

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426
December 23, 2021

OFFICE OF ENERGY PROJECTS

Project No. 2628-066 – Alabama
R.L. Harris Hydroelectric Project
Alabama Power Company

VIA FERC Service

Angie Anderegg
Harris Relicensing Project Manager
Alabama Power Company
600 North 18th Street, P.O. Box 2641
Birmingham, AL 35203-8180

Reference: License Application Deficiencies and Additional Information Request

Dear Ms. Anderegg:

Alabama Power Company's (Alabama Power) license application for a new license for the R.L. Harris Hydroelectric Project No. 2628, filed on November 23, 2021, does not conform to the requirements of the Commission's regulations. A list of deficiencies is attached in Schedule A. Under section 16.9(b)(2) of the regulations, Alabama Power has 90 days from the date of this letter to correct the deficiencies in the application.

In addition, requests for additional information made pursuant to section 4.32(g) of the Commission's regulations are attached as Schedule B. This information is also due within 90 days from the date of this letter. If the correction of any deficiency or requested information causes another part of the application to be inaccurate, that part must be revised and refiled by the due date. Also, please be aware that further requests for additional information may be sent to Alabama Power at any time before the Commission takes final action on the application.

Within 5 days of receipt, provide a copy of this letter to all agencies and Indian tribes you will consult in preparing the response to this deficiency and additional information request. Then, when Alabama Power files the requested information with the Commission, it must provide a complete copy of the information to each agency and Indian tribe consulted under section 16.8 of the regulations.

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The Commission strongly encourages electronic filing. Please file the requested information using the Commission's eFiling system at <http://www.ferc.gov/docs-filing/efiling.asp>. For assistance, please contact FERC Online Support at ferconlinesupport@ferc.gov, (866) 208-3676 (toll free), or (202) 502-8659 (TTY). In lieu of electronic filing, you may submit a paper copy. Submissions sent via the U.S. Postal Service must be addressed to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 888 First Street NE, Room 1A, Washington, DC 20426. Submissions sent via any other carrier must be addressed to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 12225 Wilkins Avenue, Rockville, Maryland 20852. The first page of any filing should include the docket number P-2628-066.

Please contact Sarah Salazar at (202) 502-6863, or via email at sarah.salazar@ferc.gov if you have any questions.

Sincerely,

Allan E. Creamer

for

Stephen Bowler, Chief
South Branch
Division of Hydropower Licensing

Enclosure: Schedule A
Schedule B

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DEFICIENCIES

Initial Statement

1. Section 5.18(a)(2)(v) of the Commission's regulations requires that the license application identify all Indian tribes that may be affected by the project. Section (2)(v) of the Initial Statement provides a list of tribes that were contacted and invited to participate, including the Alabama-Coushatta Tribe of Texas, Alabama-Quassarte Tribal Town, Cherokee Nation, Jena Band of Choctaw Indians, Kialegee Tribal Town, Mississippi Band of Choctaw Indians, Chickasaw Nation, Choctaw Nation of Oklahoma, Coushatta Tribe of Louisiana, Muscogee (Creek) Nation of Oklahoma, Poarch Band of Creek Indians, Seminole Nation of Oklahoma, Seminole Tribe of Florida, United Keetowah Band of Cherokee Indians, and Thlopthlocco Tribal Town. While the list does not include any representatives from the Eastern Band of Cherokee Indians, whose ancestral lands include Jackson County, several representatives from this tribe are included in Alabama Power's mailing list in the license application. Please confirm whether the Eastern Band of Cherokee Indians was contacted and invited to participate in the relicensing process.

Exhibit D

2. Section 4.51(e)(2) of the Commission's regulations requires that Exhibit D include an estimate of the amount which would be payable if the project were to be taken over pursuant to section 14 of the Federal Power Act upon expiration of the license in effect [see 16 U.S.C. 807], including: (i) fair value; (ii) net investment; and (iii) severance damages. Exhibit D of the license application provides an amount for the net investment but does not include amounts for the fair value or severance damages. As noted on pages D-3 through D-5 in Exhibit D of the license application, it is understood that those amounts could change based on many factors and would need to be recalculated if project takeover is proposed in the future. However, estimates for the fair value and severance damages are required to be filed with the license application. To address this deficiency, file an estimate for the fair value and severance damages.

3. Section 4.51(e)(8) of the Commission's regulations requires the on-peak and off-peak values of project power, and the basis for estimating the values, for projects that are proposed to operate in a mode other than run-of-river. Page D-15 in Exhibit D of the license application states that "*For Alabama Power, hydropower is sold under retail rates set by the [Alabama Public Service Commission].*" This appears to be the basis for

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estimating the on-peak and off-peak values of project power, but the current values were not provided. To address this deficiency, file the on-peak and off-peak values of project power.

4. Section 4.51(e)(9) of the Commission's regulations requires that Exhibit D include the estimated average annual increase or decrease in project generation, and the estimated average annual increase or decrease of the value of project power, due to a change in project operations (i.e., minimum bypass flows; limits on reservoir fluctuations). Page D-16 in Exhibit D of the license application provides an estimated average annual decrease in the value of project power. Exhibit D does not include an estimated average annual increase or decrease in project generation with the proposed minimum flow unit. To address this deficiency, file the estimated average annual increase or decrease in project generation with the minimum flow unit.

Exhibit G

5. Section 4.41(h) of the Commission's regulations requires an Exhibit G map that identifies, by legal subdivision, lands owned in fee by the applicant, lands that the applicant plans to acquire in fee, and lands over which the applicant has acquired or plans to acquire rights by other than fee title, including rights acquired or to be acquired by easement or lease. The Exhibit G maps indicate that the licensee has acquired all land rights necessary to operate the project; however, the maps do not identify lands within the project boundary by legal subdivision. To address this deficiency, file revised Exhibit G maps that identify land within the project boundary by legal subdivision.

In addition, in updating the Exhibit G maps please use shading to distinguish lands owned by Alabama Power and, grouped by ownership category, lands owned by local municipalities, the State of Alabama, the federal government, and private interests. Please also provide a table on a revised Exhibit G Map 1 listing the existing and proposed acreages of any lands owned by Alabama Power, local municipalities, and private interests by group, as well as, that of lands of the State of Alabama and the federal government by managing agency. (The table of federal lands on Exhibit G Map 9 is sufficient.)

6. Section 4.41(h)(1) requires that Exhibit G maps show the location of the project as a whole with reference to the affected stream or other body of water and, if possible, to a nearby town or any other permanent monuments or objects, such as roads,

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transmission lines or other structures, that can be noted on the map and recognized in the field. The map must also show the relative locations and physical interrelationships of the principal project works and other features described under paragraph (b) of this section (Exhibit A).

The Exhibit G maps filed with the license application show the project boundary and the extent of Harris Lake at full pool (i.e., 793 feet mean seal level (msl)). However, the Exhibit G maps do not identify the affected streams, water bodies, transmission lines, or any other principal project works and features. Please identify and label the affected streams, Harris Lake, Harris Dam, the project transmission lines, and the other existing principal project works and features that can be labeled at the current map scale.

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ADDITIONAL INFORMATION

General Information

1. It appears that there may be duplicate copies of most of the final license application files on the Commission's e-library system under the Harris Project docket. For example, there are two Public versions of the cover letter, Initial Statement, Exhibits A, B, C, D, E, G, H, associated appendices, final study reports, proposed plans, and documentation of consultation. There also appear to be two versions of all the license application files classified as CEII and Privileged on the Commission's e-library system. So that Commission staff and other stakeholders are aware of all of the information filed, please confirm whether duplicate copies of the license application files were submitted or provide a list of the differences between the copies/versions of these files.

Exhibit E

Aquatic Resources

2. Page B-14 in Exhibit B, section 3.1.4 of the license application states that the minimum hydraulic capacity of each of the two existing units is approximately 6,500 cubic feet per second (cfs). According to Exhibit E, section 4.1.1.1, the current 45 cfs minimum flow is met by releases from the dam and intervening inflow between the dam and the Wadley gage such that a total continuous minimum flow of 45 cfs is maintained as measured at the Wadley gage. So Commission staff can fully understand how the existing minimum flow release from the dam is provided, please identify: (1) the specific structure that provides the flow release (e.g., spillway gate, sluice gate, etc.); (2) the elevation from which the minimum flow is discharged from the lake; and (3) the average flow (in cfs) released at the dam such that the Wadley gage flow is at least 45 cfs.

3. Exhibit E, section 9.2.2.3 states "*However, the same volume of water with the same intake velocity would continue to be passed under the proposed continuous minimum flow operations as compared to Green Plan (baseline) operations; some of the water that would have otherwise been passed through the existing turbines during peak generation or during Green Plan (baseline) pulses would now be passed through the minimum flow turbine. Therefore, Alabama Power's proposed continuous minimum flow would have no effect on fish entrainment at Lake Harris compared to baseline.*" If

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the continuous minimum flow of 300 cfs is proposed to be provided through the Unit 1 penstock and the proposed minimum flow unit, but Unit 1 is not operating such that the total penstock flow is 300 cfs, the potential for entrainment would be different than for a discharge of 6,500 cfs through Unit 1 (or a combination of Unit 1 and the minimum flow turbine). Also, section 9.2.2.3 states *“Turbine-induced mortality is largely dependent on turbine characteristics such as turbine speed, and number of blades. Therefore, any assessment of potential changes in turbine-induced mortality would have to be performed after design specifications of any minimum flow unit are finalized. Alabama Power provided minimum flow unit dimensions in Exhibit A, as available, based on preliminary design.”* Therefore, based on the preliminary design assumptions provided in Exhibit A, please provide an evaluation of the potential for turbine mortality through the minimum flow unit, particularly when Unit 1 is not operating.

4. Commission staff’s Comment No. 16 on the Preliminary Licensing Proposal (PLP) requested elaboration on how the 150-cfs continuous minimum flow scenario was created by amending the “Pre-Green Plan” scenario such that no hourly interval had less than a 150 cfs discharge from Harris Dam. The response on page 21 of the license application indicates that the HEC-RAS upstream hydrograph was revised to increase the inflows less than 150 cfs to 150 cfs. This is acceptable if there are relatively few “Pre-Green Plan” hydrograph ordinates less than 150 cfs. So that Commission staff can evaluate this scenario, please compare the total acre-feet in the upstream HEC-RAS inflow hydrographs for the Green Plan (baseline), “150 Continuous Minimum Flow” and “300 Continuous Minimum Flow” alternatives. If the difference in acre-feet is significant (i.e., more than 4 percent), please revise the HEC-ResSim release rules accordingly, and re-run the “150 Continuous Minimum Flow” and “300 Continuous Minimum Flow” HEC-RAS models, as this difference in the total volume of inflow could affect the results for the recreation (i.e., boatable days), drought operations, and downstream temperature fluctuation simulations.

5. In response to staff’s PLP Comment No. 18, page 23 of the license application includes a flow duration curve comparing discharges from Harris Dam for the “Pre-Green Plan,” “Green Plan,” and “Continuous 150 cfs Plan.” It appears that the Continuous 150 cfs Plan was abandoned in favor of the Continuous 300 cfs Plan. If this is the case, please update the chart to include the Continuous 300 cfs Plan. Also, please update the Continuous 150 cfs Plan.

6. Page A-7 in Exhibit A, section 4.2.1 of the license application describes the minimum flow turbine proposed to be installed at the project and provides all of the

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requested information except the blade spacing and the peripheral runner velocity. According to the information provided, and Commission staff's initial calculations, the blade spacing around the periphery would be approximately 9.6 inches, and the peripheral runner velocity is approximately 72 feet per second. Please confirm that these values are correct or provide the correct values.

7. The values for the effects of potential changes to the operating curve and alternative downstream releases on generation across the entire Alabama Power fleet, and generation and revenue specific to Harris Dam were clarified and revised at two places in the license application, (i.e., Page 56, table 4-1 in the Draft Operating Curve Change (Phase 2) Study Report and pages 20 and 21, figures 3-11 through 3-14 in the Draft Downstream Release Alternatives (Phase 2) Study Report). In addition to the revisions in the license application, please make similar revisions to provide the effect on generation and revenue of the potential changes/alternatives presented in:

- a. Table 4-1 in the Final Operating Curve Change (Phase 2) Study Report [i.e., In the left "Resource" column, revise the top 4 cells to read "*Change in Hydro Generation (Revenue)*", "*Change in Hydro Generation (Megawatt Hours)*", etc. Also, add a brief explanation of how more generation results in less revenue (e.g. more generation, but less peak), etc.]
- b. Figures 3-11 through 3-14 in the Final Downstream Release Alternatives (Phase 2) Study Report [i.e., Revise the titles to read "*Change in Average Annual Generation (Revenue) for Harris Dam (Alabama Power's Hydro System) Based on HydroBudget Model of Downstream Release Alternatives.*"]

8. In the HEC-RAS model files provided with the PLP and license application filings, there is a "MartinHarris.p01.hdf" file, but no corresponding ".p01" file or ".O01" file. For staff to perform accurate model runs, please provide clarification as to whether these files are missing, or if there was a .p01 model run that was created and subsequently deleted. Also, several of the HEC-RAS model runs between .p61 and .p69 appear to run to completion, but in fact generate an error message. Please investigate these occurrences and provide the missing and/or updated HEC-RAS files as appropriate.

9. On August 16, 2021, Alabama Power filed Excel files with "corrected" data (under filename: 20210816-5246_Corrected Tallapoosa River Temp Data 2000-2018), which include extremely high temperatures (e.g., a maximum of the corrected 2015

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Wadley data was 42.27°C [108°F] on August 25, 2015 at 12:00). At the Wadley location in 2015, there were 1,807 corrected data points over 25°C (77 °F). These temperatures seem unrealistic.

Historic temperature data from 2000 through 2018 are discussed in the January 2021 Final Report: Using Bioenergetics to Address the Effects of Temperature and Flow on Fishes in the Harris Dam and Tailrace (included as Appendix D of the Aquatic Resources Study Report, revised November 2021). It is unclear if correct or incorrect data were used in the model. To assist Commission staff's evaluation of historic water temperatures and simulated temperatures, please provide an explanation for these apparently unrealistic temperatures and explain whether any revisions to previous filings are needed. Please provide any corrected data sets for historic and simulated temperatures as appropriate.

Exhibit G

10. It is not clear if the project boundary shown on the Exhibit G maps represents the existing or proposed project boundary. Please clarify whether the Exhibit G maps filed with the license application show the existing or the proposed project boundary.