Todd Stribley
NEPA Compliance Officer
DOE Loan Programs Office

Date

ENVIRONMENTAL ASSESSMENT
FOR NON-CAPACITY AMENDMENT OF LICENSE

NORTH GEORGIA HYDROELECTRIC PROJECT
FERC No. 2354-152
Georgia and South Carolina



Federal Energy Regulatory Commission
Office of Energy Projects
Division of Hydropower Administration and Compliance
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December 1, 2022

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LIST OF ABBREVIATIONS

Advisory Council	Advisory Council on Historic Preservation
APE	Area of Potential Effect
BIA	Bureau of Indian Affairs
CEQ	Council on Environmental Quality
cfs	cubic feet per second
Commission or FERC	Federal Energy Regulatory Commission
CRMP	Cultural Resources Management Plan
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FPA	Federal Power Act
FWS	U.S. Fish and Wildlife Service
Georgia EPD	Georgia Environmental Protection Division
Georgia HPD	Georgia Historic Preservation Division
Georgia WRD	Georgia Wildlife Resources Division
HAER	Historic American Engineering Record
MOA	Memorandum of Agreement
MW	Megawatts
NEPA	National Environmental Policy Act
NGO	Non-governmental Organization
Tribes	Native American Tribes
NPS	National Park Service
National Register	National Register of Historic Places
NHPA	National Historic Preservation Act
OPP	Office of Public Participation
Section 7	Section 7 of the Endangered Species Act
Section 106	Section 106 of the National Historic Preservation Act
SHPO	State Historic Preservation Officer
South Carolina DAH	South Carolina Department of Archives and History
South Carolina DHEC	South Carolina Department of Health and Environmental Control
South Carolina DNR	South Carolina Department of Natural Resources
Forest Service	U.S. Forest Service
USGS	U.S. Geological Survey
WQC	Water Quality Certification under Section 401 of the Clean Water Act

1.0 INTRODUCTION

1. Application: Non-Capacity Amendment of License
2. Date Filed: September 24, 2021 and supplemented on October 21, 2021
3. Applicant: Georgia Power Company
4. Water body: Savannah River basin on the Tallulah, Chattooga, and Tugalo Rivers
5. County and State: Rabun, Habersham, and Stephens counties, Georgia and Oconee County, South Carolina
6. Federal Lands: There are no federal lands within the project boundary.

1.1 BACKGROUND

On September 24, 2021, as supplemented,¹ Georgia Power Company (Georgia Power or licensee), licensee for the North Georgia Project No. 2354 (project),² filed an application to amend its license. The project consists of six hydroelectric developments: Burton, Nacoochee, Mathis-Terrora, Tallulah Falls, Tugalo, and Yonah. The project is located in the Savannah River basin on the Tallulah, Chattooga, and Tugalo rivers, in Rabun, Habersham, and Stephens counties, Georgia and Oconee County, South Carolina (Figure 1). The licensee proposes to amend the license to replace and upgrade four generating units in the Tugalo powerhouse. The licensee proposes, at the Tugalo Development, to remove all turbine components to refurbish and upgrade, replace the existing generators, replace control panels and instrumentation in the control room, balance plant electrical and mechanical systems, upgrade the cooling system, and replace the spillway gates and trash racks. With the proposed modifications, the maximum hydraulic capacity would decrease by 12.3 percent, from 6,840 cubic feet per second (cfs) to 6,000 cfs, and the installed capacity would increase from 45 megawatts (MW) to 64 MW at the Tugalo Development. The licensee does not propose any changes to the project operations or the existing lake levels at Lake Tugalo.

Prior to license issuance in 1996, the Commission issued a final Environmental Impact Statement (EIS) dated June 14, 1996 (1996 EIS), which analyzed the potential effects of licensing the project. This Environmental Assessment (EA) is intended to analyze the environmental effects of the amendment request. Commission staff addresses

¹ The licensee filed a supplement to its application on October 21, 2021.

² *Georgia Power Company*, 77 FERC ¶ 62,002 (1996).

the effects to geologic and soil resources, water quantity, water quality, fisheries resources, terrestrial resources, threatened and endangered species, recreation resources, cultural and historic resources, and environmental justice.



Figure 1. Location of the Tugalo Development (Source: Google Maps).

1.2 PROJECT DESCRIPTION

On October 3, 1996, the Commission issued a new license for the North Georgia Project, allowing the licensee to continue operating and maintaining the existing 168.4 MW project. The project's six hydroelectric developments abut one another over a 37-mile stretch of the Tallulah and Tugalo rivers. The water from the tailrace of the Tallulah

Falls Development returns to the Tallulah River and immediately flows into Tugalo Lake, the reservoir for the Tugalo Development. The Tugalo Dam is located just downstream of the confluence of the Tallulah and Chattooga rivers which form the Tugalo River; and the Tugalo powerhouse is located at the base of the dam.

The Tugalo Development consists of: (a) an 840-foot-long, 160-foot-high concrete gravity dam, with a 73-foot-long left non-overflow section, a 357-foot-long gated spillway section, a 20-foot-long center non-overflow section, a 165-foot-long intake section, and a 225-foot-long right non-overflow section; (b) a 597-acre reservoir (Tugalo Lake) with a gross storage capacity of 43,000 acre-feet and a useable storage capacity of 14,000 acre-feet, at a full pond elevation of 891.5 feet mean sea level, and which extends up the Chattooga River about three miles from the Tallulah/Chattooga confluence; (c) four 13-foot-diameter, 308-foot-long steel penstocks from the intake section to the powerhouse; (d) a powerhouse containing four generating units rated at 11.25 MW each, for a total capacity of 45 MW; and (f) a 200-foot-long, 150-foot-wide tailrace, separated from the main channel on its left by a concrete wall about 70 feet long and on its right by a concrete wall about 200 feet long.

The licensee operates the project in peaking mode. Article 412 of the license, in part, requires the licensee to operate the Tugalo Development so that; 1) from February 15 to April 30, the Tugalo Reservoir fluctuations must not exceed 2.4 feet, and 2) from May 1 to May 31, the Tugalo Reservoir fluctuations must not exceed 1.4 feet. These limits are to protect and enhance bass spawning conditions in these reservoirs during and after releases from the Yonah Dam for Walleye spawning.

2.0 PURPOSE AND NEED FOR ACTION

The Commission must decide whether to approve the licensee's proposed amendment and what conditions should be in any amendment order issued. In addition to power and development under the Federal Power Act (FPA), the Commission must give equal consideration to the purposes of energy conservation; the protection, mitigation of damage to and enhancement of fish and wildlife (including related spawning grounds and habitat); the protection of recreational opportunities; and the preservation of other aspects of environmental quality.

In accordance with the National Environmental Policy Act (NEPA)³ and the Commission's regulations (18 C.F.R. Part 380), this EA assesses the effects of the

³ On July 16, 2020, the Council on Environmental Quality issued a final rule, *Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act* (Final Rule, 85 Fed. Reg. 43,304), which was effective as of September 14, 2020.

proposed amendment, evaluates alternatives to the proposed action, and makes recommendations to the Commission on whether to approve the licensee's amendment application, and if approved, recommends conditions to become part of any order issued.

The EA examines the environmental effects of the proposed action and the no-action alternative (today's status quo). Important resources that are addressed include: geologic and soil resources, water quantity, water quality, fisheries resources, terrestrial resources, threatened and endangered species, recreation resources, cultural and historic resources, and environmental justice.

3.0 PROPOSED ACTION AND ALTERNATIVES

3.1 NO-ACTION ALTERNATIVE

Under the no-action alternative, the licensee would operate and maintain the project as currently licensed without the proposed amendment. The environmental resources in the project area would remain the same as they currently exist and are the basis for the existing environment sections in this EA.

3.2 PROPOSED ACTION

The licensee proposes to modernize the electrical systems and provide refurbishment to extend the life of the turbines, the four generating units, instrumentation, and controls so that the Tugalo powerhouse can continue to meet the operational requirements in its existing license. The licensee proposes to remove all turbine components to refurbish and upgrade, replace the existing generators, replace control panels and instrumentation in the control room, balance plant electrical and mechanical systems, upgrade the cooling system, and replace the spillway gates and trash racks. The licensee proposes to use a previously disturbed parking lot at a nearby Tugalo Park recreation site as a staging area and laydown site.

The licensee does not propose to change project operations, the existing project boundary, or the Recreation Plan.⁴ The licensee would operate the Tugalo powerhouse with no change to existing lake levels at Lake Tugalo. The upgrades would increase the installed capacity from 45 MW to 64 MW and decrease the maximum hydraulic capacity from 6,840 cfs to 6,000 cfs at the Tugalo Development.

⁴ Article 418 of the license approved the Recreation Plan, filed on December 18, 1991, that requires the licensee to operate and maintain several recreation sites across the six project developments, including Tugalo Park which is located downstream of Tugalo Dam.

4.0 STATUTORY COMPLIANCE AND COMMENTS

4.1 STATUTORY COMPLIANCE

4.1.1 Clean Water Act Section 401

Section 401(a)(1) of the Clean Water Act requires that an applicant for a federal license or permit to conduct activities that may result in a discharge into the navigable waters of the United States, must provide the licensing or permitting agency a Water Quality Certification (WQC). If the state “fails or refuses to act on a request for certification, within a reasonable period of time (which shall not exceed one year) after receipt of such request,” then certification is waived.⁵

The Tugalo Development discharge is located fully within the state of Georgia even though other parts of the project are located in South Carolina. The licensee was issued a WQC on August 15, 1991 for operation of the project by Georgia Environmental Protection Division (Georgia EPD). At that time South Carolina declined to issue a WQC. The licensee contacted South Carolina Department of Health and Environmental Control (South Carolina DHEC) on June 21, and July 12, 2021, by email and telephone, respectively, and did not receive a response from the agency. The licensee determined that there was no material adverse effect to water quality as a result of the amendment. The licensee provided their analysis of the anticipated changes in water quality parameters to Georgia EPD on June 16, 2021. On July 13, 2021, Georgia EPD concurred that the changes to stream flow, dissolved oxygen, tailrace temperature, and cooling water temperature would not have an adverse material effect on water quality, and that the proposed amendment would not need a revised WQC.

4.1.2 Endangered Species Act

Section 7 of the Endangered Species Act (ESA)⁶ requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally listed threatened or endangered species or result in the destruction or adverse modification of the critical habitat of such species.

There are nine federally listed species that may occur in the area of the Tugalo Development: Gray bat (*Myotis grisescens*), Northern Long-eared bat (*Myotis septentrionalis*), Bog turtle (*Clemmys muhlenbergii*), Persistent Trillium (*Trillium persistens*), small whorled pogonia (*Isotria medeoloides*), smooth coneflower (*Echinacea laevigata*), swamp pink (*Helonias bullata*), white fringeless orchid (*Platanthera*

⁵ 33 U.S.C. § 1341(a)(1).

⁶ 16 U.S.C. § 1536(a) (2018).

integrilabia), and rock gnome lichen (*Gymnoderma lineare*). The licensee's analysis contained in the application stated that the proposal would have no effect on federally listed species. Commission Staff's independent analysis concurs with the finding of no effect. The U.S. Fish and Wildlife Service (FWS) by email dated June 29, 2021, concurred with the licensee's finding that they do not anticipate effects to fish or aquatic species. The FWS recommended that the staging areas be limited to the previously disturbed areas and impervious surfaces of Tugalo Park as proposed by the licensee, and if ground disturbance was required for additional staging area then the licensee should conduct a survey for state and federally protected plants of that area prior to ground disturbance. Additionally, on July 16, 2021, U.S. Forest Service (Forest Service) concurred that the proposal would have no effect on federally listed species.

The licensee proposes that access to the project would be via the access road at the end of Tugalo Village Road on Georgia Power property, and all material and equipment would be unloaded in the parking area at the Tugalo Dam. Furthermore, no tree cutting or ground disturbance would occur as a result of the proposed amendment. Therefore, no effect is anticipated to occur to the listed plant and lichen species.

4.1.3 National Historic Preservation Act

Section 106 of the National Historic Preservation (NHPA)⁷ and its implementing regulations⁸ requires that federal agencies "take into account" how each of its undertakings could affect historic properties and afford the Advisory Council on Historic Preservation (Advisory Council) a reasonable opportunity to comment on the undertaking.⁹ Historic properties are districts, sites, buildings, structures, traditional cultural properties, and objects significant in American history, architecture, engineering, and culture that are eligible for inclusion in the National Register of Historic Places (National Register). In this document, we also use the term "cultural resources" for properties that have not been evaluated for eligibility for the National Register. Cultural resources represent items, structures, places, or archaeological sites that can be either prehistoric or historic in origin. In most cases, cultural resources less than 50 years old are not considered historic. Section 106 also requires that the Commission seek concurrence with the state historic preservation office on any finding involving effects or

⁷ 54 U.S.C. § 306108 et seq.

⁸ 36 C.F.R. pt. 800.5(a)(2)(vii).

⁹ An undertaking means "a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license, or approval." 36 C.F.R. § 800.16(y). Here, the undertaking is the proposed amendment to the project's design.

no effects on historic properties and consult with interested Native American Tribes (Tribes) or Native Hawaiian organizations that attach religious or cultural significance to historic properties that may be affected by an undertaking.

To meet the requirements of section 106 of the NHPA, we executed a Memorandum of Agreement (MOA) with the Georgia and South Carolina State Historic Preservation Offices for the protection of historic properties from the effects of amending the project's license to modify or replace project features associated with a proposed upgrade to its turbine generator units.

On February 24, 2022, a draft MOA was issued for review and comment to the Georgia and South Carolina State Historic Preservation Officers (SHPOs). Comments on the draft MOA were filed by the South Carolina and Georgia SHPOs on March 2 and March 21, 2022, respectively. On March 28, 2022, Commission staff issued a revised draft MOA for review and comment. The terms of the MOA would ensure that the licensee protects all historic properties identified in the project's area of potential effect (APE) from the adverse effects of the undertaking through the proposed mitigation measures. On April 26, 2022, the Georgia SHPO filed comments on the draft MOA. On May 19, 2022, the Commission provided the draft MOA to the Advisory Council for review and comment. The Commission also asked the Advisory Council if it intends to participate in the proceeding pursuant to 36 C.F.R. Part 800.6. In its letter filed on May 26, 2022, the Advisory Council indicated that its participation is not needed at this time.

On August 18, 2022, the Commission signed the final MOA and provided it for signature to the Georgia and South Carolina SHPO. On August 29, 2022, and September 15, 2022, the South Carolina SHPO and Georgia SHPO signed the MOA, respectively. Commission staff would forward a copy of the executed MOA to all parties to the MOA and the Advisory Council.

4.2 PRE-FILING CONSULTATION AND PUBLIC COMMENT

The Commission's regulations (18 C.F.R. sections 4.38 and 6.1) require licensees to consult with appropriate resource agencies, Native American Tribes, and other entities before filing an application for an amendment of license. Pre-filing consultation must be complete and documented according to the Commission's regulations. The section below describes the public outreach and resource agency consultation conducted by the licensee prior to filing its application with the Commission.

4.2.1 Pre-filing Consultation

Prior to filing its amendment application with the Commission, the licensee consulted with the FWS, Forest Service, Georgia EPD, Georgia Wildlife Resources Division (Georgia WRD), Georgia Historic Preservation Division (Georgia HPD), South

Carolina Department of Natural Resources (South Carolina DNR), South Carolina DHEC, and South Carolina Department of Archives and History (South Carolina DAH). In June and July 2021, the licensee submitted a summary of the upgrades to the agencies and provided an opportunity to meet and discuss the proposed upgrades.

Following the initial June and July consultations, the FWS, Forest Service, Georgia EPD, Georgia WRD, Georgia HPD, the South Carolina DNR, and South Carolina DAH provided comments. The South Carolina DNR requested Georgia Power conduct a desktop entrainment study to evaluate potential adverse effects of increased cross-section area spacing of the new trash racks.

On August 6, 2021, the licensee provided a draft amendment application, which incorporated input from the agencies during the June and July meetings, for agency review and comment. On August 10, 2021, FWS stated that it had no additional comments and was looking forward to seeing the entrainment study. On August 6, 2021, Georgia EPD said it had no further input on the amendment. On August 9, 2021, Georgia WRD continued to support the position that no significant impacts to aquatic resources would occur from the upgrades to the Tugalo powerhouse and that the draft application provides adequate information related to the scope of work and its potential impacts.

On August 12, 2021, Georgia HPD concurred that the project, as currently proposed, constitutes an adverse effect to historic properties and concurred with the mitigation proposed. Georgia HPD looked forward to receiving a draft MOA.¹⁰ On August 12, 2021, South Carolina DAH stated that their office provided comments in a letter dated July 30, 2021. In the July 30, 2021 letter, the South Carolina DAH concurred with the licensee's assessment that historic properties would be adversely affected by this amendment. South Carolina DAH looked forward to continuing consultation with the development of the MOA. In addition, South Carolina DAH stated that consideration should be given to include a section on the Native American history of the area. On August 20, 2021, South Carolina DNR concurred with Georgia WRD's positive comments.

As requested by South Carolina DNR, the licensee conducted a desktop entrainment study and distributed the analysis memo to all the agencies on September 14, 2021. The licensee consulted with the applicable agencies over 60 days regarding the proposed upgrades and requested a waiver of the formal 60-day review of the application.

On July 20, 2021, the licensee sent a section 106 consultation package for review and comment to the Eastern Band of Cherokee Indians, Muscogee (Creek) Nation, United Keetoowah Band of Cherokee Indians, Catawba Indian Nation, and the Cherokee Nation.

¹⁰ More information about the development of the MOA can be found in section 5.2.8 Cultural and Historic Resources of this EA.

On August 27, 2021, the Catawba Indian Nation stated that they had no immediate concerns regarding traditional cultural properties, sacred sites or Native American archaeological sites within the boundaries of the proposed project area. In any event, the Catawba Indian Nation should be notified if Native American artifacts and/or human remains are located during the ground disturbance phase of this project.

The licensee included a copy of the consultation with the agencies and Tribes on the proposed upgrades in the final application filed on September 24, 2021.

4.2.2 Public Comments

On October 27, 2021, the Commission issued a public notice that Georgia Power's amendment application was accepted for filing, and that comments, motions to intervene, protests were due in 30 days.¹¹ The Commission received 282 comment letters from federal agencies, individuals, and non-governmental organizations (NGO) on the amendment application.

The comment letters included a joint timely motion to intervene, filed on November 26, 2021, from American Rivers, American Whitewater, Chattooga Conservancy, Georgia Canoeing Association, Naturaland Trust, and Upstate Forever (collectively, intervenors).¹² On April 27, 2022, the Commission received amended comments and protest from the intervenors. On May 12, 2022, the licensee filed a response to the intervenors' April 2022 filing. On September 26, 2022, the intervenors supplemented their November 2021 and April 2022 comments and protests.

The Bureau of Indian Affairs

On November 5, 2021, the Bureau of Indian Affairs (BIA) provided a list of Tribes that were not consulted for the MOA. The BIA requested the Commission conduct complete tribal consultation before approving the amendment. A discussion on Tribal consultation is included in section 5.2.8 *Cultural and Historic Resources* of this EA.

U.S. Fish and Wildlife Service

The FWS stated that it reviewed the information provided in the amendment application and determined that no further action is required under section 7(a)(2) of the

¹¹ 86 *Fed. Reg.* 60459 (2021).

¹² Timely, unopposed motions to intervene are granted by operation of Rule 214(c)(1) of the Commission's Rules of Practice and Procedure. 18 C.F.R. § 385.214(c)(1) (2021).

Endangered Species Act. However, if new information arises or changes in the project involving federally listed species, further consultation would be required.

Savannah Riverkeeper

Savannah Riverkeeper commented that the dam should be removed due to growing sediment levels which are negatively impacting dam efficiency, and water and aquatic resources and that dam removal would improve ecological resilience and economic opportunities. The comments from Savannah Riverkeeper are addressed below in the *Summary of Comments Received and Responses* section.

Intervenors

On November 26, 2021, the following comments were filed:

1) The intervenors stated that allowing Georgia Power to spend substantial expenditures on the proposed amendment would foreclose fair consideration of future alternatives like decommissioning during relicensing. The proposed amendment has the potential to circumvent or curtail the NEPA mandate to consider environmental value and project alternatives to the fullest extent possible. The intervenors requested that the Commission prepare an EIS to fully assess all alternatives to the proposed amendment, including conducting a feasibility study of dam removal, before authorizing any substantial capital improvements.

2) The intervenors requested that the Commission fully consider decommissioning the dam in 2036 at the expiration of the existing license as an alternative to granting the requested license amendment. The intervenors explained that decommissioning Tugalo Dam would safely and effectively address the growing sedimentation issues, restore native habitats and connectivity in the Brevard Zone,¹³ restore whitewater paddling opportunities, enhance ecotourism in the region, reduce greenhouse gas emissions and create additional carbon sequestration opportunities.

3) The intervenors indicated that the Commission should require Georgia Power to obtain a WQC or waiver from South Carolina.

4) The intervenors stated that the Commission must consult with Tribes that may attach religious or cultural significance to properties that may be affected by the proposed amendment.

¹³ The Brevard Zone is a fault zone that represents the division between the northern and southern piedmont physiographic region.

5) The intervenors asserted that the Commission must give equal consideration to all river values, including fish and wildlife, environmental quality, and recreational opportunities.

On April 27, 2022, the intervenors filed amended comments and protest. The intervenors indicated that the Commission must take into consideration indirect impacts based on the newly published NEPA rule that makes clear that Commission and Georgia Power may not limit their evaluation of impacts to the direct impacts associated with the proposed amendment application. The intervenors stated that Georgia Power recently released public information showing that the anticipated cost of construction associated with the Tugalo modernization now exceeds \$115 million. The intervenors reiterated that the increased cost estimate bolsters their argument that allowing the proposed amendment would have an impact on relicensing.

On September 26, 2022, the intervenors filed amended comments and protest to notify the Commission of a proceeding filed in Fulton County Superior Court¹⁴ related to the proposed Tugalo modernization.

The comments from the intervenors are similar to the comments received from individuals and are addressed below in the *Summary of Comments Received and Responses* section.

Comments from Individuals

In addition to the commenting entities listed above, the Commission received 276 comment letters from individuals with no agency or NGO affiliation. Of the 276 comment letters from individuals, five duplicate letters collectively included 642 signatures of individuals. The five letters recommended that the Commission should not approve the license amendment. Georgia Power should be required to provide information on why the upgrades are occurring before relicensing and an evaluation of the impacts caused by the facility in the next 50 years. The letters also stated that Georgia Power has not consulted with all federally recognized Tribes and Nations impacted by the license amendment. The letters also requested that a full environmental impact study be conducted. The Commission received a comment from an individual that supported the amendment.

The remaining 270 letters included comments regarding decommissioning the project, recreation opportunities, dam safety, sedimentation, requests for further environmental studies, and the impact of the amendment application on future relicensing proceedings.

¹⁴ This filing is outside the scope of this NEPA document.

Summary of Comments Received and Responses

We grouped the comments from the individuals, the intervenors, and Savannah Riverkeeper with similar concerns and recommendations into seven categories and addressed each issue below.

Group 1: Commenters opposed the amendment application and requested that the Tugalo Dam be removed using the infrastructure bill. The commenters stated that the Tugalo Dam would be made redundant once the Vogtle Nuclear Facility becomes active next year.¹⁵ Commenters requested the licensee to consider alternative energy sources such as solar power or wind or consider increasing capacity at another dam.

Staff Response: Commenters raised the issue of dam removal as an alternative to approving this amendment application. Dam removal is outside the scope of this amendment proceeding, and whether or not dam removal is considered during relicensing has no bearing on this amendment application where the purpose is to replace and upgrade four generating units in the Tugalo powerhouse. The effect of the Vogtle Nuclear Facility on the Tugalo Dam is outside the scope of this amendment proceeding. It is at the discretion of the licensee to consider alternative energy sources.

Group 2: Commenters expressed that approving this amendment application would impact future relicensing proceedings. Commenters requested that Georgia Power provide objective information on the reason modernization of the Tugalo facility should happen now, prior to the formal licensing process. Commenters argued that allowing Georgia power to invest millions of dollars in the enhancement of their facility is a backhanded way to encourage the future approval and predetermine the outcome of relicensing.

Staff Response: The proposed upgrades would allow the licensee to adequately maintain the project and meet the terms of their current license. The cost that would be incurred by Georgia Power during the term of this license, for the proposed upgrades, would not prejudice the Commission's evaluation of Georgia Power's application for a new license.¹⁶ In addition, the Commission action on this proposed amendment would in no way predetermine license conditions that may be required if the project is later

¹⁵ Georgia Power is constructing two new nuclear units at Plant Vogtle near Waynesboro, Georgia to provide customers reliable, carbon-free energy source (Georgia Power, 2021).

¹⁶ *Chugach Elec. Assoc., Inc.*, 89 FERC ¶ 61,053, at 61,164 (1999). (With respect to concerns that approval of the upgrade would prejudice future relicensing, the licensee is on notice that there is no guarantee that the costs it decides to incur for the project upgrade would be recovered or that a new license would be issued).

relicensed. The Commission action on the proposed upgrade would not narrow the range of issues or limit the extent of studies that may be identified during relicensing.

Group 3: Commenters requested that Georgia Power conduct a comprehensive study associated with operating the project for another 50 years and consider all feasible alternatives in addition to no action and an upgrade alternative that relies on an old dam, and the potential benefits of removing the Tugalo Dam. Similarly, other commenters requested that Georgia Power produce comprehensive studies that evaluate impacts created by continued dam existence. The commenters also requested that the Commission examine all the issues through a complete EIS including dam removal.

Staff Response: The purpose of this EA is to evaluate potential effects of the proposed amendment and identify appropriate mitigation measures, not to comprehensively evaluate past or on-going effects of the Tugalo Dam. Past and on-going effects of the project as a whole would be evaluated during the relicensing process not during this discrete proposal. In addition, this amendment application is pertinent to the current license and is not a proposal to extend the license another 50 years, as implied by the comments. The current license expires on September 30, 2036, and the licensee is expected to file its Notice of Intent and Pre-Application Document no later than September 30, 2031.

Group 4: Commenters asserted that the Commission must give equal consideration to all river values, including fish and wildlife, environmental quality, and recreational opportunities. Commenters also highlighted that Lake Tugalo releases methane emissions and is filled with sediment which effects navigability, safety, and recreational user experience on the Chattooga and Tallulah rivers.

Staff Response: The environmental effects of entire project are beyond the scope of this EA, which is limited to the effects of the proposed action. The purpose of this EA is to evaluate potential effects of the proposed amendment and identify appropriate mitigation measures, not to comprehensively evaluate past or on-going effects of the Tugalo Dam. The analysis of effects associated with the proposed action, include fish and wildlife, environmental quality, and recreational opportunities, are addressed in section 5.0 *ENVIRONMENTAL ANALYSIS* of this EA.

Group 5: The commenters stated that the Chattooga River is a National Wild and Scenic River, and the existence of the dam is preventing recreational opportunities. Removing the dam would restore biologically rich forest land and improve ecological resilience in the watershed, which is important as the effects of climate change accelerate. Commenters also stated that removing the dam would provide habitat for rare fish, wildlife, and plants.

Staff Response: The purpose of this EA is to evaluate potential effects of the proposed amendment and identify appropriate mitigation measures. The Wild and Scenic

protected corridor of the Chattooga River ends before Tugalo Lake. Approximately 4 miles of the lower Chattooga River is inundated by the Tugalo Development prior to its confluence with the Tallulah River in the development reservoir to form the Tugalo River. Removal of the dam would not automatically extend the protected corridor downstream even though it would potentially open up habitat and recreational opportunities. However, dam removal is outside the scope of this amendment proceeding, and whether or not dam removal is considered during relicensing has no bearing on this amendment application. The effects of the proposed action on recreation opportunities are discussed in section 5.2.7 *Recreation Resources*. The effects of the proposed actions on terrestrial resources are discussed in section 5.2.5 *Terrestrial Resources*. The effects to rare species are discussed in section 5.2.6 *Threatened and Endangered Species*.

Group 6: Commenters indicated that the Tugalo Dam is outdated, unsafe and poses a flood risk.

Staff Response: Dam safety is a critical part of the Commission's hydropower program. The licensee is required to comply with Part 12¹⁷ (Safety of Water Power Projects and Project Works) of the Commission's regulations. Commission staff conduct regular inspections of projects to ensure dam safety. Further, the licensee is proposing in this amendment to update project works.

Group 7: Commenters stated that Georgia Power should obtain a WQC or waiver from South Carolina.

Staff Response: This issue is addressed in section 4.1.1 *Clean Water Act Section 401* of the EA.

5.0 ENVIRONMENTAL ANALYSIS

In this section, Commission staff describe the environmental setting for the proposed action and the scope of our effects analysis.¹⁸ We also present our analysis of the environmental effects of the proposed action. Sections are organized by resource areas. Under each resource area, we first describe the current conditions. The existing condition is the baseline against which the environmental effects of the proposed action are compared, including an assessment of the effects of proposed mitigation, protection,

¹⁷ 18 C.F.R. § 12 (2021).

¹⁸ Unless otherwise indicated, our information is taken from the 1996 EIS, which analyzed the effects of licensing the North Georgia Project, and the licensee's September 24, 2021 application for amendment to license and supplemental filings made by the licensee.

and enhancement measures, and any potential cumulative effects. Our conclusions and recommended measures are discussed in section 6.0, *Conclusions and Recommendations* of the EA.

5.1 SCOPE OF CUMULATIVE EFFECTS ANALYSIS

According to the Council on Environmental Quality's regulations for implementing the National Environmental Policy Act (40 C.F.R. § 1508.1), a cumulative effect is the effect on the environment that results from the incremental effect of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time, including hydropower and other land and water development activities.

Based on our review of the amendment application and agency and public comments, we have not identified any resources¹⁹ that could be cumulatively affected by the proposed amendment.

5.2 PROPOSED ACTION

5.2.1 Geologic and Soil Resources

AFFECTED ENVIRONMENT

The project is located in the Blue Ridge Mountains and upper Piedmont physiographic regions of northwestern Georgia and western South Carolina on the Tallulah, Chattooga, and Tugalo rivers. The region is defined by rugged mountains and ridges with elevations changes from 3,000 feet to 4,700 feet. The area is scattered with quartzite, mica, gneiss, schist, or amphibolite bedrock which through the years have decayed to form sand and gravel. Thousands of years of stream erosion produced valleys ranging from 1,500 feet to 2,000 feet below the summits. Tugalo Lake is located between steep mountain slopes and is completely forested.

ENVIRONMENTAL EFFECTS

The majority of the proposed activities would occur in the powerhouse or on nearby project works, and do not require any ground disturbance or cutting of trees. The licensee would utilize the existing Tugalo Park for staging equipment and supplies. The

¹⁹ Although cultural resources would be adversely affected by the licensee's proposal, the Section 106 process would mitigate all permanent changes to cultural resources. Thus, no cumulative effects are expected.

FWS recommended that equipment staging, proposed to occur in Tugalo Park, be kept to previously disturbed or impervious surface portions of the park and avoid disturbing native vegetation. The potential for erosion and sedimentation is limited due to lack of proposed land-disturbing activities. The licensee proposes to complete the spillway gate replacements behind bulkheads without needing a reservoir drawdown, which would prevent any shoreline erosion. Once the new units are in operation, the project should have little or no effect on geology and soils since the proposed upgrades would not change project operations. Therefore, Commission staff conclude that the proposed amendment would have little or no direct or indirect effect on geology and soils.

5.2.2 Water Quantity

AFFECTED ENVIRONMENT

Water from the Tallulah Falls Development powerhouse returns to the Tallulah River and flows almost immediately into the Tugalo Development reservoir. Under Article 408, the licensee is required to release a continuous minimum flow of 35 cfs or inflow whichever is less downstream of the Tallulah Falls Development. In addition to the minimum flow, the licensee also releases generation flows, excess stream flows, Article 409 aesthetic flows, and Article 410 recreational flows from the Tallulah Falls Development on the Tallulah River that discharge to the Tugalo Development reservoir. The Tugalo Development also receives inflows from the Chattooga River. A review of mean daily discharge values from 82 years of records at the U.S. Geological Survey (USGS) 02177000 Chattooga River near Clayton, GA gage indicates that inflows range from a minimum mean daily value of 396 cfs in September to a maximum mean daily discharge value of 1,050 cfs in March (USGS, 2021). The combination of flows from the Chattooga River and the Tallulah Falls Development of the Tallulah River provides the inflow to replace water discharged for generation purposes. Currently, the Tugalo Development reservoir is 597 acres with a gross storage of 43,000 acre-feet and a usable storage of 14,000 acre-feet at full pond of 891.5 msl. The mean daily inflows to the project would contribute an additional replacement flow of approximately 440 cfs even during the lowest flow conditions. Most of the time inflows would be greater than 440 cfs.

ENVIRONMENTAL EFFECTS

The licensee analyzed changes between current rated discharge capacity and proposed discharge capacity. Currently, the Tugalo Development discharges 1,240 cfs at best gate setting, and it would discharge 1,400 cfs at the proposed best gate (maximum efficiency point) settings after the upgrades. This represents a 160 cfs (12.9%) increase in discharge at the proposed best gate setting. The existing current maximum discharge at full gate is 1,710 cfs, and the proposed max gate discharge would decrease to 1,500 cfs which represents a 210 cfs (12.3%) decrease at maximum gate setting. This increase in

discharge at best gate setting and the decrease in discharge at max gate setting are only realized during generation that is set at the best gate setting or max gate setting so the changes in discharge would be transient and sporadic in nature.

The licensee's proposal would not change the operation or capacity of the reservoir. The discharge increase of 160 cfs at the best gate setting would represent approximately 317 additional acre-feet withdrawal in a 24 hour period per unit. At the full gate setting, the 210 cfs discharge reduction would represent approximately 416 cfs less acre-feet withdrawal during a 24-hour period per unit. This change in acre-feet of water storage consumption over a 24-hour period only accounts for about +/-3% of the reservoir's usable storage capacity per unit or about +/-12% if all units all operating concurrently. It could result in slightly reduced or increased maximum generation duration times under certain scenarios, but the overall direct or indirect effect to water availability at the project would be negligible.

5.2.3 Water Quality

AFFECTED ENVIRONMENT

The units are currently designed to discharge 1,240 cfs at best gate setting and 1,710 cfs at full gate setting. The licensee's current operations comply with the WQC issued August 15, 1991 for operation of the project by Georgia EPD for temperature and dissolved oxygen. During pre-filing consultation, the Georgia EPD stated that state water quality criteria are being met at the relevant project waterways.

ENVIRONMENTAL EFFECTS

The licensee's analysis indicated that the changes in discharge at best gate and maximum gate settings and upgrades to the unit cooling system would result in a -0.01°F to 0.36°F change in stream temperature. Additionally, the changes in discharge during generation are also not expected to affect dissolved oxygen or stream velocity downstream of the project in an adverse material manner even though slight changes may be observed during generation. Therefore, the proposed amendment is not expected to affect water quality downstream of the Tugalo Development. On July 13, 2021, Georgia EPD, via email, concurred with the licensee's analysis that the changes to stream flow, dissolved oxygen, tailrace temperature, and cooling water temperature would not have an adverse material effect on water quality, and that the proposed amendment would not need a revised WQC.

Additionally, the licensee stated in section 4(b) of their application that the proposal would not affect project operations or lake levels in the Tugalo Development reservoir. Since no change in lake level or operation is expected to occur, the proposal would not directly or indirectly affect water quality in the Tugalo Development reservoir.

5.2.4 Fisheries Resources

AFFECTED ENVIRONMENT

The primary game fish of Tugalo Lake, the project reservoir, are centrarchids such as largemouth bass, spotted bass, black crappie, red breasted sunfish, bluegill, and other sunfish species along with walleye, catfish species, and yellow perch. The forage base consists of blueback herring, gizzard shad, golden shiner, and whitefin shiner. This is a relatively typical species assemblage of hydropower reservoirs in the southeastern United States.

The existing trashracks are 1-inch wide bars spaced 7-inches on center. There is a total of 8 trashracks stacked vertically. Each existing trashrack contains cross-bracing bars which are 2-inches wide. At the existing bar spacing the smallest total length walleye excluded would be 47-inches, Largemouth bass 43-inches, and white catfish 30-inches. The current approach velocity to the trashracks is 1.75 foot per second (ft/s) and 2.41 ft/s at best and full gate, respectively.

Article 412 requires the licensee to restrict reservoir elevation variation to not exceed 2.4 feet at the Tugalo Reservoir from February 15 to April 30, and to not exceed 1.4 feet from May 1 to May 31 in order to protect spawning game fish.

ENVIRONMENTAL EFFECTS

The licensee conducted a desktop entrainment study that indicated the approach velocities with the proposed new trashrack would be 1.73 ft/s and 1.86 ft/s at best and full gate, respectively. The newly designed changes in cross-sectional area due to thinner bars would result in a decrease of 0.02 ft/s and 0.55 ft/s, respectively. The approach velocity is within an acceptable range for fish to be able to escape entrainment. The reduction in the approach velocity likely is not meaningful for escapement over previous conditions, but if it is, it would be a slight advantage over previous conditions.

The proposed trashrack design calls for vertical bars which are 7/16-inches wide spaced 3-inches on center. The horizontal bracing bars are 7/16-inches wide. This reduces the bar spacing from approximately 7-inches to approximately 3-inches. Under the proposed new bar spacing many more fish would be excluded from entrainment including sizes that are reasonable to occur in the population. The new minimum excluded sizes would be 20-inches for walleye, 18-inches for largemouth bass, and 13-inches for white catfish. Under either the old or new trashrack design, bluegills and other sunfish would not be excluded because the calculated minimum excluded length of 18-inches for bluegill is not known to occur.²⁰ The same would apply to shad and other

²⁰ Bluegill rarely exceed 12-inch total length.

baitfish. The proposed trashrack design would be beneficial for preventing entrainment of larger game fish species at the development over the current trashrack.

The licensee's proposed amendment would not affect project operations or reservoir elevation levels; therefore, it would not have an effect on the licensee's compliance with the Article 412 condition to protect spawning game fish.

The licensee's proposal would have no direct or indirect adverse effect to fisheries in the case of approach velocities and Article 412 compliance. It would have a positive effect in the case of fish entrainment. Therefore, the licensee's proposed project modernization would result in a net benefit to fisheries in the Tugalo Reservoir.

5.2.5 Terrestrial Resources

AFFECTED ENVIRONMENT

The proposal is limited to actions that would occur inside the powerhouse, or on major project works such as the trash rack and spillway gates. The licensee intends to use existing access roads to bring in materials and equipment. The licensee proposes to use a previously disturbed parking lot at a nearby Tugalo Park recreation site as a staging area and laydown site.

ENVIRONMENTAL EFFECTS

The proposal does not include any ground disturbance, tree cutting or land clearance, changes to project operations, or changes to reservoir elevation levels. Because the scope of the work would not disturb any natural areas, clear any vegetation, or change any aspects of project operation that might cause erosion or hydrologic effects, there are not any anticipated direct or indirect effects to terrestrial resources.

5.2.6 Threatened and Endangered Species

AFFECTED ENVIRONMENT

There are two federally listed mammal species that may occur in the area of the Tugalo Development: gray bat (*Myotis grisescens*) and the northern long-eared bat (*Myotis septentrionalis*). There is one federally listed reptile species that may occur in the project area; the bog turtle (*Clemmys muhlenbergii*), which generally occupies open-canopy, herbaceous sedge meadows and fens bordered by wooded areas. There are five federally-listed flowering plants and one federally-listed lichen that may occur in the project area. The plant and lichen species include persistent trillium (*Trillium persistens*), small whorled pogonia (*Isotria medeoloides*), smooth coneflower (*Echinacea laevigata*), swamp pink (*Helonias bullata*), white fringeless orchid (*Platanthera integrilabia*), and rock gnome lichen (*Gymnoderma lineare*). None of the federally listed species are

recorded in the immediate project area.

ENVIRONMENTAL EFFECTS

The licensee would access the project via the access road at the end of Tugalo Village Road on Georgia Power property, and all material and equipment would be unloaded in the parking area at the Tugalo Dam. The upgrade activities occur in the powerhouse or on nearby project works, and do not require any ground disturbance or cutting of trees; therefore, there would be no effect on bats, persistent trillium, small whorled pogonia, smooth coneflower, swamp pink, white fringless orchid, and rock gnome lichen. Additionally, because the amendment would not affect lake levels, there would be no disturbance to potential bank habitats of the bog turtle; therefore, there would be no effect to bog turtles.

The FWS by email dated June 29, 2021, concurred that they do not anticipate effects to fish or aquatic species. Furthermore, the FWS recommended that the staging areas be limited to the previously disturbed areas and impervious surfaces of Tugalo Park, and if ground disturbance was required the licensee should conduct a survey for state and federally protected plants. Commission staff concur with FWS's assessment that fish and aquatic species would not be affected, and that staging areas should be limited to previously disturbed areas.

Additionally, the Forest Service provided the licensee with a biological evaluation dated July 9, 2021, that determined that the licensee's proposal would have no direct or indirect effect to federally listed species, no effect to regional forester sensitive species, and would not likely result in a loss of species viability for locally rare species.

5.2.7 Recreation Resources

AFFECTED ENVIRONMENT

Tugalo Park, a project recreational feature, located just downstream of the Tugalo Development's tailrace and just upstream of Lake Yonah, contains a boat ramp, restrooms, 10 primitive camp sites, and a parking area. The licensee is using the Tugalo Park recreation site as a staging and laydown area for the Tugalo modernization project because of rugged terrain and limited space around the immediate project site does not provide many opportunities for a staging area. Some equipment and materials have already been staged in the park area. The licensee filed for approval of a variance from Article 418 requirements in order to close Tugalo Park for 5 years on July 9, 2021, which was prior to the currently analyzed non-capacity amendment request filed on September 24, 2021. The licensee chose to file these requests as separate actions for Commission review. The Commission approved the Article 418 variance request on September 28, 2021 via the Order Approving Variance from Recreation Plan Requirements Under

Article 418²¹ (Variance Order) closing Tugalo Park for 5 years starting on October 1, 2021 and extending up to October 1, 2026, or completion of project construction whichever is sooner. Per the Variance Order, the park has already been closed and staging of equipment, according to the recommendations of FWS, has already occurred. Commission staff considered the loss of recreational boating access and fishing access as a result of the closure of the boat ramp in the variance order. The licensee stated, and was supported by Georgia Department of Natural Resources in their request, that the loss of the access was offset by additional access points on Lake Yonah along with other recreational sites and boating access upstream on Lake Tugalo. Commission staff concurred with the licensee's assessment regarding recreational boating and fishing access.

In the Variance Order Commission staff determined that two effects caused by the closure of the park should be mitigated. As a condition of the Variance Order, the Commission required mitigation for the effects to whitewater boating transportation and possible damages to facilities during the closure of the park in the Variance Order. The Variance Order required the licensee to provide free shuttles to whitewater boaters on white water flow release days (ordering paragraph (B) of Variance Order) and required the licensee to replace all project amenities with new equipment (ordering paragraph (C) of Variance Order). On January 31, 2022, as required by ordering paragraph (B) of the Variance Order, the licensee filed a report detailing their plan for providing free whitewater shuttles during whitewater flow release days. The Commission acknowledged that this report fulfilled the requirements of ordering paragraph (B) via a letter issued March 21, 2022. The plan to replace all Tugalo Park amenities must be filed for Commission approval by October 1, 2024, as required by ordering paragraph (C) of the Variance Order. The plan must include, in part, a schedule for completing the replacement of the park amenities and a proposed re-opening date for Tugalo Park which is consistent with the Variance Order timeline.

ENVIRONMENTAL EFFECTS

The Commission determined in the Variance Order issued on September 28, 2021, that the park should be closed for public safety purposes during the modernization project to protect the public from construction related activities. In issuing the order, the Commission addressed the effects to the recreational environment that were identified. There are no new direct or indirect effects to the recreational environment to analyze in this EA that would result from approval of the non-capacity amendment because the park is already closed for the duration of construction as the result of the previous Variance Order. That order contained requirements to mitigate for the identified effects.

²¹ *Georgia Power Company*, 176 FERC ¶ 62,152 (2021).

5.2.8 Cultural and Historic Resources

Section 106 of the NHPA of 1966, as amended, requires the Commission to evaluate the potential effects on properties listed or eligible for listing on the National Register. Such properties listed or eligible for the National Register are called historic properties. In this case, the Commission must take into account whether any historic property could be affected within the project's APE.

AFFECTED ENVIRONMENT

Determination of effects on historic properties first requires identification of any historic properties in the APE. The Advisory Council's regulations define the APE as the "geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist." For this undertaking, the APE includes lands within the project boundary as well as lands outside of the project boundary where construction may affect historic properties. The APE also includes all access roads, laydown areas, and other locations required during construction and a 100-foot buffer around these areas.

In 1990, Georgia Power conducted a cultural resources survey of the existing project and concluded that the project's hydroelectric facilities are eligible for inclusion in the National Register as a historical district; and there are seven archaeological sites eligible on an individual basis documenting prehistoric and historic use of the area. The hydroelectric facility is eligible because it is part of a large complex of hydroelectric projects, constructed over a relatively short period (1911-1927) capable of generating and distributing a large amount of hydroelectric power to surrounding areas. When completed in 1927, the facilities were the most integrated system generating hydropower in the eastern United States. The facilities are also eligible because of the large size of facilities; the extensive use of diversion tunnels and extended penstocks, the physical characteristics that documents changes in design and construction of hydroelectric facilities between 1910 and 1930.

Pursuant to Article 417 of the project's license, the licensee implemented the "Programmatic Agreement Among the Federal Energy Commission, the Advisory Council on Historic Preservation, the Georgia State Historic Preservation Officer, and South Carolina State Historic Preservation Officer for the Management of Historic Properties affected by the North Georgia Hydroelectric Facility," which was executed on January 30, 1996. Article 417 additionally approves the Cultural Resources Management Plan (CRMP) for the project, which provides guidance for historic structure maintenance, guidance regarding avoiding or minimizing adverse effects to the historic integrity of project facilities and eligible sites from the continued operation of the project and requires the consultation with the SHPOs regarding any previously unidentified cultural resources discovered at the project. The CRMP also requires the implementation of the

plan to be supervised by a Cultural Resources Manager to coordinate and educate licensee staff about cultural resource management, consult with the SHPOs about the potential effects, visually inspect project facilities and other eligible sites on an annual basis, oversee any mitigative work, and file reports with the SHPOs and Commission staff on the results of these studies and others determined necessary.

ENVIRONMENTAL EFFECTS

Effects on cultural resources within the APE can result from project-related activities such as reservoir operations, modifications to project facilities, or project related ground-disturbing activities. Effects can also result from other forces such as wind and water erosion, recreational use (project and non-project related), vandalism, private and commercial development. Significant changes to the powerhouse, which include replacing and upgrading four generating units in the Tugalo powerhouse, replacing control room panels and intake trash racks, would adversely and directly affect the Tugalo Development, which is a contributing resource to the North Georgia Project. There are no indirect adverse effects to cultural resources due to the licensee's proposal to amend the project.

Pursuant to the Commission's Tribal Policy, the Commission has notified the following federally recognized Tribes and invited their participation in Section 106 consultation for the Undertaking: Coushatta Tribe of Louisiana, Alabama-Coushatta Tribe of Texas, Alabama-Quassarte Tribal Town, Poarch Band of Creek Indians, Kialegee Tribal Town, Thlopthlocco Tribal Town, Eastern Band of Cherokee Indians, Muscogee (Creek) Nation, Seminole Tribe of Florida, Seminole Nation of Oklahoma, Catawba Indian Nation, Cherokee Nation, United Keetwoowah Band of Cherokee Indians. In a December 15, 2021 letter, Commission staff requested comments on the proposed amendment to the North Georgia Project license to replace and upgrade four generating units, replace the control room panels, intake trash racks and spillway gates at the Tugalo development. On December 16, 2021 and January 7, 2022, Commission staff sent follow-up e-mails to the Tribes requesting comments. No comments were received by the Tribes.

To mitigate the adverse effect to historic properties, a MOA is executed between the Commission, the South Carolina SHPO, and the Georgia SHPO. The MOA provides the following stipulations to mitigate the adverse effects to historic resources.

First, upon execution of the MOA and prior to commencing the proposed upgrades, the licensee would perform or oversee the performance of Level II Historic American Engineering Record (HAER) documentation of the generators and turbines to include a historic narrative, measured drawings, and medium format black and white photography. The draft HAER documentation would be submitted to Georgia and South Carolina SHPOs and the National Park Service (NPS) for review and comment. Upon

receipt of all comments, the licensee would revise the HAER documentation and submit to the Georgia and South Carolina SHPOs and the NPS for acceptance. Final hard and digital copies would be submitted to the Georgia and South Carolina SHPOs for their records. The licensee would file documentation that it completed the HAER documentation to the satisfaction of the Georgia and South Carolina SHPOs.

Second, the licensee would, upon completion of the system upgrades at the Tugalo Development, prepare and install interpretive signage at the Tugalo Park describing the history of hydropower at the development and the prehistory and history of the region. Draft interpretive text would be submitted to the Georgia and South Carolina SHPOs for review and comment prior to installation.

Lastly, if the licensee determines during project activities that the proposed amendment would affect a previously unidentified property that may be eligible for inclusion in the National Register or would affect known resources in a greater capacity, the licensee would address the discoveries in accordance with the project's approved CRMP. In addition, following the execution of the MOA, the licensee would provide an annual summary detailing work pursuant to the MOA. The report must include any scheduling changes proposed, any problems encountered, and any disputes and objections received in the licensee's efforts to carry out the terms of the MOA.

On February 14, 2022, the Commission issued a draft MOA for comment. Comments were received by the South Carolina SHPO on March 2, 2022, and the Georgia SHPO on March 21, 2022. Commission staff addressed the administrative changes and issued a revised draft MOA on March 28, 2022. On April 26, 2022, the Georgia SHPO filed comments on the draft MOA. On May 19, 2022, the Commission provided the draft MOA to the Advisory Council for review and comment. The Commission also asked the Advisory Council if it intends to participate in the proceeding pursuant to 36 C.F.R. Part 800.6. In its letter filed on May 26, 2022, the Advisory Council indicated that its participation is not needed at this time. The Advisory Council also indicated that if it receives a request for participation from the SHPO, or a Tribal Historic Preservation Officer, affected Native American Tribe, consulting party, or other parties, it may reconsider its decision. The Advisory Council also stated that if at any time the Commission determines that the Advisory Council's participation is needed to conclude the consultation process, the Advisory Council should be notified.

On August 18, 2022, the Commission signed the final MOA and provided it for signature to the Georgia and South Carolina SHPO. On August 29, 2022, and September 15, 2022, the South Carolina SHPO and Georgia SHPO signed the MOA, respectively. The licensee signed the MOA as a concurring party on September 19, 2022.

5.2.9 Environmental Justice

AFFECTED ENVIRONMENT

According to the U.S. Environmental Protection Agency (EPA), “environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.” Fair treatment means that no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental, and commercial operations or policies (EPA, 2021). Meaningful involvement means:

1. people have an opportunity to participate in decisions about activities that may affect their environment and/or health;
2. the public’s contributions can influence the regulatory agency’s decision;
3. community concerns will be considered in the decision-making process; and
4. decision makers will seek out and facilitate the involvement of those potentially affected (EPA, 2021).

In conducting NEPA reviews of proposed hydropower projects, the Commission follows the instruction of Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations*, which directs federal agencies to identify and address “disproportionately high and adverse human health or environmental effects” of their actions on minority and low-income populations (i.e., environmental justice communities).²² Executive Order 14008, *Tackling the Climate Crisis at Home and Abroad*, also directs agencies to develop “programs, policies, and activities to address the disproportionately high and adverse human health, environmental, climate-related and other cumulative impacts on disadvantaged communities, as well as the accompanying economic challenges of such impacts.”²³ The term “environmental justice community” includes disadvantaged communities that have been historically marginalized and overburdened by pollution.²⁴ Environmental justice communities include, but may not be limited to minority

²² Exec. Order No. 12,898, 59 *Federal Register* 7629, at 7629, 7632 (Feb. 11, 1994).

²³ Exec. Order No. 14,008, 86 *Federal Register* 7619, at 7629 (Jan. 27, 2021).

²⁴ *Id.*

populations, low-income populations, or indigenous peoples.²⁵

Commission staff used the Federal Interagency Working Group on Environmental Justice & NEPA Committee’s publication, *Promising Practices for EJ Methodologies in NEPA Reviews (Promising Practices)* (EPA, 2016), which provides methodologies for conducting environmental justice analyses throughout the NEPA process for this project. Commission staff’s use of these methodologies is described throughout this section.

Commission staff used EJScreen 2.0, EPA’s environmental justice mapping and screening tool, as an initial step to gather information regarding minority and/or low-income populations; potential environmental quality issues; environmental and demographic indicators; and other important factors. EPA recommends that screening tools, such as EJScreen, be used for a “screening-level” look and a useful first step in understanding or highlighting locations that may require further review.

Meaningful Engagement and Public Involvement

The Council on Environmental Quality’s (CEQ) *Environmental Justice Guidance Under the National Environmental Policy Act (CEQ Environmental Justice Guidance)* (CEQ, 1997) and *Promising Practices* recommend that federal agencies provide opportunities for effective community participation in the NEPA process, including identifying potential effects and mitigation measures in consultation with affected communities and improving the accessibility of public meetings, crucial documents, and notices.²⁶ They also recommend using adaptive approaches to overcome linguistic, institutional, cultural, economic, historical, or other potential barriers to effective participation in the decision-making processes of federal agencies. In addition, Section 8 of Executive Order 13985, *Advancing Racial Equity and Support for Underserved Communities Through the Federal Government*, strongly encourages independent agencies to “consult with members of communities that have been historically underrepresented in the Federal Government and underserved by, or subject to discrimination in, federal policies and programs.”

As discussed in section 4.2.2 *Public Comments* of this EA, there have been opportunities for public involvement during the Commission’s review process, although

²⁵ See USEPA, *EJ 2020 Glossary* (Sep. 7, 2021), <https://www.epa.gov/environmentaljustice/ej-2020-glossary>.

²⁶ CEQ, *Environmental Justice: Guidance Under the National Environmental Policy Act*, 4 (Dec. 1997) (CEQ’s Environmental Justice Guidance), https://www.energy.gov/sites/default/files/nepapub/nepa_documents/RedDont/GCEQ-EJGuidance.pdf.

the record does not demonstrate that these opportunities were targeted at engaging environmental justice communities. The Commission's communication and involvement with the surrounding communities began when the Notice of Application Accepted for Filing and Soliciting Comments, Motions to Intervene, and Protests was issued on October 27, 2021, which established a 30-day comment period and intervention deadline. Commission staff addressed the comments received on the amendment application in section 4.2.2 *Public Comments* of this EA.

All documents that form the administrative record for these proceedings are available to the public electronically through the internet on the FERC's website (www.ferc.gov). We recognize that not everyone has internet access or is able to file electronic comments. Anyone may comment to FERC about the proceeding, either in writing or electronically. Commission staff has consistently emphasized with the public that all comments receive equal weight by Commission staff for consideration in the EA.

Regarding future engagement and involvement, in 2021, the Commission established the Office of Public Participation (OPP) to support meaningful public engagement and participation in Commission proceedings. OPP provides members of the public, including environmental justice communities, landowners, Tribal citizens, and consumer advocates, with assistance in FERC proceedings—including navigating Commission processes and activities relating to the Project. For assistance with interventions, comments, requests for rehearing, or other filings, and for information about any applicable deadlines for such filings, members of the public are encouraged to contact OPP directly at 202-502-6592 or OPP@ferc.gov for further information.

Identification of Environmental Justice Communities

According to the *CEQ Environmental Justice Guidance* and *Promising Practices*, minorities are those groups that include: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic. Following the recommendations set forth in *Promising Practices*, FERC uses the **50 percent** and the **meaningfully greater analysis** methods to identify minority populations. Using this methodology, minority populations are defined in this EA where either: (a) the aggregate minority population of the block groups in the affected area exceeds 50 percent; or (b) the aggregate minority population in the block group affected is 10 percent higher than the aggregate minority population percentage in the county. The guidance also directs low-income populations to be identified based on the annual statistical poverty thresholds from the U.S. Census Bureau. Using *Promising Practices*' **low-income threshold criteria** method, low-income populations are identified as census block groups where the percent low-income population in the identified block group is equal to or greater than that of the county. Here, Commission staff selected Habersham and Rabun Counties, Georgia, and Oconee County, South Carolina, as the comparable reference community to ensure that affected environmental justice communities are properly identified. A

reference community may vary according to the characteristics of the particular project and the surrounding communities.

Table 1 below identifies the minority populations (by race and ethnicity) and low-income populations within Georgia and South Carolina, the counties affected by the proposed amendment (Habersham and Rabun Counties, Georgia, and Oconee County, South Carolina), and census block groups²⁷ within vicinity of the project site. For this project, staff chose a 1-mile radius around areas impacted by the amendment (i.e., powerhouse, spillway gates, trash racks and staging area). Staff found that a 1-mile radius is the appropriate unit of geographic analysis given the limited scope of the proposed amendment and concentration of project-related effects near the powerhouse. To ensure we are using the most recent available data, we use U.S. Census American Community Survey File# B03002 for the race and ethnicity data and Survey File# B17017 for poverty data at the census block group level.²⁸

Within the 1-mile radius, staff identified two block groups (i.e., Census Tract 970302, Block Group 1 in Rabun County, Georgia, and Census Tract 030100, Block Group 4 in Oconee County, Georgia) out of a total of three affected block groups that are environmental justice communities. Both Census Tract 970302, Block Group 1 in Rabun County, Georgia, and Census Tract 030100, Block Group 4 in Oconee County, Georgia have low-income populations that meet the low-income threshold. Figure 2 provides a geographic representation of these communities relative to the area impacted by the amendment.

²⁷ Census block groups are statistical divisions of census tracts that generally contain between 600 and 3,000 people. U.S. Census Bureau. 2022. Glossary: Block Group. Available online at: https://www.census.gov/programs-surveys/geography/about/glossary.html#par_textimage_4. Accessed October 2022.

²⁸ U.S. Census Bureau, American Community Survey 2019 ACS 5-Year Estimates Detailed Tables, File# B17017, Poverty Status in the Past 12 Months by Household Type by Age of Householder, <https://data.census.gov/cedsci/table?q=B17017; File #B03002> Hispanic or Latino Origin By Race, <https://data.census.gov/cedsci/table?q=b03002>.

Table 1. Minority populations by race and ethnicity and low-income populations within the Census Block Group impacted by the amendment

Demographic Composition within the Project Area											
State/ County/ Census Tract and Block Group	RACE AND ETHNICITY COLUMNS										LOW INCOME COLUMN
	Total Population	White Alone, not Hispanic or Latino ^a (%)	Black or African- American ^a (%)	American Indian and Alaska Native ^a (%)	Asian ^a (%)	Native Hawaiian and Other Pacific Islander ^a (%)	Some Other Race ^a (%)	Two or More Races ^a (%)	Hispanic or Latino (any race) ^a (%)	Total Minority Population ^c (%)	Households Below Poverty Level ^b (%)
Georgia	10,403,847	52.7	31.20	0.20	3.90	>0.1	0.30	2.00	9.50	47.30	14.20
Habersham County	44,626	77.3	3.20	>0.1	1.90	0.20	0.40	2.10	14.80	22.70	16.20
<i>Census Tract 000100, Block Group 2</i>	2,125	87.60	2.00	0.00	1.70	0.00	0.00	6.80	1.80	12.40	15.60
Rabun County	16,645	87.70	1.90	0.30	1.10	0.00	0.20	0.70	8.00	12.30	16.30
<i>Census Tract 970302, Block Group 1</i>	1,760	92.40	4.40	0.00	0.00	0.00	0.00	0.30	2.90	7.60	18.20
South Carolina	5,020,806	63.70	26.60	0.30	1.60	>0.1	0.20	2.00	5.70	36.30	14.90
Oconee County	77,528	84.40	6.80	0.30	0.70	>0.1	>0.1	2.20	5.50	15.60	15.70
<i>Census Tract 030100, Block Group 4</i>	791	90.90	2.50	0.00	0.00	0.00	0.00	6.30	0.30	9.10	29.60

Note: Low-income or minority populations exceeding the established thresholds are indicated in red, bold, type and blue shading.

^a U.S. Census Bureau, 2019a.

^b U.S. Census Bureau, 2019b.

^c Total Minority Population is the percent of the population that is not categorized as “White Alone (not Hispanic or Latino).

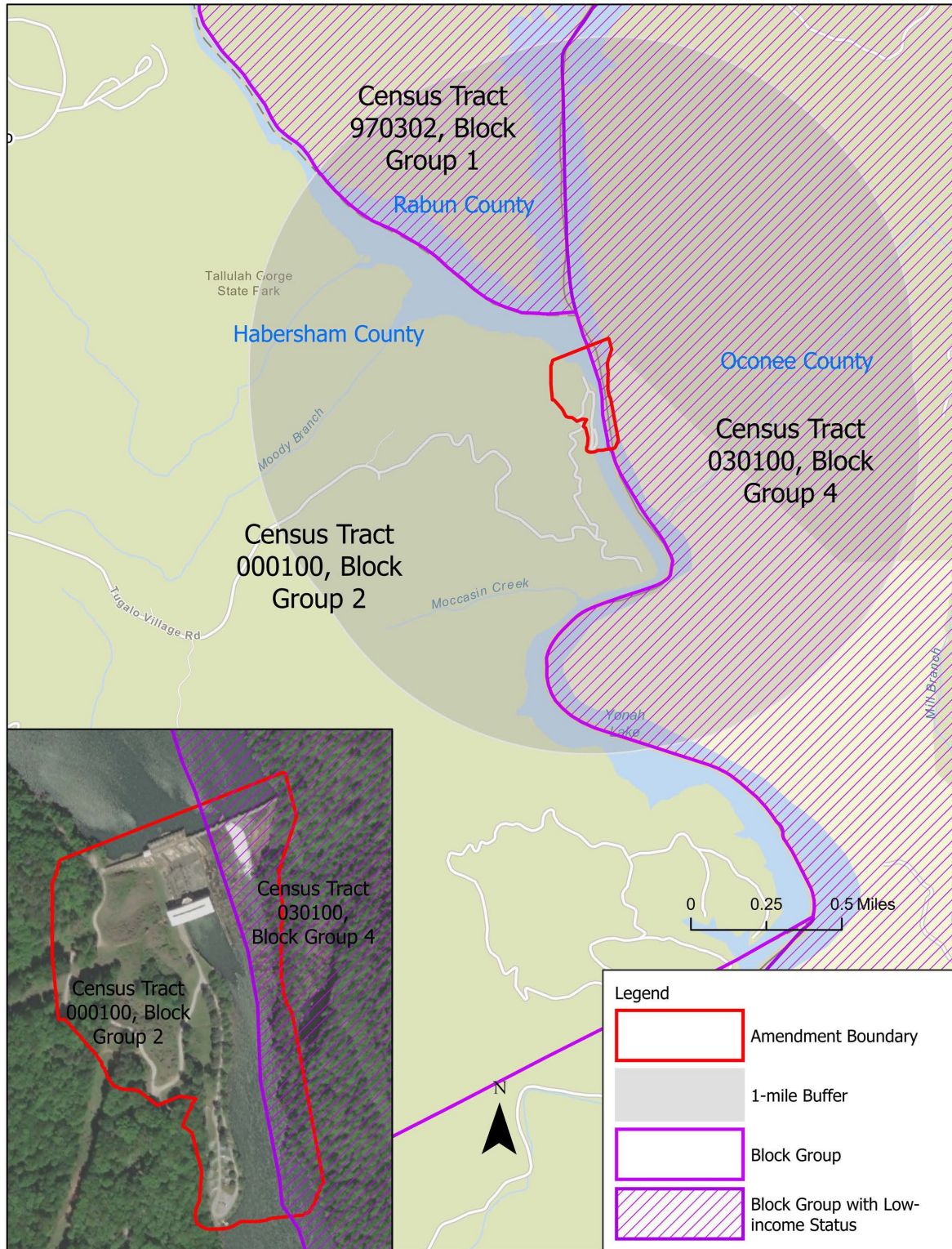


Figure 2. Block Groups within 1 mile of the amendment boundary (Source: Staff)

ENVIRONMENTAL EFFECTS

As described in section 3.2 *PROPOSED ACTION*, the licensee notes that the proposed upgrades would not change project operations, the existing project boundary, nor the approved Recreation Plan. The licensee would operate the Tugalo powerhouse with no change to existing lake levels at Lake Tugalo. The upgrade activities would occur in the powerhouse or on nearby project works, and do not require any ground disturbance or cutting of trees.

No entity provided comments or recommendations regarding the effects of the proposed amendment on environmental justice communities in response to the Commission's public notice. The licensee proposes no changes to project operation that would adversely affect environmental resources, including water quality/quantity, fisheries, and soils. In order to mitigate the direct adverse effect to historic properties, the Commission executed the South Carolina SHPO, and the Georgia SHPO. There are no indirect effects to cultural resources or historic properties.

Within the two identified block groups, there are no residences located within 1-mile of the project site. The nearest residence is approximately 1.5 miles from the project site. The licensee proposes to access the project site via the access road at the end of Tugalo Village Road on Georgia Power property, and all material and equipment would be unloaded in the parking area at the Tugalo Dam. The access road is not located within the two identified environmental justice block groups. Given the location of the residences from the proposed construction site and access road, Commission staff has determined that the replacement of units in the powerhouse and the replacement of spillway gates and trash racks would not substantially affect noise, visual resources, or traffic within the environmental justice communities. In consideration of the included census data, and the limited scope of the proposed project amendment, Commission staff conclude that this amendment would result in no direct effects to minor direct effects, and no indirect effects on environmental justice communities and thus, effects to environmental justice communities would not be significant nor disproportionately high and adverse.

5.3 NO-ACTION ALTERNATIVE

Under the no-action alternative, the Commission would deny the licensee's non-capacity amendment application to upgrade and rehabilitate the four project turbines in the Tugalo powerhouse, rewind and refurbish the generators, and replace the control room panels, intake trash racks and spillway gates. As a result, the Commission would not authorize the licensee to increase the generating capacity at the project. The licensee states that the equipment has reached the end of its useful life. The licensee explains that the equipment needs to be replaced and refurbished to carry out statutory and license

obligations, which are essential for continued safe and efficient operation of the Tugalo Development.²⁹

If the licensee does not upgrade and replace the equipment, they would continue to operate the project without any changes. However, given the age of the equipment, if the licensee does not conduct the proposed work, the project could be at risk of non-operability and prevent the safe operation of the project within the license requirements. In addition, not replacing the spillway gates could cause dam safety risks in the future. Therefore, staff does not recommend the no-action alternative.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Under the proposed amendment, the licensee would replace and upgrade four generating units in the Tugalo powerhouse, increase the installed capacity from 45 MW to 64 MW, decrease the maximum hydraulic capacity from 6,840 cfs to 6,000 cfs, and replace the spillway gates and trash racks. The proposed upgrades are not expected to have any effect on current flows, and lake levels. No additional adverse direct or indirect effects to geology and soils, water quantity/quality, fisheries, terrestrial resources, threatened and endangered species, recreation, and environmental justice are anticipated under the proposed amendment during construction, operation, and maintenance of the project.

In accordance with section 106 of the NHPA, the licensee consulted with the Georgia and South Carolina SHPOs and Native American Tribes to determine the effects on cultural resources due to the proposed amendment. In reviewing the licensee's amendment proposal, Commission staff determined it would adversely affect cultural resources with the project's APE due to its direct, adverse effect to the Tugalo Development, which is a contributing element to the National Register-eligible North Georgia Project, is within the APE. Commission staff, therefore, executed a MOA with the Commission and the Georgia and South Carolina SHPOs to mitigate the adverse effects to historic properties. Commission staff recommend incorporating the MOA developed between the Commission and the Georgia and South Carolina SHPOs, with the licensee as a concurring party, into any amendment order for the North Georgia Project to mitigate the adverse effects to historic properties. However, there are no indirect effects to cultural resources or historic properties. No cumulative effects were identified for any resource area as a result of this proposed action.

²⁹ See 16 U.S.C. § 803(c) (requiring the licensee to maintain the project works in a condition of repair adequate for the purposes of navigation and for the efficient operation of said works in the development and transmission of power and make all necessary renewals and replacements).

7.0 FINDING OF NO SIGNIFICANT IMPACT

The proposed amendment of license for the North Georgia Project to replace and upgrade four generating units in the Tugalo powerhouse and replace the spillway gates and trashracks would produce more energy on a yearly basis than the current units. On the basis of our independent analysis, we find that the proposed license amendment would not constitute a major federal action significantly affecting the quality of the human environment.

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