155 FERC ¶ 61,080
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Norman C. Bay, Chairman;
Cheryl A. LaFleur, Tony Clark,
and Colette D. Honorable.

Alabama Power Company Project No. 2146-141

ORDER ON REHEARING AND CLARIFICATION AND DISMISSING REQUEST FOR STAY

(Issued April 21, 2016)

1. On June 20, 2013, the Commission issued a single new license to Alabama Power Company (Alabama Power) [1] under sections 4(e) and 15 of the Federal Power Act (FPA)[2] for the continued operation and maintenance of three projects that were previously licensed separately: the Coosa Project No. 2146, which includes the Weiss, H. Neely Henry, Logan Martin, Lay, and Bouldin developments; the Mitchell Dam Project No. 82; and the Jordan Dam Project No. 618. The newly-licensed Coosa River Project No. 2146 (Coosa River Project) is located on the Coosa River in Cherokee, Etowah, Calhoun, St. Clair, Talladega, Shelby, Coosa, Chilton, and Elmore Counties, Alabama, and Floyd County, Georgia. Timely requests for rehearing were filed by Alabama Power; Alabama Rivers Alliance and American Rivers, jointly (Conservation Groups); Georgia Environmental Protection Division (Georgia EPD); and the Atlanta Regional Commission.[3] Alabama Power also requested a stay of certain license articles. For the reasons discussed below, we grant rehearing in part, dismiss as moot Alabama Power's stay request, and provide clarification.

[1] *Alabama Power Co.*, 143 FERC ¶ 61,249 (2013) (June 20 Order).

[2] 16 U.S.C §§ 797(e) and 808 (2012).

[3] The Atlanta Regional Commission adopts and incorporates by reference Georgia EPD's request for rehearing. References in this order to Georgia EPD's request for rehearing include the Atlanta Regional Commission's rehearing request.

Background

2. The Coosa River Basin drainage encompasses about 10,161 square miles in Alabama, Georgia, and Tennessee. The Coosa River begins at the confluence of the Oostanaula and Etowah rivers near Rome, Georgia, and flows 267 miles in a southerly direction to its confluence with the Tallapoosa River. The confluence of the Tallapoosa and Coosa Rivers is located about 18 miles downstream of the Jordan Dam, where they meet to form the Alabama River.[4]

3. The Coosa River is highly regulated, with flows controlled by nine hydropower and storage developments operated by Alabama Power and the U.S. Army Corps of Engineers (Corps). The Corps has congressionally mandated authority to determine flows for navigation on the Coosa River.[5]

4. Farthest upstream on the Coosa River are two Corps developments, Carters and Allatoona. The Coosa River Project, located downstream of the Corps projects, includes seven developments along a 200-mile-long segment of the Coosa River.[6] From upstream to downstream the developments are: Weiss, Neely Henry, Logan Martin, Lay, Mitchell, Bouldin and Jordan.

5. A project canal carries water from the 52-mile-long Weiss reservoir to Weiss powerhouse, located about 19 miles downstream of Weiss dam. Discharges from the Weiss powerhouse flow through a 1,300-foot-long tailrace canal and re-enter the Coosa River about 20 river miles downstream from the dam, creating the project's only bypassed reach. Flows from the Weiss tailrace and bypassed reach enter the upper reaches of the 78-mile-long Neely Henry reservoir. Flows from the Neely Henry tailrace enter the upper reaches of the 48.5-mile-long Logan Martin reservoir, and then pass through the 48-mile-long Lay reservoir and the 14-mile-long Mitchell reservoir. Flows from the Mitchell tailrace enter the upper reaches of the 18-mile-long Jordan reservoir.

[4] In addition to the seven developments in this license, Alabama Power operates four more hydropower developments in the Alabama-Coosa-Tallapoosa River Basin, all located on the Tallapoosa River. The projects are the R.L. Harris Hydroelectric Project No. 2628, the Martin Dam Project No. 349, and the Yates and Thurlow Project No. 2407.

[5] Public Law 83-436 states that any license issued by the Commission must include provisions for flood control and navigation, and the project must be operated for flood control and navigation in accordance with reasonable rules and regulations of the Secretary of the Army. *See* June 20 Order, 143 FERC ¶ 61,249 at P 12.

[6] A detailed description and history of the Coosa River Project is set forth in the June 20 Order, 143 FERC ¶ 61,249 at PP 2-49.

6. The Bouldin development dam, reservoir, and powerhouse are at the end of a 3-mile-long man-made canal whose intake is located along the shore of Jordan reservoir about 1 mile upstream of Jordan dam. Flows from Bouldin powerhouse enter a 5-mile-long tailrace canal that discharges into the Coosa River downstream of Jordan dam near the confluence of the Tallapoosa and Coosa Rivers.

7. The Weiss, Neely Henry, and Logan Martin developments provide seasonal storage for flood control and power during peak load periods. They typically generate power 1 to 6 hours per day Monday through Friday, with daily pool level changes within certain ranges. The Lay, Mitchell, Jordan, and Bouldin developments are operated run-of-river, with daily pool level changes of one foot or less.[7]

8. In the 1960s, Alabama Power and the Corps developed Memoranda of Understanding to clarify the responsibilities of each entity with regard to operating their developments for flood control and other purposes. The Corps subsequently developed Reservoir Regulation Manuals (Reservoir Manuals) for the Weiss, Neely Henry, and Logan Martin developments in June 2004, January 1979, and June 2004, respectively.

9. Although the licenses for the projects did not quantify a navigation flow, they required Alabama Power to provide flows to support navigation, as specified by the Corps.[8] Alabama Power has operated its Jordan and Bouldin developments on the Coosa River and the Thurlow development of its Yates and Thurlow Project No. 2407 on the Tallapoosa River to meet a continuous minimum 7-day average flow of 4,640 cubic feet per second (cfs) as measured at Montgomery, Alabama (downstream of Thurlow Lake and Jordan/Bouldin Lake). This navigation flow was based on a 1972 agreement (1972 agreement) between Alabama Power and the Corps.[9]

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[7] Weiss, Neely Henry, Logan, Martin, Lay and Bouldin were originally licensed in 1957. *See* 18 FPC 257 (1957). Mitchell and Jordan were originally licensed in the 1920s and relicensed in 1975 and 1980, respectively. *See Alabama Power Company,* 54 FPC 2452 (1975) and *Alabama Power Company,* 13 FERC ¶ 62,082 (1980).

[8] Standard Article 12 of the Mitchell and Jordan licenses and standard Article 18 of the Coosa Project license provided for navigation flows, as might be prescribed by the Corps in the interest of navigation.

[9] Although the 1972 agreement specified that this target flow be provided by the combined releases from the developments on the Coosa and Tallapoosa rivers, it did not identify a specific navigation release for the Coosa Project, and, correspondingly, the license for the Coosa Project did not specify a navigation release. In January 1980, Alabama Power agreed to provide at least 2,667 cfs during any consecutive 3-day period

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10. In July 2005, Alabama Power filed its relicense application, proposing to consolidate the three projects under one license. In its application, Alabama Power proposed raising the winter pool levels at the Weiss, Neely Henry, and Logan Martin developments; continuing to operate the Lay, Mitchell, Jordan, and Bouldin developments in a run-of-river mode; and providing navigation flow releases from the Jordan development as established in its 1972 agreement with the Corps. Alabama Power also proposed environmental measures to protect and enhance water quality, fish and wildlife, recreation, and cultural resources.

11. On July 1, 2005, Alabama Department of Environmental Management (Alabama DEM) issued water quality certification for the seven developments of the Coosa River Project, pursuant to section 401 of the Clean Water Act (CWA).[10] The certification contains conditions for each development.

12. On April 6, 2009, staff issued a draft environmental assessment (draft EA) for the Coosa River Project pursuant to the National Environmental Policy Act (NEPA).[11] The draft EA analyzed potential environmental impacts to aquatic resources, terrestrial resources, threatened and endangered species, recreation, land use and aesthetics, cultural resources, and cumulative impacts. On December 31, 2009, staff issued a final environmental assessment (EA). The EA addressed comments received on the draft EA from, among others, Georgia EPD, Alabama Rivers Alliance, and American Rivers. The EA concluded that continued operation of the Coosa River Project, with the mandatory conditions and licensee- and staff-recommended enhancement measures, would not constitute a major federal action significantly affecting the environment, and that therefore no environmental impact statement (EIS) was required.

13. As pertinent here, there are existing populations of eight aquatic species within the Coosa River Project area that are listed as threatened or endangered under the Endangered Species Act (ESA):[12] one fish, the threatened blue shiner; two mussels: the endangered southern clubshell and the threatened finelined pocketbook; and five snails: the endangered interrupted rocksnail, rough hornsnail, tulotoma snail,[13] and cylindrical lioplax, and the threatened painted rocksnail. There are also 12 designated

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to eliminate time periods of little or no flow and more evenly distribute the required 7-day flow.

[10] 33 U.S.C. § 1341(a)(1) (2012).

[11] 42 U.S.C. §§ 4332 *et seq*. (2012).

[12] 16 U.S.C. § 1536 (2012).

[13] On June 2, 2011, FWS published a final rule reclassifying the tulotoma snail as threatened under ESA. *See* 76 *Fed. Reg.* 31,866-874.

critical habitat units in the project area, some of which are in the Weiss bypassed reach and the Jordan tailrace.[14]

14. On January 15, 2010, Commission staff sent to the U.S. Fish and Wildlife Service (FWS) a Biological Assessment[15] that it prepared pursuant to section 7 of the ESA. On January 24, 2011, Alabama Power filed additional information regarding some listed mussel species,[16] and on November 4, 2011, staff issued a revised Biological Assessment, which it sent to FWS the same day, and requested formal consultation on certain of the listed species.

15. On June 10, 2012, FWS filed its Biological Opinion, which concluded that relicensing the project as proposed with staff's additional recommended environmental measures, is not likely to jeopardize the continued existence of any of the species, nor is it likely to destroy or adversely modify any critical habitat.[17] The document included an incidental take statement with 11 reasonable and prudent measures to minimize take of mussels, snails, blue shiner fish, and the red-cockaded woodpecker, along with 16 incidental take terms and conditions to implement the measures.

16. On June 20, 2013, the Commission issued Alabama Power a new 30-year license for the continued operation and maintenance of the Coosa River Project No. 2146 (June 20 Order or license order). The order included, among other things, the mandatory conditions of the water quality certification and the FWS' incidental take terms and conditions.

17. As pertinent here, the license requires Alabama Power to: (1) implement aeration measures to achieve a minimum dissolved oxygen (DO) level of 4.0 milligrams/liter (mg/L) at each development; (2) implement the Coosa River portion of the *Alabama-ACT Drought Response Operations Proposal* (ADROP) to manage the project reservoirs during drought conditions; (3) develop and implement an adaptive management plan for the Weiss bypassed reach, with the goal of providing flows that mimic a natural riverine flow regime in order to restore and enhance the abundance and diversity of riverine

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[14] In addition to critical habitat for the finelined pocketbook and southern clubshell mussels, which are found in the project area, there is designated critical habitat for listed mussels, which are not present in the project area. *See* June 20 Order for more detail, 143 FERC ¶ 61,249 at PP 79-81.

[15] The EA served as staff's Biological Assessment.

[16] *See* Alabama Power's January 24, 2011 addendum to the draft Biological Assessment it had submitted with its relicense application.

[17] *See* FWS June 10, 2012 filing at 89-90.

aquatic biota (e.g., fish, mussels, snails); (4) develop and implement an adaptive management plan for the Logan Martin tailrace to enhance DO during non-generation periods, with the goal of ensuring the survival of listed mussels (and their hosts), snails, and fishes; and (5) conduct mussel, snail, and fish surveys to ensure no further decline in threatened and endangered mussels and snails.

18. On July 18, 2013, Conservation Groups timely filed a request for rehearing of the June 20 Order, alleging that the DO standard required by the license is inadequate and the EA and license order violate the FPA, NEPA, and the Administrative Procedure Act (APA). On July 22, 2013, Alabama Power timely filed a request for rehearing, arguing that the Commission erred in its interpretation of the water quality certification's DO requirement, and objecting to a number of license requirements.[18] On July 22, 2013, Georgia EPD timely filed a request for rehearing, alleging errors in Commission staff's NEPA analysis.

Discussion

A. Dissolved Oxygen

19. Dissolved oxygen is a basic requirement of all aquatic animals, and many of the aquatic species found in the project area and listed as threatened or endangered under ESA require well-oxygenated, flowing water.[19] During the summer, water in the reservoirs tends to stratify, or separate into two layers: a warm surface layer that is relatively rich in DO and a colder bottom layer where DO levels are low because DO is gradually consumed by decomposing organic material. Within the tailraces, DO is primarily influenced by the depth at which water is withdrawn from the reservoir for generation.

20. Normally, DO levels are not an issue in winter and spring months. During these months, when streamflows are typically at their highest point, DO levels tend to stay at acceptable levels in the reservoirs and the mainstem of the Coosa River. It is only during the warmer summer and early fall months when low DO in the project tailraces can be a

[18] Alabama Power also asked for a stay of license Articles 407, 408, and 417. On November 27, 2013, Commission staff extended the deadlines for filing the plans required by these articles, until further order of the Commission. *Alabama Power Company*, 145 FERC ¶ 62,154 (2013). The company's request for stay is therefore moot and is dismissed.

[19] DO levels are dependent on nutrient levels, temperature, and the amount of aeration that takes place in the system. Temperature in the reservoirs is dictated by season and retention time, while temperature in the tailraces is dictated by depth at which water is withdrawn from the reservoir for hydropower generation.

problem. That is when streamflows begin to decline, and large portions of tributary flows are captured and held in the reservoirs to maintain desired elevations. Stratification also occurs at the Coosa River Project reservoirs on an annual basis in the warmer months, with DO levels often dropping to less than 4.0 mg/L at deeper depths. The release of these low DO waters through the project powerhouses (and through seepage from Logan Martin dam) can affect aquatic resources downstream of the dams by reducing DO in the tailwaters. Because the project's intakes draw water from the deeper portions of their respective impoundments, the state water quality standard of no less than 4.0 mg/L is not met in the project's tailraces from 20 percent to less than 1 percent of the time during these warmer months, depending on the development.[20]

21. Natural aeration (mixing with surface releases) or artificial or mechanical aeration (e.g., turbine vents) can be used to raise DO levels in project discharges. To enhance water quality in the Coosa River and ensure compliance with state water quality standards, Alabama Power proposed on relicensing to implement DO enhancement measures (aeration systems) for the turbine discharges at the Weiss and Neely Henry developments, and to continue operating, or improving where necessary, the existing aeration systems at the Logan Martin, Lay, Mitchell, and Jordan developments. Specifically, Alabama Power proposed to maintain a minimum DO level of 4.0 mg/L in the discharges from the project's powerhouses (i.e., when the project is generating).

22. Conservation Groups argued that Alabama Power's proposal would not provide sufficient protection for aquatic species, especially those listed under ESA as threatened or endangered. They asserted that Alabama Power should be required to maintain a minimum DO level of 5.0 mg/L, not 4.0 mg/L, and that the DO level should be maintained below each dam at all times, whether the project was generating or not.

1. DO Standard in License Order

23. The June 20 Order included in the license the conditions in Alabama DEM's water quality certification.[21] The certification states in relevant part that:

> [Each] development, including the operation of the turbines, shall be managed such that no less than 4.0 mg/L of dissolved oxygen (D.O.) *shall be maintained at all times at the monitoring locations* prescribed herein. Management required to maintain the 4.0 mg/L dissolved oxygen criteria shall be implemented. [Emphasis added.]

[20] *See* EA at 85 and 86.

[21] *See* June 20 Order, 143 FERC ¶ 61,249 at Appendix A.

When including this requirement as a condition of the license, the Commission explained that it read the condition to mean "that Alabama Power must maintain no less than 4.0 mg/L of DO *at all times*, including during periods of non-generation."[22]

24. The June 20 Order did not adopt Conservation Groups' recommendation that the minimum DO level should be 5.0 mg/L, noting that the groups did not provide definitive data showing that 5.0 mg/L would provide significantly greater protection than the state standard of 4.0 mg/L. The order explained that, while not all of the studies cited by Conservation Groups were considered by staff in preparing the EA, the studies were not new, and provided information similar to that which staff analyzed in preparing the EA.[23] While the Commission noted staff's concurrence that higher DO levels are generally more beneficial for aquatic biota, there was insufficient evidence to require a minimum DO level of 5.0 mg/L. The June 20 Order recognized that Alabama DEM considers its DO standard of 4.0 mg/L to be sufficiently protective of aquatic biota, including threatened and endangered species.[24]

25. On rehearing, Conservation Groups reiterate their argument that the Commission erred in not requiring Alabama Power to maintain a minimum DO level of 5.0 mg/L at all times at all developments. They assert that the Commission ignored findings of Alabama DEM, FWS, and other peer-reviewed scientific literature in not requiring Alabama Power to maintain a minimum DO level of 5.0 mg/L. However, the groups provide no new arguments or information that was not previously considered by Commission staff in the final EA or by the Commission in the June 20 Order. We accordingly deny rehearing on this issue.[25]

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[22] *See* June 20 Order, 143 FERC ¶ 61,249 at P 73, n.47.

[23] *Id.* PP 148-149.

[24] *Id.* P 150. The order also explained that the measures proposed by Alabama Power actually might result in DO levels greater than 5.0 mg/L in the developments' discharges. *Id.* P 151. Turbine aeration devices are commonly employed at other hydropower projects licensed by the Commission, and have been shown to improve DO levels in the receiving waters. For example, the existing turbine aeration measures used at the Jordan development result in DO levels in the Jordan tailwaters above the minimum state standard of 4.0 mg/L. Alabama Power reports filed February 4 and December 12, 2008, documenting the effects on DO of reducing flow downstream from the Jordan development, with the development's aeration system operating, show that Alabama Power maintained DO in the low-flow months at or above 5.0 mg/L. *Id.*

[25] Conservation Groups observe that Article 405 requires a 5.0-mg/L DO standard for recreational releases at Jordan dam, and question why a 5.0-mg/L DO standard is not also required for releases from the other project developments. Including a 5.0-mg/L DO

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26. Alabama Power argues that the Commission erred in requiring maintenance of a 4.0-mg/L DO standard during periods of non-generation. It asserts that the water quality certification for the Coosa River Project is clear on its face that Alabama Power is required to maintain the 4.0-mg/L DO standard only during periods of generation.[26] Alabama Power adds that this issue was resolved with respect to the Coosa River Project in 2006 as a result of Conservation Groups' appeal of the water quality certification for the Coosa River Project. It states that, as relevant here, one of the issues raised on appeal was whether Alabama's water quality standards required Alabama Power to operate the Coosa River Project to meet the state's DO standards during periods of generation as well as non-generation.[27] Alabama DEM's Environmental Management Commission (Alabama Commission), which hears administrative appeals of Alabama DEM actions, issued findings of facts and conclusions of laws with respect to the appeal, and found that the water quality certification

> …requires 4.0 mg/L to be maintained in discharges from existing hydroelectric generation impoundments, like those at issue here, only when the operator is discharging water (either to generate

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standard at Jordan dam was a mistake, as the correct standard is 4.0 mg/L. *See* EA at 155. We will modify Article 405 accordingly.

[26] Alabama Power also asserts that maintenance of the 4.0-mg/L DO standard only during periods of generation is consistent with the state's water quality regulations, which provide:

> for a diversified warm water biota, including game fish, dissolved oxygen concentrations shall not be less than 5 mg/L at all times…. In no event shall the dissolved oxygen level be less than 4 mg/L due to discharges from existing hydroelectric generation impoundments.

Alabama Power Request for Rehearing at 9 (citing to Ala. Admin. Code r. 335-6-11.02(6)). On rehearing, Conservation Groups cite to this same regulation to suggest that Alabama Power should meet a 5.0-mg/L DO standard during periods of generation, arguing that the 4.0-mg/L DO standard for existing hydropower developments is a "variance" that is "not based on protection of aquatic life, but rather accommodation of industry." Conservation Groups Request for Rehearing at 34. We decline to speculate why this regulation provides a separate DO standard for hydropower developments, but agree with Alabama Power that the regulation establishes a minimum DO level of 4.0 mg/L for existing hydroelectric facilities.

[27] Alabama Power Request for Rehearing at 10, and Attachment 1.

> electricity or through the spillway); *the limitation does not apply when water is not discharged*.[28] [Emphasis added].

27. Alabama Power is correct. The water quality certification for the Coosa River Project requires the company to meet a 4.0-mg/L DO standard only when the project is discharging, i.e., during periods of generation and in its minimum flow releases from the Weiss and Jordan developments.

28. However, that the project's water quality certification requires a minimum DO level of 4.0 mg/L when the project is discharging (i.e., through the turbines or over the spillway) does not necessarily limit our authority to require something more (e.g., maintenance of DO downstream of each development during non-generation, maintenance of a higher DO level during generation or non-generation). Therefore, we discuss below whether additional DO enhancement measures are warranted.

2. DO Data

29. In an effort to fully consider the issues raised on rehearing with respect to the appropriate minimum DO standard for the Coosa River Project, on November 27, 2013, staff issued an additional information request (AIR) to Alabama Power regarding DO levels downstream from each of the project's developments.[29] The AIR comprised six items: filing existing information on DO levels and DO enhancement measures at each development (Items 1 and 2); collecting DO data during generation and non-generation periods, if those data do not already exist (Item 3); and analyzing, with cost estimates, measures (physical and/or operational) that could be implemented at each development to maintain minimum DO levels of 4.0 mg/L or 5.0 mg/L at all times, i.e., whether generating or not (Items 4, 5 and 6). The AIR explained that, if Alabama Power did not have sufficient information on DO levels during periods of non-generation, it would have to comply with Item 3 and develop a plan and schedule for collecting the data.

30. Alabama Power filed DO data for the periods 1999 to 2001 and 2006 to 2013, and collected additional DO data during the low-flow, high-temperature period from July 1 through September 30, 2014.[30]

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[28] February 24, 2006 Alabama Commission Order at 38-39 (included as Attachment 1 to Alabama Power's Request for Rehearing).

[29] Commission staff letter to Alabama Power dated November 27, 2013 (Accession no. 20131127-3039).

[30] Alabama Power filing of October 31, 2014.

31. The data from 2006 to 2013 show little variability in DO levels from year to year at each development. The 2014 generation data are consistent with the DO trends in prior years (2006-2013), suggesting that the 2014 non-generation data are likely consistent with the historical non-generation trends at each development. When analyzed together, across all the Coosa River Project developments, the data from 2006 to 2014 show that during most years 75 percent or more of the hourly DO values are greater than 4.0 mg/L during generation. Mean daily DO levels during non-generation periods in 2014, however, were consistently lower than DO levels during generation at all developments, except the Weiss Development, where the opposite was the case.

32. Staff analyzed the 2014 DO data for each of the developments to determine how often DO levels dropped below 4.0 mg/L in the warmer months. When the project was generating, the percent of hourly observations where DO dropped below 4.0 mg/L was: 13.6 percent at Neely Henry, 10.2 percent at Weiss, 5.8 percent at Logan Martin, 1.2 percent at Mitchell, and zero percent at Lay, Bouldin, and Jordan.

33. During periods of non-generation, the percent of hourly observations where DO dropped below 4.0 mg/L was: 57.8 percent at Logan Martin, 50.4 percent at Lay, 37.1 percent at Neely Henry, 11.5 percent at Mitchell, less than 1 percent at Weiss, and zero percent at Bouldin and Jordan.

34. With regard to even higher DO levels, the percent of hourly observations where DO dropped below 5.0 mg/L when the project was generating was between 24 and 40 percent for all developments, except Jordan and Bouldin where DO almost always remained above 5.0 mg/L. During periods of non-generation, DO was below 5.0 mg/L over 70 percent of the time at all the developments, except Weiss (8.9 percent) and Bouldin (0.1 percent).[31]

35. As to the extent and duration of extreme low-DO events when the project was not generating (i.e., DO below 3.0 and 2.0 mg/L), the percent of hourly observations where DO dropped to 3.0 mg/L or below was highest at Logan Martin (42.7 percent) and Neely Henry (10.7 percent), but less than 5 percent at the other developments. DO dropped below 2.0 mg/L 24.7 percent of the time at Logan Martin, but less than 2 percent of the time at the other developments.

3. Assessment of Appropriate DO Standard

36. As discussed above, Commission staff's analysis of the data indicate that during the summer months DO levels below Neely Henry, Logan Martin, Mitchell, and Lay reservoirs fall below 4.0 mg/L on a daily basis.

[31] Jordan operates with a minimum flow requirement, so there are no times when water is not flowing downstream from the dam.

37. These conditions could have negative implications for the aquatic organisms inhabiting the project's tailwaters (i.e., areas immediately downstream of the dams and powerhouses), especially less mobile species such as freshwater mussels and snails. Freshwater mussels, like fish, respond negatively to low DO levels, most notably with decreases in respiration and energy metabolism. Moreover, low DO can adversely affect behavior, growth, feeding, and reproduction in freshwater fish, some of which serve has a host species for mussels.

38. The U.S. Environmental Protection Agency (EPA) published recommendations for DO levels in its 1986 Quality Criteria for Water (also known as the "Gold Book"). This publication establishes DO criteria for warmwater systems that have become the benchmark for what is considered biologically necessary to protect freshwater aquatic life. As relevant here, EPA recommends a minimum of 4.0 mg/L to avoid acute mortality, which is the standard Alabama DEM has adopted for the discharge of an existing hydropower project.[32]

39. FWS, in its 2012 Biological Opinion for the Coosa River Project, recognizes the importance of the 4.0-mg/L DO standard as the minimum protection needed for freshwater mussels and snails. The use of 4.0 mg/L as a minimum standard is also supported by Chen et al. (2001), who showed that mussels, including the Ohio pigtoe, exhibited a decrease in their ability to consume oxygen at DO levels less than 7.0 mg/L, with the sharpest decline at DO levels of 4.0 mg/L and below.

40. While the standard of 4.0 mg/L may not provide optimal conditions for aquatic life, it is the accepted value for the minimum DO needed to sustain aquatic life, which was the purpose of requiring a minimum DO level of 4.0 mg/L as the standard in Article 407.

41. On rehearing, to support a higher minimum DO level of 5.0 mg/L, Conservation Groups cite to two pieces of scientific literature: Rypel et al., 2009 and Peterson et al., 2011.[33] The Rypel paper addresses nine freshwater mussel species in the Sipsey River in Alabama, and the Peterson paper assesses impacts on mussels, without differentiating species of mussels, in the Apalachicola-Chattahoochee-Flint River Basin, the next watershed to the east of the Coosa River Basin in Georgia. Conservation Groups contend that the Coosa River Basin is sufficiently similar to the Apalachicola-Chattahoochee-Flint River Basin, and both basins have similar threats to mussel survival.

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[32] *See* U.S. Environmental Protection Agency 1986, *Quality Criteria for Water*, EPA 440/5-86-001, EPA, Office of Water Regulations and Standards, at pp. 253-63 (May 1, 1986).

[33] Conservation Groups Request for Rehearing at 102.

42. Neither the Rypel nor the Peterson paper specifically addresses the effects of DO on mussels. These papers thus do not assist in a determination of the appropriate minimum DO level for mussels and other aquatic life in the Coosa River.

43. Conservation Groups provide no new information that was not previously considered by Commission staff in the final EA or by the Commission in the June 20 Order. Absent evidence contrary to the June 20 Order's decision that a minimum DO level of 4.0 mg/L would provide sufficient protection for aquatic resources at the project, we do not consider it reasonable to require Alabama Power to maintain a higher minimum DO level (e.g., 5.0 mg/L) at this time.

4. Assessment of Need for Minimum DO Levels During Generating and Non-Generating Periods

44. In the November 27, 2013 AIR, Commission staff requested additional information from Alabama Power to address the feasibility of improving DO conditions during generation and non-generation periods. Among other things (i.e., information on existing DO enhancement measures installed at the project, existing DO data, and additional DO monitoring), staff requested that Alabama Power file a Dissolved Oxygen Enhancement and Operation Modeling report for the Coosa River Project (DO Enhancement Report). The purpose of the report was, in part, for Alabama Power to identify and evaluate the effectiveness of potential enhancement measures to improve DO conditions in each of the Coosa River Project tailraces at all times. The measures Alabama Power evaluated included: (1) continuous unit generation; (2) continuous flow from a spillway gate; (3) unit pulsing; (4) tailrace oxygen injection; (5) spillway releases with tailrace oxygen injection; and (6) pulsing with tailrace oxygen injection. The report was to provide the cost of implementing each of the measures.

45. In the DO Enhancement Report, Alabama Power concludes that meeting a DO standard of 4.0 or 5.0 mg/L "at all times" is not achievable with any of the six measures evaluated. The report found that measures 1 through 3, 5, and 6 could not be implemented because there is insufficient water in the system; measure 4 was deemed infeasible because the tailraces are too shallow for sufficient oxygen transfer. However, in the report, Alabama Power identified a cost-effective approach for improving DO at the project during generation by using forebay oxygen diffuser systems. Such systems use oxygen from a liquid oxygen storage facility, and pump it through diffuser lines placed at specific locations in a reservoir.

46. We have no reason to challenge the report's conclusions on the six measures that Commission staff identified in its request, and therefore, we accept Alabama Power's findings as they pertain to those six measures and do not consider them here further.

47. Reservoir/forebay oxygen diffuser systems have been proven effective in improving DO conditions while a hydropower project is generating. For example, Duke Energy Progress, Inc. installed and operates a reservoir oxygen diffuser system at its

Tillery development, which is part of the Yadkin-Pee Dee Project. This system, which was installed and tested in 2011, shows that, when Tillery is generating, DO is consistently at, or above, 5.0 mg/L downstream from Tillery dam, with DO periodically exceeding 6.0 mg/L.[34]

48. During periods of non-generation, additional measures beyond the forebay diffuser system may be necessary to attain a minimum DO level of 4.0 mg/L. Such measures could include: (1) increasing the amount of oxygen piped through the forebay diffuser system while the project is generating to increase the amount of oxygen in the water at the end of the generation cycle; (2) releasing a small amount of well-oxygenated flow through a gate on the dam during the non-generation period; and (3) cycling individual generating units and operating the forebay diffuser system while doing so. In addition, Conservation Groups identified other options for improving DO at the Coosa River Project during non-generating periods, including: (1) SDOX Technology;[35] (2) physical spillway modifications to produce higher aeration rates; and (3) installing aerating weirs downstream from the dams.

49. Alabama Power estimates that forebay oxygen diffuser systems can be designed, installed, and operated to provide a DO level of 4.0 mg/L during generation periods at each of the seven Coosa River developments for approximately $15 million. The annual operations and maintenance cost would be about $2.7 million, which includes the costs of annual supplies of liquid oxygen to operate the facility. These costs would be lower if the diffuser systems are not installed at the Lay, Jordan, and Bouldin developments, which currently provide a minimum DO level of 4.0 mg/L during generation periods.

50. There could be additional costs for measures complimentary to the forebay oxygen diffuser systems if needed to maintain DO levels at or above 4.0 mg/L during non-generation, including capital costs which could range from $200,000 to $1 million per development, and operations and maintenance costs ranging from $100,000 to $750,000 per development.[36] These ranges are based on the potential use of some or all

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[34] *See* Progress Energy Carolinas, Inc.'s January 20, 2012 filing, "Tillery and Blewett Falls Dissolved Oxygen Enhancement Reports – Yadkin-Pee Dee Hydroelectric Project No. 2206," at Accession No. 20120120-5013.

[35] SDOX Technology is a system that uses a pressurized process to rapidly and efficiently dissolve oxygen in water before it is introduced to a tailrace.

[36] We base these capital costs on comparable measures implemented at other hydropower projects in the South and information in a 1990 Electric Power Research Institute (EPRI) report, "*Assessment and Guide for Meeting Dissolved Oxygen Water Quality Standards for Hydroelectric Plant Discharges*," EPRI GS-7001, Research Project 2694-B. These costs would primarily be incurred for Neely Henry, Logan Martin, Lay, and Mitchell developments for DO enhancement during non-generating periods. As

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of the following measures: complementary minimum flows, modifications to the spillways (i.e., installing energy dissipation baffles), spillway modifications with spill flow, unit pulsing (Alabama Power currently uses this at its Logan Martin development, and could employ it at other developments, particularly Neely Henry), and utilizing SDOX Technology.

51. The level of additional measures, if any, needed to achieve a minimum DO level of 4.0 mg/L during non-generation periods would largely depend upon how well Alabama Power would be able to improve DO levels during periods of generation. As noted above, forebay oxygen diffuser systems have been shown to raise DO levels in project tailwaters to as high as 6.0 mg/L during generation. Such a higher DO level at the start of the non-generation period could present enough of a buffer such that the DO level remains above 4.0 mg/L during the entire non-generating period without the need for implementing complimentary measures.

52. Additional DO protection will be provided by a number of plans already required by the license. Alabama Power has proposed, and the license requires, implementation of adaptive management plans for the Weiss bypassed reach and Logan Martin tailrace. The plans were prepared in consultation with Alabama Department of Conservation and Natural Resources (Alabama DCNR) and FWS. The general goals of these plans are to assess and improve chemical and physical habitat conditions and ensure that project operations are protective of listed threatened and endangered species.

53. As part of the Logan Martin plan, Alabama Power will enhance DO levels, conduct biological monitoring of target species (fish, mollusk, and crayfish), evaluate the habitat suitability for possible reintroduction of target species, and identify measures that can improve the growth and survival of target species.

54. As part of the Weiss bypassed reach plan, Alabama Power will release a variable continuous minimum flow into the bypassed reach. The goals of this release are to provide a flow that more closely mimics the natural hydrograph, restore and enhance fish and mollusk diversity in the bypass through reintroductions and natural recruitment, and improve and rehydrate available habitat.

55. In light of our above analysis, we find that the water quality certification's requirement for Alabama Power to maintain a minimum DO level of 4.0 mg/L when the project is discharging, along with the other DO and aquatic resource protections already provided in the license, will sufficiently protect aquatic resources, including federally

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discussed above, low DO is not an issue at Jordan and Bouldin developments at any time, including non-generating periods. In addition, a simple increase in the amount of DO added through the forebay oxygen diffuser system would likely address any low DO problems (i.e., levels below 4.0 mg/L) during periods of non-generation at Weiss.

listed species, and therefore, nothing further is needed at this time. The threatened and endangered species found in the project area are surviving under current conditions, and the record contains no evidence that they are under immediate threat.[37] The additional DO measures that we are requiring in the license will only serve to improve DO levels. Further, we note that neither FWS nor Alabama DEM found it necessary to impose measures beyond those we have now imposed. Thus, at this time, we do not have a basis for requiring that Alabama Power maintain DO levels of 4.0 mg/L at all times or raise that level.

56. However, should the results of water quality and aquatic resource monitoring required by the license, including water quality monitoring required by the water quality certification and Article 408 of the license,[38] and the aquatic life monitoring included in the Biological Opinion, show that something more is needed, the Commission retains the authority under Standard Article 12 of the license to revisit this matter in the future. We are revising Article 407 to clarify that the purpose of the required DO Enhancement Plan is to ensure a 4.0-mg/L DO standard only in project discharges (i.e., when the project is generating or releasing minimum flows), consistent with the water quality certification conditions in Appendix A of the license.[39]

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[37] The future monitoring required by the license will be sufficient to detect any long-term effects on the listed species.

[38] Article 408 requires water quality monitoring "at all times," meaning during both generating and non-generating periods. Although we are revising Article 407 to only require DO minimums be maintained during generating periods, we are nevertheless still requiring monitoring at all times to document the improvements in water quality resulting from Article 407. Along the same lines, our revision to Article 407 does not also revise Condition 1(b) of Appendix B of the license, which still requires Alabama Power to implement the Logan Martin Adaptive Management Plan with provisions to, among other things, enhance DO during non-generation periods with the goal of ensuring the survival of listed mussels (and their hosts), snails, and fishes.

[39] The June 20 Order requires Alabama Power to develop the plan in consultation with Alabama DEM, Alabama DCNR, and FWS and file it for Commission approval within 6 months of license issuance. The plan must also include a schedule for completing the installation of the DO enhancement measures no later than 18 months from license issuance. On rehearing, Alabama Power states that the consultation process would unnecessarily delay completion of the plan, and requiring Commission approval would further delay plan implementation. It alleges that it cannot complete installation of the DO enhancement measures within 18 months when development and implementation of the plan are outside of its control. Alabama Power requests that in lieu of this process it provide detailed information about the enhancement measures that are installed and how they are operated in the three annual reports and final assessment that are required in

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5. Due Dates for Plans

57. On November 27, 2013, the Director of the Commission's Division of Hydropower Administration and Compliance, noting that the Commission at the time was reviewing all issues raised by parties requesting rehearing of the June 20, 2013 order, extended the due dates for filing the plans required by Articles 407, 408, and 417, until a deadline is established by further order of the Commission. Those articles are revised to reflect new due dates.

B. Article 402, Flood Control Operations

58. Article 402, *Flood Control Operations at Weiss, Neely Henry, and Logan Martin Developments*, states in relevant part

> The flood control requirements at the Weiss, Neely Henry, and Logan Martin developments may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for short periods upon mutual agreement among the licensee, the Corps, U.S. Fish and Wildlife Service, Alabama Department of Environmental Management, and Alabama Department of Conservation and Natural Resources. If the flood control provisions are so modified, the licensee shall notify the Commission as soon as possible, but not later than 48 hours after such incident….

59. On rehearing, Alabama Power asserts that the requirement that the Corps, FWS, Alabama DEM, and Alabama DCNR must all agree prior to the licensee temporarily modifying the operating procedure during flood control operations is unduly burdensome and unnecessary and asks that Article 402 be amended to remove the requirement.[40]

60. We agree. The Corps establishes flood control procedures and is the only agency with the authority to do so. Time is often of the essence when such short-term modifications of the flood control procedures are necessary, and no purpose would be

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its water quality certification. A 6-month consultation and approval process should provide ample time for Alabama Power to develop and file its DO enhancement plan. Moreover, the agencies to be consulted clearly have an interest in matters involving DO enhancement measures, and we see no reason to exclude them from the process. Accordingly, we deny rehearing on this issue. However, we will revise Article 407 to require Alabama Power to file the plan no later than October 31, 2016, and complete installation of the measures within 18 months of issuance of this order.

[40] Alabama Power Request for Rehearing at 33.

served in obtaining the agreement of agencies that have no regulatory authority over flood control. We therefore grant rehearing on this issue and modify Article 402 accordingly.

61. Alabama Power also challenges as "unworkable" the requirement that it notify the Commission within 48 hours after each incident and asks that Article 402 be amended to extend the time to notify the Commission to within 10 days of each incident. We agree that notifying the Commission within 10 days of each incident is reasonable, and we modify the article accordingly, and also require the same notification be provided to FWS, Alabama DEM, and Alabama DCNR.

C. Article 410, Crappie and Blackbass Spawning

62. To enhance crappie and blackbass spawning in project reservoirs, Article 410 of the license requires Alabama Power to continue restricting lake level fluctuations in Weiss and Logan Martin reservoirs in the spring by holding constant, or slightly increasing, the water levels in the two reservoirs for, at a minimum, a 14-day period in the spring, with no 24-hour increase in the reservoir levels greater than 2 inches.

63. On rehearing, Alabama Power asserts that the requirement of Article 410 with respect to Logan Martin reservoir is in error and should be deleted. Alabama Power explains that, although it has been stabilizing lake levels on Weiss and Logan Martin reservoirs during the spring spawning period on a voluntary basis, its license application proposed only that these efforts be a requirement of the new license as they pertain to Weiss reservoir.[41]

64. We deny rehearing on this issue. Pursuant to an agreement initiated in 1989 with the Cherokee Chamber of Commerce, the Corps, and Alabama DCNR, Alabama Power agreed to stabilize Weiss and Logan Martin reservoir levels during the spring crappie and blackbass spawning season.[42] As discussed in the EA, staff found that this measure enhances fish reproduction and supports recreational fishing in the lakes.[43] Accordingly, to ensure continuation of this measure through the term of the new license, we adopted staff's recommendation and included the requirement in the license for both Weiss and

[41] Appendix E in Alabama Power's license application noted that it operates voluntary fisheries enhancement programs, including "stabilization of lake levels on Weiss and Logan Martin reservoirs during the spring," but Appendix A to the license application did not propose including the stabilization of Logan Martin reservoir elevations as a requirement of the license.

[42] EA at 32.

[43] *Id*.

Logan Martin reservoirs.[44] On rehearing, Alabama Power provides no convincing reason for removing this requirement with respect to Logan Martin.

65. As a separate matter, Alabama Power states that fish stabilization typically occurs from late March to early May, and only at the request of Alabama DCNR based on scientific information that suggests that stabilization would be beneficial to the target species.[45] During this time, Alabama Power notes that there are a number of factors on the reservoir and on the Coosa River system that may potentially cause the reservoir to fluctuate more than 2 inches within a 24-hour period.[46] Alabama Power observes that Alabama DCNR has not suggested that water levels need to be maintained within 2 inches to ensure a successful stabilization period. Accordingly, Alabama Power requests the removal of "with no 24-hour increase in reservoir levels greater than 2 inches" from Article 410.[47]

66. We agree that a 2-inch restriction could easily be violated by wind and wave action, as well as during normal operations of the project (i.e., bringing units online or shutting units down, and gate operation during high flows). However, our intent in imposing the 2-inch restriction was to ensure that lake levels are held stable during the 14-day period in the spring, consistent with the EA's findings.[48] Accordingly, we will revise Article 410 to remove the 2-inch restriction and instead require that Alabama Power simply provide stable water levels in the Weiss and Logan Martin reservoirs for 14 days in the spring to enhance crappie and blackbass spawning.[49]

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[44] We note that Alabama Power did not file comments challenging any recommendations set forth in the EA.

[45] Alabama Power Request for Rehearing at 34.

[46] *Id*.

[47] *Id.* at 35.

[48] *See* EA at 210 (identifying recommended enhancement/mitigation measure as providing "stable water levels in the Weiss and Logan Martin reservoirs…").

[49] Because we are replacing the specific 2-inch restriction in Article 410 with a general requirement to provide stable water levels, we are revising Article 406 to require that the Project Operation and Flow Monitoring Plan include a provision describing how the licensee will document compliance with the reservoir stabilization requirement in revised Article 410.

D. Navigation Flow

67. On rehearing, Alabama Power argues that the June 20 Order wrongly interprets the 1972 agreement as a Corps prescription of navigation flow. The company states that the 1972 agreement was a voluntary agreement, and the Corps has never exercised its authority with respect to the 4,640 cfs navigation flow.[50] The company explains that, by requiring it to implement the drought management measures in ADROP while at the same time finding that the 1972 agreement is a license requirement, the license establishes two conflicting navigation flow requirements.

68. We agree. Standard Articles 12 or 18 of the prior licenses for the Coosa, Mitchell, and Jordan projects, and standard Article 12 of this license, give the Corps the authority to specify reasonable measures for navigation. It appears the 1972 agreement was not an exercise of the Corps authority under these standard articles to prescribe certain flows for navigation. Rather, as the company explains, the 1972 agreement was voluntary, and not itself a requirement of the prior licenses or this license.

E. License Term

69. Section 15(e) of the FPA provides that any new license issued shall be for a term that the Commission determines to be in the public interest, but not less than 30 years or more than 50 years.[51] The Commission's general policy is to relate the length of the new license term to the amount of redevelopment, new construction, new capacity, or new environmental mitigation and enhancement measures that are authorized or required under the license. Accordingly, we grant 30-year terms for projects with little or no redevelopment, new construction, new capacity, or new environmental mitigation and enhancement measures; 40-year terms for projects with a moderate amount of such activities; and 50-year terms for projects with extensive measures.[52]

70. The June 20 Order concluded that the relicensed Coosa River Project requires only a minor amount of new construction, no new capacity, and only a minor amount of new environmental mitigation and enhancement measures. Accordingly, the Commission found that a 30-year term for the Coosa River Project is appropriate.[53]

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[50] Alabama Power Request for Rehearing at 35-36.

[51] 16 U.S.C. § 808(e) (2012).

[52] *See Southern California Edison Co.,* 77 FERC ¶ 61,313, at 62,435 (1996).

[53] June 20 Order, 143 FERC ¶ 61,249 at P 264.

71. On rehearing, Alabama Power argues that a 40-year license is appropriate here. The company asserts that the cost of new environmental measures imposed by the license totals $277 million over 30 years, and requests that the Commission add an additional $32 million to that total for expenditures for turbine upgrades at Lay Units 1 and 2, Bouldin Unit 2, and Jordan Unit 4 that were authorized by the Commission prior to the issuance of the June 20 Order.[54] Alabama Power argues that this total investment of $309 million[55] comes out to an investment of approximately $322,000 per MW, which it asserts is consistent with other licenses for which the Commission has issued 40-year terms.[56]

72. We deny rehearing and affirm the license order's determination that a 30-year license term for the Coosa River Project is appropriate. In issuing the license for a 30-year term, the Commission correctly determined that the license authorizes a minor amount of new construction, no new capacity, and only a minor amount of new environmental mitigation and enhancement measures. As to the $32 million for turbine upgrades, that cost is not considered as an expenditure under the new license, and the additional capacity cannot be considered "new capacity" authorized by the June 20

[54] Alabama Power Rehearing at 28.

[55] Alabama Power cites to Table 4-3 of the EA and Table 6.3-1 in Volume 2 of its relicense application as the source of its numbers. Those tables estimate the capital costs and annual operation and maintenance costs for each proposed environmental measure. Table 4-3 of the EA estimates an annual levelized cost for each measure, which is the sum of the annual cost for the measure in current dollars and the capital cost for the measure in current dollars but annualized over a 30-year period (to convert the capital cost to an annual cost). Alabama Power does not explain the calculations and assumptions it used to arrive at the 30-year costs, but it appears that multiplying the annualized levelized costs by 30 years results in numbers that are close to the company's.

[56] *Id.* Alabama Power cites to the relicense orders for the Wells Hydroelectric Project, which it claims required new measures totaling $58 million, or $75,686 per MW, *Public Utility District No. 1 of Douglas County, Wash.*, 141 FERC ¶ 62,104, at P 140 (2012); the Yards Creek Pumped Storage Project (Yards Creek), which it asserts required an investment in new measures of about $5 million, or $13,000 per MW, "well below" the investment required under the Coosa River Project license, *Jersey Central Power & Light Co.*, 143 FERC ¶ 62,102, at P 113 (2013); the Rhinelander Project, which it suggests demonstrates the Commission will extend a license term where it determines on rehearing that measures are moderate, rather than minor, *Rhinelander Paper Company*, 106 FERC ¶ 61,164 (2004). Alabama Power also cites the 30-year license term for its Warrior River Project, noting that the measures there totaled approximately $30 million, or $142,000 per MW, *Alabama Power Co.*, 130 FERC ¶ 62,271(2010), *reh'g denied*, 141 ¶ 61,127 (2012).

Order. In determining an appropriate license term, we only consider measures required for the first time in the new license (and not measures authorized or required by the previous license).[57] Alabama Power's 2005 relicense application proposed turbine upgrades at the Lay, Bouldin, and Jordan developments. However, rather than waiting for its new license, Alabama Power instead chose to seek authorization for the upgrades under its prior license terms, and the upgrades, which increase the project's capacity by 14 MW, were authorized in 2012 and 2013.[58]

73. In any event, a simple assessment of costs is not dispositive when determining a license term. Rather, as we did here, the Commission considers the extent and nature of redevelopment, new construction, new capacity, or new environmental mitigation and enhancement measures that are authorized under the new license. Here, the new environmental measures require Alabama Power to: (1) implement erosion measures and plans for protecting shoreline management, wildlife, and cultural resources; (2) evaluate minimum flow requirements and install additional aeration enhancements; (3) implement adaptive management plans for the Weiss bypassed reach and Logan Martin tailrace; and (4) provide upgrades to project recreation facilities.

74. The only construction required under the new license is limited to improving recreation facilities, such as building parking areas, improving access roads, and installing fishing piers, and to developing accessible deer hunting areas. Accordingly, the new construction and environmental measures are minimal, particularly given the size and complexity of the Coosa River Project, and do not rise to the level of a 40-year license.

75. Alabama Power's comparison of its annual dollar-per-installed megawatt cost to those spent by licensees that received 40-year license terms in various relicensing proceedings is unavailing. As the Commission has previously explained, each project is unique and the selection of an appropriate license term is a highly fact-sensitive exercise.[59] Rather than supporting Alabama Power's argument, the cited relicense orders

[57] *E.g.*, *Georgia Power Company*, 111 FERC ¶ 61,183, at P 12 (2005); *Ford Motor Company*, 110 FERC ¶ 61,236, at PP 6-8.

[58] *See* June 20 Order, 143 FERC ¶ 61,249 at PP 18, 20, and 22. In any event, a 14-MW increase in capacity is relatively minor considering the project's installed capacity (960.9 MW).

[59] *See, e.g., Duke Energy Progress, Inc.*, 153 FERC ¶ 61,056, at P 42 (2015); *Northern Lights, Inc.*, 135 FERC ¶ 61,232, at P 6 (2011).

demonstrate the highly fact-sensitive nature of choosing an appropriate license term based on the record before the Commission.[60]

F. Need for an EIS

76. The June 20 Order rejected Conservation Groups' contention that Commission staff should have prepared an EIS rather than an EA.[61]

77. On rehearing, Conservation Groups reiterate their argument that the Commission has provided no convincing statement of reasons for issuing a finding of no significant impact. They assert that the impacts of the Coosa River Project meet the Council on Environmental Quality's (CEQ) threshold test of "significance," thereby triggering the need for an EIS. The Groups cite to CEQ's regulations, which provide criteria for determining significance, including consideration of the proposal's "intensity."

78. The CEQ regulations identify ten criteria for considering a proposed action's "intensity," but do not prescribe the weight to be given to these criteria.[62] As discussed below, Conservation Groups claim that eight of the ten criteria apply to the Coosa River Project: (1) impacts, which may be beneficial and/or adverse; (2) the unique characteristics of the geographic area; (3) the degree to which the environmental impacts of the action are highly controversial; (4) the degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks; (5) whether the action is related to other actions with individually insignificant but

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[60] For the Wells Project the 40-year term was chosen primarily to coordinate with other license terms in the Columbia River Basin. *Public Utility District No. 1 of Douglas County, Wash.*, 141 FERC ¶ 62,104 at P 143 (2012). The Yards Creek license, although it required environmental measures similar to those here, also required moderate new construction (building a 475-foot-long by 260-foot-wide emergency spillway, relocating an existing building, building ramps from an existing access road). Moreover, Commission staff issued these orders under delegated authority, and they do not constitute precedent binding the Commission. *See Midwest Generation, LLC*, 95 FERC ¶ 61,231, at 61,799 (2001) (citing *Phoenix Hydro Corp.*, 26 FERC ¶ 61,389, at 61,870 (1984), *aff'd*, *Phoenix Hydro Corp. v. FERC*, 775 F.2d 1187, 1191 (D.C. Cir. 1985)). As to the Rhinelander Project, Alabama Power does not allege that the required measures are comparable to those here, nor did the Commission detail its reasons for the longer license term. With respect to the Warrior River Project, as we noted above, cost of measures is not dispositive; it is the nature and extent of the measures that inform the Commission's determinations on license terms.

[61] June 20 Order, 143 FERC ¶ 61,249 at PP 215-232.

[62] *Friends of the Ompompanoosuc v. FERC*, 968 F.2d 1549, 1555 (2d Cir. 1992).

cumulatively significant impacts; (6) the degree to which the action may adversely affect districts, sites, or structures listed or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources; (7) the degree to which the action may adversely affect an endangered or threatened species or its habitat; and (8) whether the action threatens a violation of federal, state or local law.[63]

1. Minor Impacts, Both Beneficial and Adverse

79. On rehearing, Conservation Groups reiterate their earlier argument that relicensing the Coosa River Project

> may have a number of adverse impacts on water quality, fisheries, listed species, recreation and socioeconomics. The true extent of adverse impacts is difficult to determine due to the incomplete information provided in the Final EA. Because of the extent of adverse impacts, to the degree that they are presently known, this project meets the definition of "significance" provided in 40 C.F.R. § 1508.27.

For example, Conservation Groups contend that the EA omits discussion of the project's impacts on any water quality other than DO, so it is unclear whether the new license will have significant impacts on water quality. They argue that the Commission has an "affirmative obligation" under NEPA to demonstrate that no environmental impacts are so significant as to warrant an EIS, "including all relevant water quality standards."[64]

80. Conservation Groups are mistaken. The EA thoroughly considered the potential impacts of relicensing the project on environmental resources. Although staff identified potential ongoing impacts to some resources, it identified no impacts as significant.[65] Moreover, to the extent Conservation Groups assert that there is incomplete information, as also explained in the June 20 Order, the Commission is not required to have perfect information before it acts, nor is it required or expected to resolve all inconsistencies between information that is submitted.[66]

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[63] 40 C.F.R. § 1508.27 (2015).

[64] *Id.*

[65] *See* June 20 Order, 143 FERC ¶ 61,249 at P 219.

[66] *Id.*

2. Unique Geographic Area

81. Conservation Groups asserts that the "extraordinary biodiversity" of the project area "shows that this is a unique geographic area, further highlighting the 'significance' of this project for purposes of NEPA."[67] It claims the June 20 Order "sidesteps" this by noting that, while the geography is unique, the impacts are not sufficiently severe and therefore do not warrant an EIS. Conservation Groups argue that even a limited impact may take on a severe nature if it occurs in a unique geographic area.[68]

82. The relevant CEQ regulation states that in considering the significance of a proposed action, intensity "refers to the severity of impact."[69] Conservation Groups do not dispute that the EA and June 20 Order recognize the unique biodiversity of the Coosa River Basin. While Conservation Groups may be correct that context is important in determining the severity of an impact, the EA provides a comprehensive analysis of the potential impacts to each resource, and appropriately concludes that operation of the Coosa River Project, with the terms and conditions set forth in the license, will not have a significant impact on the environment.

83. In any event, we do not find it reasonable to conclude that the mere fact that a proposed action occurs in a unique geographic area is dispositive of "significance" as contemplated by NEPA and the CEQ regulations, nor do we find that preparing an EIS here would have provided any additional meaningful information to assist in our decision-making process.

3. Project's Potential Effects on Environment are Not Highly Controversial

84. Conservation Groups disagree with the Commission's finding that the Coosa River Project is not "highly controversial," as contemplated by the CEQ regulation. Rather, they assert that the project is highly controversial because "there is not enough water to meet competing demands," and the project is "contentious because it affects issues of interstate water allocation of the Alabama-Coosa-Tallapoosa river systems…."[70]

85. As discussed in the June 20 Order, for an action to qualify as highly controversial for NEPA purposes, there must be a "dispute over the size, nature, or effect of the action,

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[67] Conservation Groups Request for Rehearing at 56.

[68] *Id.* at 57.

[69] 40 C.F.R. § 1508.27(b) (2015).

[70] Conservation Groups Request for Rehearing at 57.

rather than the existence of opposition to it."[71] Accordingly, a "controversy does not exist merely because individuals or groups oppose, or have raised questions about an action."[72] While the June 20 Order acknowledges that legitimate concerns have been raised in this proceeding, they have been addressed through pre-filing consultations, scoping meetings, and extensive comments and other filings from all parties. That Conservation Groups disagree with our staff's findings does not constitute a "controversy" as contemplated by the CEQ regulations.[73]

86. Moreover, while we do not disagree there are longstanding disputes over water allocation in the Coosa River Basin, these concerns have been thoroughly vetted in separate processes, including the Corps' recent efforts to update its reservoir regulation manuals to provide a comprehensive management plan for the Alabama-Coosa-Tallapoosa River Basin, for which a comprehensive EIS was prepared. Accordingly, we find no purpose would be served in preparing an EIS to address these issues.

4. Project's Potential Effects on Environment are Not Highly Uncertain

87. Conservation Groups contend that many of the potential environmental effects are unknown or incomplete. For example, the Groups assert that there is insufficient information with respect to habitat availability under existing or proposed flow schedules at any of the developments; staff used "outdated data" as a basis for the Erosion Repair and Monitoring Plan; and recommended adoption of Alabama Power's DO proposal "despite having no details" regarding Alabama Power's plans.[74] Conservation Groups allege that underscoring this is the "overreliance on post-license studies to ascertain information about project impacts" which, it avers, is inconsistent with the court's finding in *LaFlamme v. FERC*[75] and *Confederated Tribes & Bands of Yakima Indian Nation v. FERC*.[76]

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[71] June 20 Order, 143 FERC ¶ 61,249 at P 222.

[72] *Id.*

[73] We note that when specialists express conflicting views, an agency must have the discretion to rely on the reasonable opinions of its own qualified experts. *See Marsh v. Oregon Natural Res. Council*, 490 U.S. 360, 378 (1989).

[74] Conservation Groups Request for Rehearing at 59-68.

[75] 852 F.2d 389 (9th Cir. 1988) (*LaFlamme*).

[76] 746 F.2d 466 (9th Cir. 1984) (*Yakima*).

88. We disagree. As discussed above, the EA and the June 20 Order addressed each potential environmental effect that Conservation Groups assert is "unknown or incomplete," and staff acknowledged where it did not have perfect or complete information regarding a potential environmental impact. Moreover, Conservation Groups' reliance on *LaFlamme* and *Yakima* is misplaced. In *LaFlamme*, the court suspended a hydroelectric project license and remanded the proceeding for compliance with NEPA after the Commission failed to prepare either an EIS or an EA for the project. In *Yakima*, the Commission deferred all consideration of fisheries issues for one project in the Mid-Columbia River basin on the ground that the necessary analyses would take place in a separate proceeding involving fisheries issues for all of the Mid-Columbia projects.

89. In this case, unlike in *LaFlamme* and *Yakima*, the existing information is substantial, and the EA provided a thorough analysis of all relevant potential environmental impacts and support for the conclusions reached in support of our decision to relicense the Coosa River Project. The additional information gathering and refinement of mitigation plans that will occur during the post-licensing period is not essential to our licensing decision, but rather will enable Alabama Power to better develop and implement the required mitigation and monitoring plans.

90. Moreover, as discussed at length in the June 20 Order, and unchallenged by Conservation Groups on rehearing, *Yakima* does not require the Commission to have perfect information before it acts.[77] The question is whether, given uncertainty, the Commission's action meets the standard for judicial review, which requires that the Commission's decision be supported by substantial evidence, which we believe it is, as demonstrated by the EA and our orders.[78]

91. As the June 20 Order explained,[79] the court found in *United States Department of the Interior v. FERC*:[80]

> *Yakima* at most imposes on the Commission the duty to consider and study the environmental issues before granting a license. *Yakima* does not require any heightened degree of certainty for

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[77] *See, e.g., Idaho Power Co.,* 108 FERC ¶ 61,129, at P 41 (2004), *reh'g denied,* 110 FERC ¶ 61,242 (2005), *aff'd Idaho Rivers United v. FERC*, 189 Fed. Appx. 629, 2006 U.S. App. Lexis 17566 (9th Cir. 2006).

[78] *Id.*

[79] June 20 Order, 143 FERC ¶ 61,249 at P 75.

[80] 952 F.2d 538, 546 (D.C. Cir. 1992).

> environmental facts, nor does it imply that all environmental concerns must be definitively resolved before a license is issued. Read this way, *Yakima* simply endorses the unstartling principles that an agency must establish a record to support its decisions and that a reviewing court, without substituting its own judgment, must be certain that the agency has considered all factors required by the statute.

5. Project is Not Related to Other Actions with Cumulatively Significant Impacts

92. Conservation Groups argue that the EA's consideration of cumulative impacts was flawed because it failed to analyze the presence of other Alabama Power and Corps dams in the Alabama-Coosa-Tallapoosa River Basin.[81] Conservation Groups further claim that the Commission erred in omitting consideration of the cumulative effects of climate change on the Coosa River Project, which it deems "inconsistent" with other federal agency initiatives, including CEQ's draft guidance on considering climate change and greenhouse gas emissions.[82] We disagree on both counts.

93. CEQ defines "cumulative impact" as the "impact on the environment which results from the incremental impact of the action [being studied] when added to other past, present, and reasonably foreseeable future actions…."[83]

94. The U.S. Supreme Court has noted that the "determination of the extent and effect of [cumulative impacts], and particularly identification of the geographic area within which they may occur, is a task assigned to the special competency of the appropriate agencies."[84] CEQ has explained that "it is not practical to analyze the cumulative effects of an action on the universe; the list of environmental effects must focus on those that are truly meaningful."[85] Further, a cumulative impact analysis need only include "such

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[81] Conservation Groups Request for Rehearing at 68-79.

[82] *Id.* at 76, citing CEQ's February 2010 *Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions.*

[83] 40 C.F.R. § 1508.7 (2015).

[84] *Kleppe v. Sierra Club*, 427 U.S. 390, 414 (1976).

[85] CEQ, *Considering Cumulative Effects Under the National Environmental Policy Act* at 8 (January 1997), http://energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/G-CEQ-ConsidCumulEffects.pdf.

information as appears to be reasonably necessary under the circumstances for evaluation of the project rather than to be so all-encompassing in scope that the task of preparing it would become either fruitless of well-nigh impossible."[86]

95. The geographic scope of analysis for cumulatively affected resources was identified in the Coosa River Project EA by the physical limits of boundaries of the effects of the proposed action on a number of resources.[87] Because the proposed action can affect resources differently, the geographic scope for each resource may vary. For example, the EA notes that the construction and operation of dams in the Coosa and Alabama Rivers have cumulatively affected water quality, specifically DO concentrations, and fish and mollusk populations in the basins.[88] Accordingly, in sections 3.3.1, *Aquatic Resources*, 3.3.4, *Recreation*, and 3.3.5, *Land Use and Aesthetics*, the EA considers the geographic scope for water quality and mollusks to be the Corps' Carters Dam upstream of the Coosa River Project on the Coosawattee River, downstream to the Corps' R.F. Henry lock and dam on the Alabama River. Because a series of Corps dams downstream from the Coosa River Project (Clairborne, Milles Ferry, and R.F. Henry) block the access of anadromous fish to the Coosa River Project downstream of Jordan dam (the furthest downstream Coosa River Project development), the EA limited the analysis of cumulative fishery effects to the Coosa River Basin, downstream to the R.F. Henry lock and dam. We find that this is a reasonable approach for considering cumulative impacts, and fully consistent with the CEQ regulations.

96. We also disagree with Conservation Groups claim that the Commission was required to consider climate change impacts.

97. As discussed in the June 20 Order, attempting to predict future flow scenarios that may occur due to climate change or other conditions would be too speculative given the state of the science at this time.[89] We added that if there is a need to modify project operations or facilities to accommodate changes because of climate change, the Commission has retained the authority to reopen the license to determine whether additional environmental measures are necessary.[90] On rehearing, Conservation Groups alleges no error with this finding.

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[86] *Nat. Res. Def. Council, Inc. v. Callaway*, 524 F.2d 79, 88 (2d Cir. 1975).

[87] EA at 52.

[88] *Id.*

[89] June 20 Order, 143 FERC ¶ 61,249 at P 225.

[90] *Id.*

98. Moreover, as the Commission recently observed in *Eagle Crest Energy Company*,[91] climate change is a complex issue. Inherent in NEPA and the CEQ regulations is a rule of reason that ensures agencies are afforded the discretion, based on their expertise and experience, to determine whether and to what extent to prepare an environmental analysis based on the availability of information, the usefulness of that information to the decision-making process, and the extent of the anticipated environmental consequences. For hydroelectric projects, the Commission considers historical information on water sources and, as here, often includes monitoring and adaptive management provisions.

99. The Commission's longstanding practice of including license reopener provisions that allow the Commission to alter license requirements in response to changed environmental conditions through the term of the license gives the Commission the ability to respond to the impacts of climate change, and provides appropriate environmental safeguards. We have explained, however, that we are unaware of any current climate model that would allow the Commission to predict matters such as water supply or flows in a given basin during the 30- to 50-year term of a typical hydropower license in such a manner as to assist the Commission in analyzing alternatives and determining appropriate mitigation for environmental impacts.[92]

6. Insignificant Impact to Scientific, Cultural, or Historic Resources

100. Conservation Groups reiterate their argument that the Coosa River Project may impact scientific, historic, or cultural resources. The Groups acknowledge that the license requires Alabama Power to implement an Historic Properties Management Plan (HPMP), but continue to allege that the EA "cites no specific evidence that demonstrates that the proposed HPMP will be adequate to mitigate any potential impacts to cultural and historical resources to the point of insignificance."[93]

101. We disagree. As we explained in the June 20 Order, staff executed a Programmatic Agreement (PA) with the Alabama State Historic Preservation Officer (SHPO) and the Georgia SHPO to facilitate compliance with section 106 of the National Historic Preservation Act.[94] The PA requires Alabama Power to implement the HPMP

[91] *Eagle Crest Energy Company*, 153 FERC ¶ 61,058, at P 81 (2015).

[92] *Id.*

[93] Conservation Groups Request for Rehearing at 79-80.

[94] June 20 Order, 143 FERC ¶ 61,249 at P 228.

for the term of the new license. As discussed in the EA and the June 20 Order,[95] in the event that a project-related activity cannot be modified to avoid an adverse effect on an historic property within the project's area of potential effects, Alabama Power will consult with the Alabama SHPO, the Georgia SHPO, and other interested parties, as provided for under the HPMP, to define appropriate mitigation measures.

7. Listed Species and Critical Habitat

102. On rehearing, Conservation Groups renew their argument that the EA lacks qualitative evidence regarding threatened and endangered species and their critical habitat, and therefore inappropriately concludes that formal consultation was not necessary for some species, but was required for others.[96] They also reiterate their claim that the EA should have analyzed impacts to threatened and endangered species using the baseline as set forth in the ESA and its implementing regulations.[97]

103. We answered these arguments in the June 20 Order, and Conservation Groups present no new information on rehearing. As discussed in the June 20 Order, and unchallenged by Conservation Groups on rehearing, although impacts to threatened and endangered species were thoroughly analyzed in the EA,[98] the subsequent revised Biological Assessment provided additional information that resulted in a request for formal consultation for additional species, and ultimately to FWS' Biological Opinion.[99] To the extent Conservation Groups argue that the EA's finding of no significant impact was not based on the additional findings of adverse effects as set forth in the revised Biological Assessment, and the Biological Opinion, we disagree. The assessment was a comprehensive analysis considered as part of formal consultation under ESA. The opinion's conclusions do not alter a finding of no significant impact.

104. Conservation Groups' argument with respect to the appropriate baseline under NEPA for considering impacts to threatened and endangered species is equally without merit. As we explained in the June 20 Order, the Commission's longstanding use of exiting environmental conditions (i.e., continued project operation under the existing

[95] *See* EA at 246; June 20 Order, 143 FERC ¶ 61,249 at P 228.

[96] Conservation Groups Request for Rehearing at 82. The Groups do not identify the species for which they argue formal consultation was required.

[97] *Id.*

[98] *See* EA at 115-36.

[99] June 20 Order, 143 FERC ¶ 61,249 at P 81.

license) as a baseline against which to evaluate the environmental impacts of a proposed action has been upheld by the courts.[100]

105. While it is clear from the ESA regulations that the environmental baseline for ESA purposes includes past as well as present impacts of human activities, it is appropriate for the Commission to show reasoned deference to the ESA agencies with regard to their interpretation of the ESA regulations.[101] Having said that, we note that Conservation Groups provide no source to suggest that ESA agencies must select a particular baseline condition from which to measure the effects of the proposed action; rather, it appears the ESA regulation requires the ESA agency to ensure that its environmental analysis identifies past activities that have contributed to current environmental conditions.

8. Project Does Not Threaten Violation of Federal and State law

106. On rehearing, Conservation Groups allege that the EA does not demonstrate that the Coosa River Project will comply with all federal and state environmental laws, primarily because the EA "contains inadequate information to demonstrate that the proposed project will comply with all Alabama water quality standards."[102]

107. We disagree. As discussed in the June 20 Order, Alabama DEM requires that Alabama Power implement measures to ensure compliance with the state's DO standards. There is no evidence to suggest that other water quality parameters are not being met. Indeed, Alabama DEM, the agency responsible for administering the state's water quality program and issuing the water quality certification, found no reason to require compliance with other water quality parameters. We find no reason to believe that the

[100] *See* June 20 Order, 143 FERC ¶ 61,249 at P 231 and n.238 (citing to *American Rivers v. FERC*, 201 F.3d 1186, 1195-96 (9th Cir. 2000) (affirming Commission's existing-environmental-conditions baseline as consistent with "the substantive and procedural requirements of both the FPA and NEPA"); and *Conservation Law Foundation v. FERC*, 216 F.3d 41, 46-47 (D.C. Cir. 2000) (denying argument that including existing conditions in the baseline caused the Commission to ignore continuing impacts directly attributable to the new license, and holding that use of an existing condition baseline was a reasonable construction of the FPA's 10(j) requirements for protection of fish and wildlife)).

[101] *See* June 20 Order, 143 FERC ¶ 61,249 at P 213, n.239, citing the ESA regulation at 50 C.F.R. § 402.02 which states in relevant part that the "environmental baseline includes the past and present impacts of all Federal, State or private actions…in the action area…"

[102] Conservation Groups Request for Rehearing at 82.

project will not be able to comply with applicable state and federal laws, nor has Conservation Groups provided evidence to the contrary.

9. Conclusion: Project Impacts Do Not Meet Threshold Test of Significance

108. Based on our review, above, we conclude that the potential environmental impacts of the Coosa River Project do not rise to a level of significance that would require preparation of an EIS. Accordingly, we affirm that preparation of a thorough, detailed EA was appropriate in this case and deny Conservation Groups' request for rehearing on this issue.[103] Moreover, as discussed above, Conservation Groups do not make any showing of how an EIS would provide any additional information beyond that already provided by our thorough, over 240-page EA.

G. Adequacy of EA

109. Conservation Groups argue that the EA violates NEPA by improperly limiting an analysis of alternatives, not adequately evaluating cumulative impacts, and improperly segmenting projects. For the reasons discussed below, we deny rehearing on these issues.[104]

[103] We reject Conservation Groups' argument that Commission staff's EIS for relicensing the Martin Dam Project No. 349, another project (consisting of one development) in the Alabama-Coosa-Tallapoosa River Basin, and the Corps' EIS for the Water Control Manual for the Alabama-Coosa-Tallapoosa River Basin (analyzing the impacts of a comprehensive management plan for the entire River Basin) make the decision to prepare an EA for the Coosa River Project arbitrary and capricious. Every relicensing proceeding is unique and has different impacts on different resources. In determining whether to prepare an EA or an EIS, staff relies upon the Commission's regulations, and makes an individual determination for each proposal on a case-by-case basis. Here, staff prepared an EA to assist in determining whether the proposed relicensing of the Coosa River Project would have a significant impact on the environment. For all of the reasons set forth here, as well as in the EA and the June 20 Order, we took the requisite "hard look" at the potential environmental impact of the Coosa River Project and appropriately found that it will not have significant impacts, and that therefore an EIS was not required.

[104] For the reasons articulated elsewhere in this order and in the June 20 Order, we reject Conservation Groups' argument that the EA lacks sufficient analyses of the project's impacts to water quality, fisheries, instream flows, recreation, and threatened and endangered species.

1. Range of Alternatives

110. Section 102(2)(E) of NEPA[105] requires action agencies to consider reasonable alternatives to proposed actions. The range of alternatives that must be discussed is a matter within an agency's discretion.[106] The discussion of alternatives need not be exhaustive and need only provide sufficient information to permit a reasoned choice of alternatives.[107]

111. Conservation Groups reiterate their earlier argument that the EA did not consider a reasonable range of alternatives, including alternatives they and other entities proposed.[108] The Groups claim that the EA rejected their (and other entities') proposed alternatives, including: alternative minimum flow schedules for the Weiss bypass, Neely Henry, Logan Martin, and Jordan developments; an alternative to meet a 5.0-mg/L DO standard in project tailwaters; an alternative to the proposed water quality monitoring protocols; fish passage; and recreation management.

112. We disagree. Here, the EA analyzed Alabama Power's proposal, that proposal as modified by agency conditions and Commission staff recommendations, and the "no-action" alternative of continuing to operate the project under the then-current license.[109] This constituted a reasonable range of alternatives.[110] To the extent the EA did not analyze as a separate alternative the project with certain measures that Conservation Groups and others recommended, the EA explained that the recommendations were not presented as complete and concise alternatives to Alabama Power's proposal, but instead

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[105] 42 U.S.C. § 4332(2)(E).

[106] *Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 551-52 (1976).

[107] *North Carolina v. FPC*, 533 F.2d 702, 707 (D.C. Cir. 1976), citing *NRDC v. Morton*, 458 F.2d 827 (D.C. Cir. 1972).

[108] Conservation Groups Request for Rehearing at 87.

[109] The EA also considered, but eliminated from further consideration: (1) issuing a non-power license; (2) federal government takeover of the project; and (3) retiring the project.

[110] *Eagle Crest Energy Company*, 153 FERC ¶ 61,058, at P 70 (2015) (citing *Richard Balagur*, 57 FERC ¶ 61,315, at 62,018 (1991), *aff'd sub nom. Friends of the Ompompanoosuc v. FERC*, 968 F.2d 1549, 1555-56 (2nd Cir. 1992); *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d at 197-198 (affirming adequacy of EIS that examined in detail only the proposed action and the no-action alternative, and eliminated other alternatives from further study).

comprised a variety of loosely organized environmental protection and enhancement measures.[111] There is no requirement to examine each proposed mitigation or enhancement measure, or groups of such measures submitted by an entity, as a separate alternative or alternatives.[112] Moreover, on rehearing, Conservation Groups do not challenge the license order's conclusion that the EA discussed the Groups' recommendations, comments, and proposed alternative measures as they applied to particular resources at issue, and discussed the reasons, where relevant, for not adopting recommendations. The Conservation Groups recommendations were given due consideration, regardless of whether they were considered to be an alternative.[113]

2. Cumulative Impacts

113. On rehearing, Conservation Groups acknowledge the June 20 Order's discussion of why "existing environmental conditions" is the appropriate "baseline" for NEPA analysis, and that the two court cases affirming the Commission's baseline policy "concluded that the 'no-action alternative' in a FERC licensing context is the existing dam operations, as opposed to conditions that pre-existed dam operations."[114] They argue, however, that these two cases do not speak to cumulative impact analysis, which they assert "is unequivocally defined as the incremental impact of a given action combined with *past*, present, and reasonably foreseeable future actions."[115] Conservation Groups assert that, by these terms, the Commission must include the past impacts of dam construction and operation on, for example, species abundance and distribution.

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[111] EA at B-5.

[112] *Idaho Power Co.*, 108 FERC ¶ 61,129 (2004), *reh'g denied,* 110 FERC ¶ 61,242 (2005), *aff'd Idaho Rivers United v. FERC,* 189 Fed. Appx. 629, 2006 U.S. App. Lexis 17566 (9th Cir. 2006).

[113] June 20 Order, 143 FERC ¶ 61,249 at P 214. *See also* discussion in EA of why staff did not recommend adopting Conservation Groups' proposed plans for: monitoring erosion and sedimentation within the project boundary for the term of the license (EA at 89-90); fish passage feasibility (EA at 102); monitoring water quality beyond the three-year period required by water quality certification (EA at 87); monitoring measures associated with recreation management plan (EA at 156-157); alternative minimum flows (EA at B-9).

[114] Conservation Groups Request for Rehearing at 91-92, citing June 20 Order, 143 FERC ¶ 61,249 at P 231 (citing *American Rivers v. FERC,* 210 F.3d 1186, 1195-96 (9th Cir. 2000); *Conservation Law Foundation v. FERC,* 216 F.3d 41, 46-47 (D.C. Cir. 2000).

[115] Conservation Groups Request for Rehearing at 92.

114. We agree that the past environmental impacts are relevant in determining what measures are appropriate to protect, mitigate, and enhance natural resources. Indeed, beyond our consideration of cumulative impacts during the licensing process, it is the Commission's policy to use authority reserved in hydropower licenses to ameliorate cumulative impacts,[116] and we will do so with respect to the project at issue if and when it becomes appropriate. However, as the Commission noted in response to comments on the baseline issue when it promulgated regulations to implement the relicense provisions of the Electric Consumers Protection Act of 1986:

> Enhancement may in many cases constitute a reduction of negative impacts attributable to the project since its construction. However, this evaluation and consideration of the appropriateness of requiring enhancement measures is done in the context of today's environment and not in the context of the world as it existed 50 years ago.[117]

115. Moreover, CEQ recognizes that this concept applies in the context of cumulative impacts, in guidance noting that agencies can conduct an adequate cumulative impact analysis by focusing on the current aggregate effects of past actions without delving into the historic details of individual past actions.[118] Based on the foregoing, we deny rehearing on this issue.

3. Segmentation

116. Conservation Groups argue that the EA inappropriately segments the Coosa River Project by limiting the scope of the environmental analysis to the area from the most upstream part of the project to the end of the Jordan development's tailrace. The Groups assert that "the river system as a whole must be examined," otherwise the analysis is viewed in isolation and "therefore is improper segmentation."[119]

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[116] *See Use of Residual Authority in Hydropower Licenses to Ameliorate Cumulative Impacts*, 18 C.F.R. § 2.23 (2016).

[117] *Hydroelectric Relicensing Regulations Under the Federal Power Act*, Order No. 513, FERC Stats. & Regs. ¶ 30,854 at 31,401 (1989). *See Eugene Water & Electric Board*, 81 FERC ¶ 61,270, at 62,237 (1997).

[118] *See Council on Environmental Quality Guidance on Consideration of Past Actions in Cumulative Effects Analysis* at 2, June 25, 2005.

[119] Conservation Groups Request for Rehearing at 92-93. The Groups cite to 40 C.F.R. § 1508.27 (2015), which states that "significance cannot be avoided by terming an action temporary or by breaking it down into small component parts."

117. We disagree. Improper segmentation involves "an attempt by an agency to divide artificially a 'major federal action' into smaller components to escape the application of NEPA to some of its segments."[120] An analysis of improper segmentation requires that "where proceeding with one project will, because of functional or economic dependence, foreclose or irretrievably commit resources to future projects, the environmental consequences of the projects should be evaluated together."[121] "Projects," for the purposes of NEPA, are described as "proposed actions" or proposals in which an action is imminent.[122]

118. Notwithstanding that Conservation Groups fail to identify which proposed actions they claim have been improperly segmented from the Coosa River Project, we observe that in 2009 when preparing the draft and final EAs for the Coosa River Project, there were no other project proposals in the river basin pending before the Commission.[123] The Commission fully studied the direct, indirect, and cumulative impacts of the proposed action, and did not improperly exclude review of any other actions that were related and temporarily-linked. The scope of that analysis was feasible and sufficient.[124]

H. Comprehensive Development and Substantial Evidence

119. Conservation Groups argue that the Coosa River license is not best adapted to a comprehensive plan of development, as required by the FPA. They allege that the comprehensive development findings in the license order are not supported by substantial evidence, as required by section 313(b) of the FPA. Specifically, the Groups contend that the June 20 Order demonstrates that the Coosa River Project will have significant impacts on the environment, yet does not explain how the Commission determined that the project is the best-adapted alternative.

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[120] *Save Barton Creek Ass'n. v. Fed. Highway Admin.,* 950 F.2d 1129, 1139 (5th Cir. 1992).

[121] *Fritiofson v. Alexander*, 772 F.2d 1225 (5th Cir. 1985).

[122] 40 C.F.R. § 1508.23 (2015).

[123] The relicense application for the Martin Dam Project No. 349, located on the Tallapoosa River upstream of the Yates and Thurlow Project 2407, was not filed until 2011, approximately 5 years after the Coosa River Project relicense application; and the Yates and Thurlow Project No. 2407 was relicensed in 1994 for a 40-year term, which expires in February 2034.

[124] *See, e.g.*, *Alabama Power Company*, 153 FERC ¶ 61,298, at PP 183-185 (2015).

120. We find no merit to these arguments. Section 10(a)(1) of the FPA[125] requires that projects licensed by the Commission be best adapted to "a comprehensive plan for improving or developing a waterway," taking into account all beneficial uses of the waterway (e.g., waterpower development; protection, mitigation, and enhancement of fish and wildlife; irrigation; flood control; water supply; and recreation). Section 10(a)(1) does not require the Commission to prepare a single comprehensive plan that sets goals for achieving desired future conditions against which an application is measured. Nor does it require that the license order itself constitute such a comprehensive plan.[126]

121. Conservation Groups argue that the EA considers only the economic benefits of power generation at the project, and omits consideration of the economic costs and benefits associated with all other beneficial uses affected by the project, including the value of biodiversity, wildlife preservation and enhancement, and recreation. Conservation Groups assert this approach is inconsistent with "…the duty of the [Commission] properly to weigh each factor" relevant to its section 10(a)(1) balancing.[127]

122. We deny rehearing. Section 10(a)(1) requires the Commission to develop a record in the proceeding on all aspects of the beneficial public uses relating to the comprehensive development of the waterway or waterways involved. That is what the Commission staff did here. An extensive record was developed, which contains information and analyses on relevant issues and resources, including: archaeological and historic resources, erosion, sedimentation, recreation, socioeconomics, native and exotic species, aquatic vegetation, fishery resources, instream flows, drought and flood management, and water quality. The draft and final EAs reflect a thorough evaluation of the record as to the potential environmental effects on these resources of relicensing the project under various alternatives.

123. Moreover, the license establishes a comprehensive set of operational and environmental measures, together with reservations of the Commission's authority to require changes to the project if future circumstances warrant, that ensures that the project will be operated through the term of the license in a manner that appropriately balances developmental and non-developmental interests.[128]

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[125] 16 U.S.C. § 803(a) (2012).

[126] *See, e.g., Alabama Power Company,* 141 FERC ¶ 61,127, at PP 19-20 (2012).

[127] Conservation Groups Request for Rehearing at 95, citing *Scenic Hudson Preservation Conf. v. FPC,* 354 F.2d 606, 614 (1965), *cert. denied,* 384 U.S. 941 (1966).

[128] Further, to the extent Conservation Groups ask that the Commission value the monetary worth of a resource, we recently explained that such an exercise can be difficult (continued ...)

I. Project Will Not Jeopardize Threatened and Endangered Species

124. Conservation Groups renew their claim that the June 20 Order inappropriately relies on FWS' Biological Opinion, arguing that the Biological Opinion violates the ESA and "new information" that the FWS did not consider challenges the Biological Opinion's conclusions.[129] Conservation Groups take issue with the statement in the June 20 Order (143 FERC ¶ 61,249 at P 97) that the information provided by the groups:

> is not sufficiently relevant to the Coosa River Project relicensing to warrant questioning the BO's conclusions. Specifically, the three articles consider different species that are not only located in different riverine systems, but are also located in a different state (Georgia).

125. Conservation Groups argue that the three studies are in fact relevant, and the June 20 Order does not provide a sufficient explanation as to why the studies are not applicable. They state that the studies address impacts on nine freshwater mussel species in the Sipsey River in Alabama and assess impacts on mussels, without differentiating species of mussels, in the Apalachicola-Chattahoochee-Flint River Basin, which is the next watershed to the east of the Coosa River Basin in Georgia and sufficiently similar to it.

126. We disagree. One of the studies addresses the effects of a long-term drought on aquatic habitat and nine mussel species in the Flint River Basin in Georgia, and in fact appears to support the biological basis for a minimum DO of 4.0 mg/L. The other two studies address the effects of flows on mussel species, and while low streamflow can indirectly influence DO levels, these studies do not directly address DO impacts on mussels. Accordingly, the studies do not support the Conservation Groups' assertions. The Conservation Groups cite no specific evidence that operation of the Coosa River Project, with the mitigation and enhancement measures required in the license, will jeopardize threatened and endangered species: the EA and the Biological Opinion reach a contrary conclusion.

127. The June 20 Order explains that Conservation Groups fail to recognize the substantive and procedural responsibilities that section 7(a)(2) of the ESA[130] imposes and

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and controversial, and in any event, monetary worth is only one measure of value and should not be the singular determinant in balancing competing uses in the public interest. *See Duke Energy Progress*, 153 FERC ¶ 61,056, at P 113 (2015) (citing *Southern California Edison Co.*, 77 FERC ¶ 61,313 (1996)).

[129] Conservation Groups Request for Rehearing at 98-103.

[130] 16 U.S.C. § 1536(a)(2) (2006).

the interdependence of federal agencies acting under that section. Although a federal agency is required to ensure that its action will not jeopardize the continued existence of listed species or destroy or modify their critical habitat, it must do so in consultation with the appropriate agency, in this case, FWS. Because FWS is charged with implementing the ESA, it is the recognized expert with regard to matters of listed species and their habitats, and the Commission may rely on its conclusions.[131]

128. The June 20 Order adds that in reviewing whether the Commission may appropriately rely on a Biological Opinion, the relevant inquiry is not whether the document is flawed, but rather whether the Commission's reliance was arbitrary and capricious.[132] Therefore, an agency may rely on a Biological Opinion if a challenging party fails to cite new information that the consulting agency did not take into account that challenges the Opinion's conclusions. The June 20 Order explains that the Commission was not presented with new information.[133] Conservation Groups do not dispute this on rehearing, and accordingly, we deny rehearing on this issue.

J. Consistency with Comprehensive Plans

129. Section 10(a)(2)(A) of the FPA[134] requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project.[135] Of the 42 comprehensive plans filed by agencies that address various resources in Alabama and Georgia, Commission staff identified and reviewed 14 that are relevant to this project.[136] No conflicts were found.

130. On rehearing, Conservation Groups assert that the EA and June 20 Order fail to explain how the Coosa River license is consistent with the 14 plans.

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[131] June 20 Order, 143 FERC ¶ 61,249 at P 95, citing *City of Tacoma, Washington v. FERC*, 460 F.3d 53, 75 (D.C. Cir. 2006).

[132] June 20 Order, 143 FERC ¶ 61,249 at P 95.

[133] *Id.* PP 96-98.

[134] 16 U.S.C. § 803(a)(2)(A) (2012).

[135] Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19 (2015).

[136] *See* EA at 254-55 for the list of relevant plans.

131. We deny rehearing. None of the federal or state agencies that submitted the plans objected to Commission staff's finding, and Conservation Groups fail to identify any alleged inconsistencies. Moreover, it is not clear what additional meaningful analysis staff could have added in justifying its finding of consistency.

K. Public Participation

132. Finally, Conservation Groups assert that the Commission has thwarted meaningful public participation. The Groups maintain that, by requiring ongoing consultation with numerous agencies, the license is "largely incomplete."[137] Conservation Groups argue that this process "excludes meaningful participation by Conservation Groups and other concerned stakeholders…."[138]

133. We deny rehearing. Conservation Groups, and all stakeholders, have had ample opportunity to participate throughout this relicensing proceeding. Conservation Groups may also file comments on plans and studies that are filed with the Commission pursuant to the license articles. Moreover, it is generally not the Commission's practice to require post-licensing consultations with entities other than those state and federal agencies having statutory or regulatory responsibilities with respect to affected resources. We have no reason to believe that the consulting resource agencies, including FWS, Alabama DCNR, and Alabama DEM, which are charged with protecting the natural resources subject to their jurisdiction, will not adequately protect Conservation Groups' interests.

L. Georgia EPD's Request for Rehearing

134. Two large Corps projects, Carters and Allatoona, are located in Georgia, upstream of the Weiss development.

135. Carters dam and reservoir and the immediately downstream Carters reregulation dam and reservoir are located on the Coosawattee River in northwest Georgia more than 70 miles upstream of the Coosa River Project. The Corps operates the project for flood control, hydroelectric power, regulation of stream flow for downstream navigation, water

[137] Conservation Groups Request for Rehearing at 98. The Groups cite as examples Articles 404 (*Weiss Bypass Flow Adaptive Management Plan*), 405 (*Minimum Flow Releases at the Jordan Development*), 406 (*Project Operation and Flow Monitoring Plan*), 407 (*Dissolved Oxygen Enhancement Plan*), 408 (*Water Quality Monitoring Plan*), 411 (*Fish Habitat Enhancement Plan*), 413 (*Recreation Plan*), 415 (*Erosion Repair and Monitoring Plan*), and 417 (*Threatened and Endangered Species Protection Plan*).

[138] Conservation Groups Request for Rehearing at 98.

supply, water quality, fish and wildlife conservation, and recreation.[139] The Corps Carters Project is a pumped-storage, peaking project that uses the reservoir behind the downstream reregulation dam. The Carters reregulation dam provides a minimum year-round flow of 240 cfs to the Coosawattee River. Farther downstream from the reregulation dam, the Coosawattee River is joined by the Conasauga River forming the Oostanaula River.

136. Allatoona dam and reservoir are located on the Etowah River in northwest Georgia about 80 miles upstream of the Coosa River Project. The Corps operates Allatoona dam and reservoir for flood control, regulation of streamflow for navigation, hydroelectric power, recreation, water supply, water quality, and fish and wildlife conservation. The Allatoona Project is normally operated as a weekday peaking project and has a minimum year-round flow of 240 cfs. Water withdrawals are made from the Cartersville and Cobb County-Marietta water systems, which serve the northern suburbs of Atlanta. Near Rome, Georgia, downstream of Allatoona reservoir, the Etowah River joins the Oostanaula River creating the Coosa River.

137. On rehearing, Georgia EPD argues that the operation of the Coosa River Project could have an impact on water resources in Georgia upstream of the Weiss development. Georgia EPD explains that Georgia relies on the Corps' Carters and Allatoona projects for municipal and industrial water supply, recreation, support for water quality, and fish and wildlife propagation.[140] It asserts that in 2007 Alabama Power "demanded that the Corps make greater releases from Lake Allatoona and Carters Lake to increase the flow into the Coosa River Project…," and "will likely make similar demands of the Corps in the future, particularly if [Alabama Power] is not operating its own reservoirs in a responsible and appropriately conservative manner or is subject to downstream flow requirements and demands that can only be met by drawing on storage in the federal reservoirs upstream."[141] Georgia EPD maintains that, for the above reasons, the EA is deficient because it failed to analyze the environmental impacts of the low-flow operations adopted in the license. It alleges that there may be major differences between the effects of the operations that Alabama Power originally proposed and the conditions that could result from the implementation of the low-flow protocol required by the license.

[139] *See* EA at 53.

[140] Georgia EPD Request for Rehearing at 2.

[141] *Id.*

138. Under section 313 of the FPA, only a party that has been aggrieved by a Commission order may file a request for rehearing or a petition for judicial review.[142] A party is aggrieved if it can show that it has both constitutional and prudential standing to challenge a Commission order.[143] Specifically, a party must demonstrate that:

> (1) it has suffered an 'injury in fact' that is (a) concrete and particularized and (b) actual and imminent, not conjectural or hypothetical; (2) the injury is fairly traceable to the challenged action of the defendant; and (3) it is likely, as opposed to merely speculative, that the injury will be redressed by a favorable decision.[144]

139. Georgia EPD has not shown that it is aggrieved by the low-flow protocol (referred to as ADROP) adopted in the Coosa River Project license. Georgia EPD's primary concern appears to be the Corps' operation of the Carters and Allatoona projects. The Coosa River Project license requires Alabama Power to implement ADROP in times of low-flow (i.e., drought) conditions. ADROP establishes minimum flow releases from Jordan dam, the Coosa River Project's most downstream development, located approximately 314 and 258 miles, respectively, downstream from Lake Allatoona and Carter Lake. The Corps did not include any component in ADROP that dictates flows from, or reservoir elevations for, the Corps reservoirs.[145] Indeed, when considering an Alabama Power proposal to temporarily modify minimum flows downstream from Jordan during a drought in 2007, the Corps stated that it would "continue to independently operate its reservoirs at Carters Lake and Lake Allatoona according to current Water Control Manual guidelines."[146] Accordingly, Georgia EPD has not demonstrated that it has suffered an injury in fact.

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[142] *See* 16 U.S.C. §§ 825*l* (2012).

[143] *See Green Island Power Authority v. FERC*, 577 F.3d 148, 158 (2d Cir. 2009).

[144] *Id.* at 159 (citing *Pac. Capital Bank, N.A. v. Connecticut*, 542 F.3d 341, 350 (2d Cir. 2008)).

[145] The Corps' comprehensive drought management plan consists of three components that together comprise the Corps' Alabama-Coosa-Tallapoosa River Basin Drought Plan. As relevant here, the headwaters component of the Corps plan manages reservoir levels and releases for drought at Allatoona Lake and Carters Lake.

[146] *Finding of No Significant Impact for Alabama Power Company Proposal for a Temporary Modified Minimum Flow Agreement in the Alabama River for Drought Water Management Operation in the Alabama-Coosa-Tallapoosa River Basin*, prepared by the Corps July 19, 2007, and filed with the Commission August 8, 2007, at 1.

140. In any event, we find no merit in Georgia EPD's argument. As noted earlier, the EA recommended, as an interim measure until a drought management plan was finalized, that during drought conditions Alabama Power would consult with the Corps and file a request for Commission approval for each specific case in which the minimum flow would be less than the current navigation flow requirement. Additionally, the EA referred to a July 2007 environmental assessment prepared by the Corps, which concluded that a 4,640-cfs navigation flow in the Alabama River would adequately protect environmental resources and that under extreme drought conditions a 20 percent reduction (approximately 3,712 cfs) would result in no significant adverse environmental impacts.[147]

141. Accordingly, we find the Corps' 2007 EA provided a meaningful basis for the Commission to adopt ADROP in the June 20 Order. A principal component of ADROP is the flow regime identified in the Corps 2007 environmental assessment. Specifically, ADROP provides for a 7-day average minimum flow at the Alabama River gage from a high of 4,640 cfs to a low of 3,700 cfs during the early summer period.

142. Moreover, the Coosa River Project EA evaluated the frequency of low flows and the ability of the project to meet navigation flows under the proposed operation.[148] Staff did so by running a flow model derived from the one used by both Alabama Power and the Corps, with several parameters adjusted to support staff's independent analysis. Staff concluded that the water storage at the Coosa Project would not be enough to avoid low downstream flows, particularly flows below the 4,640-cfs navigation target as measured on the Alabama River at Montgomery, Alabama. Based on this conclusion, staff recommended Alabama Power develop a drought management plan to manage the resource effectively during those low flows.

143. Therefore, while the EA did not specifically evaluate all the components of ADROP, it analyzed the need for drought management. Given the above, as well as the thoroughness of ADROP, its wide acceptance, its coverage of the basin, and attention to drought conditions down to the worst possible scenarios, we find no compelling reason to

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[147] EA at 231-32. The Corps' July 18, 2007 *Environmental Assessment for Alabama Power Company Proposal for a Temporary Modified Minimum Flow Agreement in the Alabama River for Drought Water Management Operation in the Alabama-Coosa-Tallapoosa River Basin*, filed with the Commission August 8, 2007, analyzed Alabama Power's proposal to reduce minimum flows a total of 40 percent, in 10 percent increments over a four week period. The EA concluded that under extreme drought conditions, impacts would be minor for up to a 20-percent reduction in flow (i.e., down to 3,712 cfs).

[148] EA at 78-84.

re-analyze the plan, as it will provide no additional information to meaningfully inform our decision.[149]

144. As noted above, ADROP does not dictate flows or reservoir elevations for the Corps' Allatoona or Carters projects located in Georgia. Moreover, Georgia EPD had ample opportunity to participate in the Corps' NEPA process for analyzing the environmental impacts of the Corps' comprehensive management plan for the Alabama-Coosa-Tallapoosa River Basin, including drought management. In March 2013, the Corps released a draft EIS for its Update of the Water Control Manual for the Alabama-Coosa-Tallapoosa River Basin in Georgia and Alabama, which included ADROP as a component of several alternatives under analysis. The Corps subsequently issued a final EIS in October 2014, which evaluated the alternatives that included ADROP. On May 4, 2015, the Corps issued its Record of Decision, which selected one of the alternatives that included the ADROP.[150] As noted above, the ADROP was subsequently included in the license for the Coosa River Project.

145. In addition to claiming that the EA failed to provide a detailed analysis of operations under ADROP, Georgia EPD also argues on rehearing that in its license application, Alabama Power did not provide an accurate model of any of its proposed operations for staff's consideration of low flow in the EA. Specifically, Georgia EPD notes that staff identified numerous errors in Alabama Power's HEC-5 models, which it asserts "significantly undercuts the efforts of the Commission to properly analyze the environmental impacts" of Coosa River Project operations.[151] Georgia EPD asserts that

[149] As discussed in the June 20 Order and above, the portions of ADROP that apply to the Coosa River Basin were based on the experiences of Alabama Power, FWS, Commission staff, and others in drought operations procedures for the Coosa River Project. Moreover, FWS found that the Coosa River Project portion of ADROP is sufficiently protective of listed species, and in its Biological Opinion includes terms and conditions requiring Alabama Power to implement the Coosa River Project portion of ADROP. For all of these reasons, we see no need for an additional analysis of ADROP.

[150] The Corps Draft EIS makes reference to APCDOP, "Alabama Power Company draft Alabama Drought Operations Plan." ADROP and APCDOP are the same plan. APCDOP is one component of the Corps ACT Basin Drought Plan which also includes the State of Georgia Drought Plan, and the State of Alabama Drought Plan. The Corps EIS looked at the potential effects of the alternatives, including those using the ADROP, on numerous resources including water resources in Alabama and Georgia and fish and other aquatic biota.

[151] Georgia EPD Request for Rehearing at 9.

without benefit of accurate models, "the Commission cannot be certain that it modeled conditions" that Alabama Power intended.[152]

146. We disagree. As discussed in the EA, Alabama Power modeled the ability to operate the Coosa River Project with its proposed reservoir levels, with releases of minimum flows to the Weiss bypassed reach, and with downstream navigation releases using HEC-5 and HEC-RAS.[153] However, during a review by agencies, including Georgia EPD, it was determined that these models contained numerous critical flawed assumptions or errors. Accordingly, staff issued an additional information request to verify and correct the model to accurately describe existing operations and flow conditions.[154] Based on the additional information, staff conducted its own modeling analysis of flows and revised Alabama Power's HEC-5 model to correct six questionable assumptions or errors.[155]

147. We find that Commission staff's independent review provided reasonable assurances of the validity of the HEC-5 and HEC-RAS models. For these reasons, we deny rehearing.

148. We also find unavailing Georgia EPD's claim that the Commission should have delayed issuance of the June 20 Order until the Corps issued its Water Control Manual for the Alabama-Coosa-Tallapoosa River Basin. The Corps did not approve its final Master Water Control Manual for the Alabama-Coosa-Tallapoosa River Basin until May 2015, six years after the EA was issued, and almost two years after issuance of the June 20 Order. Moreover, the Corps has not notified the Commission of any inconsistencies between the manual and its mandated operations set forth in the Coosa River portion of ADROP. We therefore deny rehearing on this issue.

149. Finally, for the reasons set forth above in the discussion on cumulatively significant impacts, we reject Georgia EPD's argument that the EA failed to consider the cumulative impacts of Alabama Power's projects on the Tallapoosa River, and deny rehearing.

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[152] *Id.*

[153] EA at 73-74. HEC-RAS is a Corps-developed computer program that models the hydraulics of water flow through natural rivers and other channels. HEC-5, which has been superseded by HEC-ResSim, is a reservoir simulation model that is used by the Corps to simulate reservoir operations for flood management, as well as flow augmentation.

[154] *Id.*

[155] *Id.* B-9.

M. Conclusion

150. For the reasons discussed above, we grant in part and deny in part Alabama Power's request for rehearing and dismiss as moot its request for stay of certain license articles. We deny the requests for rehearing filed by Conservation Groups, Georgia EPD, and Atlanta Regional Commission. We provide clarification, below, as discussed in the body of this order.

The Commission orders:

(A) The request for rehearing filed July 18, 2013, by Conservation Groups, is denied.

(B) The request for rehearing filed July 22, 2013, by Alabama Power is granted as set forth below, and is denied in all other respects.

(C) The request for rehearing filed July 22, 2013, by Georgia EPD and Atlanta Regional Commission, is denied.

(D) Alabama Power's request for a stay of Articles 407, 408, and 417 is dismissed as moot.

(E) Article 402 is modified by: (a) requiring Alabama Power to consult only with the Corps before temporarily modifying flood control requirements; (b) extending the time to 10 days to notify the Commission of each incident; and (c) in addition to notifying the Commission of each incident within 10 days, notifying the U.S. Fish and Wildlife Service (FWS), Alabama Department of Environmental Management (Alabama DEM), and Alabama Department of Conservation and Natural Resources (Alabama DCNR).

Article 402 is revised to read:

> The flood control requirements at the Weiss, Neely Henry, and Logan Martin developments may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for short periods upon consultation with the Corps. If the flood control provisions are so modified, the licensee shall notify the Commission, FWS, Alabama DEM, and Alabama DCNR as soon as possible, but not later than 10 days after such incident, and shall provide the reason for the change in project operation.

(F) Article 405 is revised to read:

> Recreational releases may be modified (either lower flow or shorter duration) if dissolved oxygen in the releases during the event would cause the dissolved oxygen level in the Jordan dam tailrace to fall below 4.0 mg/L with aeration systems operations.

(G) Article 406 is revised to include in the Project Operation and Flow Monitoring Plan a provision describing how the licensee will document compliance with the reservoir stabilization requirements in Article 410.

Article 406 is revised to read as follows:

(4) flow releases from the Weiss and Jordan dams required in Article 404, *Weiss Bypass Flow Adaptive Management Plan* and Article 405, *Minimum Flow Releases at the Jordan Development;* and (5) reservoir stabilization requirements in Article 410, *Crappie and Black Bass Spawning Enhancement at Weiss and Logan Martin Reservoirs*.

(H) Article 407 is revised to read as follows:

Dissolved Oxygen Enhancement Plan. By no later than October 31, 2016, the licensee must file for Commission approval, a Dissolved Oxygen Enhancement Plan for maintaining dissolved oxygen (DO) concentrations in the Weiss bypassed reach (measured at a point 1,200 feet downstream from the Weiss dam spillway), the Weiss tailrace, and the Neely Henry, Logan Martin, Lay, Mitchell, Jordan, and Bouldin tailwaters of no less than 4.0 mg/L at all times when the project is discharging (i.e., during periods of generation and in its minimum flow releases from the Weiss and Jordan developments) as directed by the water certification conditions in Appendix A of the license.

The plan shall include, at a minimum, the following provisions:

(a) a description of the physical (e.g., forebay oxygen diffuser systems, turbine aeration systems, flow release mechanisms, spillway baffles, SDOX Technology, etc.) and operational measures to be implemented at each project development, including operation and maintenance protocols;

(b) design drawings of physical structures identified in item (a);

(c) a description of the guidelines under which the physical structures identified in item (a) will be operated; and

(d) a schedule for (i) completing the installation of the DO enhancement measures at each project development no later than18 months from the date of this order and (ii) operating and maintaining the measures for the license term.

The plan must be developed after consultation with the Alabama Department of Environmental Management, the Alabama Department of Conservation and Natural Resources, and the U.S. Fish and Wildlife Service. The licensee must include with the plan documentation of consultation, copies of recommendations on the completed plan after it has been prepared and provided to the entities above, and specific descriptions of how the entities' comments are accommodated by the plan. The licensee must allow a minimum of 30 days for the entities to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing must include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Implementation of the plan shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

(I) The first sentence of Article 408 is revised to read as follows:

By no later than July 31, 2016, the licensee must file, for Commission approval, a Water Quality Monitoring Plan to implement the water quality monitoring, reporting, and remedial measures requirements outlined in conditions 3 through 7 of the project's water quality certification, attached as Appendix A to this license.

(J) The first sentence of Article 417 is revised to read as follows:

By no later than October 31, 2016, the licensee shall file for Commission approval, a Threatened and Endangered Species Protection Plan detailing how it will implement the incidental take terms and conditions of the U.S. Fish and Wildlife's (FWS) Biological Opinion, filed on June 10, 2012, to minimize take of listed species.

(K) The first sentence of Article 410 is revised to read:

The licensee shall maintain stable water levels in Weiss and Logan Martin reservoirs for a 14-day period in the spring.

By the Commission.

(S E A L)

Nathaniel J. Davis, Sr.,
Deputy Secretary.