UNITED STATES OF AMERICA 148 FERC ¶ 62,171
FEDERAL ENERGY REGULATORY COMMISSION

Sabine River Authority of Texas Project No. 2305-036
Sabine River Authority, State of Louisiana

ORDER ISSUING NEW LICENSE

(August 29, 2014)

INTRODUCTION

1. On September 30, 2011, the Sabine River Authority of Texas and Sabine River Authority, State of Louisiana (Authorities) filed pursuant to sections 4(e) and 15 of the Federal Power Act (FPA),[1] an application for a new license to continue operation and maintenance of the Toledo Bend Hydroelectric Project No. 2305 (Toledo Bend Project or project). The project is located on the Sabine River on the Texas-Louisiana border in Panola, Shelby, Sabine, and Newton Counties in Texas and DeSoto, Sabine, and Vernon Parishes in Louisiana. The project occupies federal land within the Sabine National Forest (3,650 acres) and the Indian Mounds Wilderness Area (147 acres),[2] administered by U.S. Department of Agriculture, Forest Service (Forest Service), between reservoir elevations of 172 and 175 feet mean sea level (msl).[3]

[1] 16 U.S.C. §§ 791(a)–825(r) (2012).

[2] The 12,369-acre Indian Mounds Wilderness Area is located along the western shoreline of Toledo Bend reservoir. Section 4(c) of the Wilderness Act, 16 U.S.C. § 1133 (2012), prohibits commercial enterprise, structure, or installation within designated wilderness areas, unless authorized by the President. The Commission has interpreted the Wilderness Act as prohibiting the issuance of licenses authorizing the construction or operation of project works located within designated wilderness areas. Because wilderness area land was included in the project boundary under the original license, prior to designation of the Indian Mounds Wilderness Area, and the Authorities are not proposing construction on or additional inundation of these lands, relicensing the project is consistent with the Wilderness Act. S*ee PPL Montana*, 121 FERC ¶ 62,198 at P14, n.10 (2007).

[3] Pursuant to section 23(b)(1) of the FPA, the project is required to be licensed because of the project's location on the Sabine River, a navigable

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2. As discussed below, this order issues a new license for the Toledo Bend Project and authorizes construction of a new 1.3-megawatt (MW) minimum flow generating facility as a part of the project. As previously licensed, the project's authorized installed capacity was 81 MW. The project's installed capacity authorized under this new license is 82.3 MW.

BACKGROUND

3. The Commission issued the original license for the project on October 14, 1963,[4] which expired on September 30, 2013. Since then, the Authorities have operated the project under an annual license pending the disposition of the new license application.

4. As noted above, the Authorities filed an application for new license on September 30, 2011.

5. On August 1, 2012, the Authorities filed an Offer of Settlement (settlement) that included two agreements: (1) a Relicensing Settlement Agreement for the Sabine National Forest (Forest Service Settlement Agreement) signed by the Authorities and the Forest Service; and (2) a Relicensing Settlement Agreement for Lower Sabine River Water Quality and Aquatic Resources (Aquatic Settlement Agreement) signed by the Authorities, the U.S. Fish and Wildlife Service (FWS), the National Marine Fisheries Service (NMFS), the Texas Commission on Environmental Quality (Texas CEQ), the Texas Parks and Wildlife Department (Texas Parks and Wildlife), the Texas Water Development Board, and the Louisiana Department of Wildlife and Fisheries (Louisiana Wildlife and Fisheries). The provisions of the settlement agreements are considered the Authorities' relicensing proposal and supersede any proposed measures filed by the Authorities as part of their license application.[5]

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waterway of the United States, and because it occupies federal land. 16 U.S.C. § 817(b)(1) (2012).

[4] *Sabine River Authority of Texas and Sabine River Authority of Louisiana*, 30 FPC 1,009 (1963).

[5] In the Explanatory Statement accompanying the settlement, the Authorities state that the proposed license articles, the section 18 fishway prescription, and the section 4(e) land management conditions, if included in the project's new license without modification, would resolve, among the parties to the agreements, all issues associated with the Authorities' pending final license application for continued operation of the project.

6. On August 23, 2012, the Commission issued a public notice that was published in the *Federal Register* accepting the application for filing and providing notice of the Offer of Settlement.[6] The notice solicited motions to intervene and protests, indicated the application was ready for environmental analysis, and solicited comments, recommendations, terms and conditions, and preliminary fishway prescriptions.[7] The deadline for filing motions to intervene, comments, final recommendations, terms and conditions, and prescriptions was October 22, 2012.

7. The U.S. Department of the Interior (Interior), Texas Parks and Wildlife, NMFS, and Forest Service filed notices of intervention and comments on the application and the Offer of Settlement.[8] American Whitewater and Sabine Whitewater Club, jointly, and Robert R. Stump filed motions to intervene and comments on the application and the settlement.[9] Louisiana Wildlife and Fisheries, the Louisiana Department of Environmental Quality, the Texas Water Development Board, and Harold Temple filed comments on the application and the settlement. None of the intervenors or commenters oppose relicensing the project.

8. On June 14, 2013, the Commission staff issued a draft Environmental Impact Statement (EIS) analyzing the impacts of the proposed project and alternatives to it.[10] Interior, U.S. Environmental Protection Agency (EPA), Forest Service, Natural Resources Conservation Service, Texas CEQ, Texas Parks and Wildlife, Louisiana Wildlife and Fisheries, American Whitewater and Sabine

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[6] On April 24, 2012, Commission staff granted the Authorities' request to delay the issuance of the notice accepting the September 30, 2011 application and indicating that the application was ready for environmental analysis because the Authorities requested additional time to reach agreement on environmental measures.

[7] 77 *Fed. Reg.* 52,711 (2012).

[8] Under Rule 214(a) of the Commission's Rules of Practice and Procedure, these agencies became parties to the proceeding upon timely filing of their notices of intervention. 18 C.F.R. § 385.214(a) (2014).

[9] Timely, unopposed motions to intervene are granted by operation of Rule 214(c) of the Commission's Rules of Practice and Procedure. 18 C.F.R. § 385.214(c) (2014).

[10] 78 *Fed. Reg*. 37,539 (2013).

Whitewater Club, Katie Duffin, Mike and Shannon Cates, Alan Simmons, Alice Simmons, and the Authorities filed comments on the draft EIS. On December 13, 2013, the Commission staff issued a final EIS.[11] The Authorities and EPA filed comments on the final EIS on January 31 and May 8, 2014, respectively.

9. The interventions, comments, and recommendations have been fully considered in determining whether, or under what conditions, to issue this license.

PROJECT DESCRIPTION AND OPERATION

A. Project Area

10. The Toledo Bend Project is located on the Sabine River on the border of southeastern Texas and western Louisiana about 150 miles northeast of Houston, Texas and about 50 miles southwest of Shreveport, Louisiana. The Toledo Bend reservoir extends 70 miles from north of Burkeville, Texas, upstream to Logansport, Louisiana, forming a portion of the Texas-Louisiana border. From the project dam, the Sabine River continues south to its mouth at Sabine Lake near the Gulf of Mexico.

B. Project Facilities

11. The project's major features include a reservoir, a dam, saddle dikes, a powerhouse with associated intake and tailrace channels, a spillway and associated spillway channel, and a transmission line.

12. The project dam is about 9,075 feet long and 112 feet high with a crest elevation of 185 feet msl. Three earthen saddle dikes (dike no. 1 – about 690 feet long; dike no. 2 – about 1,170 feet long; and dike no. 3 – about 315 feet long) are located about 7,600; 6,000; and 2,300 feet southwest of the dam, respectively; and each has a crest elevation of 185 feet msl.[12] The dam and dikes impound a 185,000-acre reservoir with a gross storage capacity of about 4,477,000 acre-feet, and a useable storage capacity of about 1,554,000 acre-feet at a full pool elevation of 172 feet msl.

13. The powerhouse intake channel, which is integral with the dam and adjacent to the south abutment, leads directly to the powerhouse intakes. Inflows

[11] 78 *Fed. Reg*. 78,955 (2013).

[12] The dikes are earthen embankments designed to build up low areas of the reservoir's rim, thus preventing overflow into hydraulically inadequate channels.

to the powerhouse pass through these intakes and two short penstocks to the powerhouse. The powerhouse is 180 feet wide, 80 feet long, and 55 feet high and contains two vertical Kaplan turbines with a combined authorized capacity of 81 MW. Flows from the powerhouse discharge into a 220-foot-long concrete tailrace channel extending downstream from the powerhouse to a 2-mile-long excavated tailrace channel leading to the Sabine River.

14. An 838-foot-long spillway is located at the dam's north abutment and includes a gated weir with eleven 40-foot-wide by 28-foot-high tainter gates, an 8.33-foot-wide by 12-foot-high low-flow sluice gate, two 20-inch-diameter low-flow bypass conduits, a concrete spillway chute, and a stilling basin. This spillway discharges to a 2.1-mile-long excavated spillway channel that intersects the old Sabine River channel and becomes contiguous with the current Sabine River channel, which meanders downstream for about 4 miles to the confluence with the tailrace channel.

15. The 138-kilovolt (kV) project transmission line extends 394 feet from a step-up transformer (adjacent to the powerhouse) to a switchyard, interconnecting with the transmission grid via Entergy-TX transmission lines. The project also includes about 5,000 feet of access roads and appurtenant facilities.[13]

16. A more detailed project description is contained in Ordering Paragraph (B)(2).

C. Project Recreation Facilities

17. In addition to its generating facilities, the project includes several recreation facilities owned and operated by the Authorities, including Swede Johnson Recreation Area, Oak Ridge Park, Bubba Cowser Recreation Area, Converse Bay Recreation Area, Hot Wells Recreation Area, Blue Lake Landing Recreation Area, Clyde's Crossing Recreation Area, San Miguel Park, Pendleton Park, Cypress Bend Park, Pleasure Point Park, Toledo Bend Observation Towers,[14] and Sam Forse Collins Recreation Area.

[13] Appurtenant facilities include administrative offices and maintenance buildings.

[14] This recreation site consists of two observation towers: one on the Texas side of the dam and one on the Louisiana side of dam.

D. Project Boundary

18. The existing project boundary incorporates about 204,097 acres of land (including inundated lands), including lands occupied by all of the project facilities noted above. Of this amount, about 3,797 acres is federal land and 200,300 acres is owned in fee by the Authorities. The project boundary generally follows the elevation 175-foot msl contour (based on a metes and bounds survey) around the reservoir extending north to Murvaul Bayou, with additional lands encompassing project facilities, roads, and recreational sites. The project boundary also includes the spillway channel from the dam downstream to the confluence with the old Sabine River channel and the tailrace channel downstream to the confluence with the Sabine River.

E. Current Project Operation

19. The Authorities operate the project primarily for water supply and secondarily for hydroelectric power generation and recreation. The Authorities operate the project reservoir in accordance with a rule curve that allows for the production of both peaking and non-peaking power when the water surface elevation is above 168 feet msl. The project generates peaking power from May through September and non-peaking power from October through April.

20. The typical daily peaking operation consists of releasing either 7,000 or 14,000 cubic feet per second (cfs) to the lower Sabine River (i.e., one- or two-unit operation, respectively) for 6 to 8 hours to meet afternoon and evening peak electrical demand. In addition to powerhouse releases, and as required by the current license, the Authorities release a continuous minimum flow of 144 cfs to the spillway channel from the spillway's low-flow bypass conduits.

F. Proposed Project Facilities, Operation, and Environmental Measures

21. The Authorities propose to install a new 1.3-MW horizontal Francis minimum flow turbine-generator downstream of the spillway to increase the project's total generating capacity to 82.3 MW. The Authorities will install the new turbine by replacing the northernmost spillway tainter gate with stoplogs and an intake connected to a steel penstock measuring about 460 feet long leading to a new powerhouse. A 1,800-foot-long, 19-foot-wide service road will be constructed from Highway 191 to the powerhouse location. The new powerhouse will be located along the spillway retaining wall at the dam's north abutment and discharge directly to the existing spillway channel. A 15-kV transmission line will extend approximately 10,400 feet from a new transformer and substation near the new powerhouse and access road to the existing main powerhouse substation. The proposed new project facilities are within the current project boundary.

Forest Service Settlement Agreement

22. Attachment A to the Forest Service settlement contains three proposed environmental conditions that are described below.

23. To appropriately address recreation management at Forest Service recreation sites that provide access to project lands and waters, the Authorities propose to implement a Sabine National Forest Recreation Areas Operations and Maintenance and Capital Improvements Plan (Sabine National Forest Recreation Plan) that identifies responsibilities of the Sabine River Authority of Texas for operating, maintaining, and improving the six forest recreation areas (Indian Mounds Recreation Area, Willow Oak Recreation Area, Lakeview Recreation Area, East Hamilton Boat Launch, Ragtown Recreation Area, and Haley's Ferry Boat Launch) at the project that are within the Sabine National Forest. Under the plan the Authorities are obligated to operate and maintain all six forest recreation areas listed above for specific tasks categorized into mowing, signage, facilities, transportation and parking, and public safety. The Authorities must also provide specified capital improvements to each site.

24. To establish erosion rates at six representative sites along the project shoreline within the Sabine National Forest and develop measures to mitigate any project effects, the Authorities propose to implement an Erosion Monitoring and Management Plan that includes a 10-year monitoring program.

25. To control Chinese tallow, an invasive tree species, along the shoreline within the Sabine National Forest, the Sabine River Authority of Texas proposes to contribute $20,000 to the Forest Service annually for treatment measures. The Authorities would also require lessees and permittees on non-federal project lands to control and remove Chinese tallow, an invasive tree species, on leased and permitted lands.

Aquatic Settlement Agreement

26. The Aquatic Settlement includes proposed license articles addressing aquatic resources, water quality, water quantity, and other natural resources issues and a proposed fishway.

27. To protect and enhance aquatic resources within the spillway channel and the lower Sabine River, the Authorities propose to release new continuous minimum flows at the spillway, beginning with an interim release of 144 cfs. Upon Commission approval of a flow release plan or the third year of the license, whichever is later, the Authorities will provide increased flows ranging from 150 to 300 cfs based on reservoir elevation and month (proposed Article A-1).

28. The Authorities propose to develop a spillway flow release plan for the project spillway channel to identify the location and means of delivering proposed flow releases and describe means to measure the flows (proposed Article A-2).

29. To monitor the integrity of a remnant submerged cofferdam located just upstream of the Toledo Bend dam, and ensure the project's discharge is from the warmer and better oxygenated water from the upper reservoir strata facilitated by the cofferdam, the Authorities propose to monitor water temperature in the tailrace as an early indicator of the cofferdam's integrity (proposed Article A-3). If water temperature monitoring shows temperatures below 20° Celsius during 10 percent of the monitored days in July, August, and September, indicating that the powerhouse intakes are likely receiving water from the lower reservoir strata, the licensees propose to collect dissolved oxygen (DO) data, survey the cofferdam crest elevation, and develop a cofferdam restoration plan, if needed.

30. To minimize fluctuations in flows downstream of the project and provide more stable aquatic habitat, the Authorities propose to reduce the normal maximum powerhouse peaking flows from 14,000 cfs to 12,000 cfs during March through June (proposed Article A-4) starting in May 2018.[15] The limit on peaking operations would not apply to documented grid emergencies such as emergency calls on power that require the licensees to respond to an unexpected transmission system upset or anomaly, including such issues as congestion, frequency or voltage anomalies, and brown-outs or black-outs. The Authorities also propose to release 1,450 acre-feet/day[16] in March and April, and depending on water year type, every weekend day in May and June, also starting in May 2018, to enhance downstream aquatic habitat, and develop a weekend operations plan to determine the flow rate and duration based on flow testing.[17]

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[15] The delayed implementation of the seasonal spillway release flows is to accommodate the Authorities' obligations under its current power sales agreement that requires the Authorities to provide a minimum of 65,700,000 kilowatt-hours of prime power during the peaking period. The agreement is scheduled to expire on April 30, 2018. Given that downstream fish populations are healthy, delaying these modest habitat enhancement measures would have no significant long-term effects on downstream fish populations.

[16] Based on the upper and lower operating ranges of a single turbine, the daily release of 1,450 acre-feet would provide a continuous flow for 2.5 hours at a flow release of 7,000 cfs or a little less than 4.5 hours at a release of 4,000 cfs.

[17] Weekend releases would occur in May and June if: (1) the mean calculated inflow to the reservoir for the first 6 months of the current water year

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31. The Authorities propose to provide for the upstream and downstream passage of American eel at the dam by implementing upstream and downstream fish passage plans (Appendix B to the Aquatic Settlement Agreement).

Additional Measures

32. To guide the management and operation of the 13 project recreation sites, the Authorities propose to implement a Recreation Management Plan that includes an inventory of recreation facilities and amenities; proposed maintenance, rehabilitation, and capital improvement measures; a recreation monitoring program; a proposed method for consultation and reporting; and recreation facilities maps.

33. To consolidate an existing shoreline permitting program with a new shoreline classification system, the Authorities propose to implement a Shoreline Management Plan (SMP) that includes monitoring and enforcement measures and provisions for plan review and updates.

34. To protect cultural resources, the Authorities propose to implement a Historic Properties Management Plan.

SUMMARY OF LICENSE REQUIREMENTS

35. To protect or enhance geology and soils and aquatic, terrestrial, and recreation resources, the license requires the two settlements' proposed license conditions and articles including proposed fishways, through the Forest Service's section 4(e) conditions, Interior and the Department of Commerce's fishway prescriptions, or license articles.

36. To further protect geology and soils resources, the license requires an erosion control plan for construction of the minimum flow generating facility and an erosion monitoring and management plan for non-Forest Service lands to determine effects of erosion on important shoreline resources.

37. To maintain recreational use of the reservoir and protect shoreline resources, including access to boat ramps, the license requires the Authorities to maintain reservoir levels between elevation 168 to 172 feet msl, with certain

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(October 1 to March 31) is greater than 80 percent of the mean calculated inflow of the water year for the same 6-month period for the most recent 38-year period of record (not including the current water year); and (2) the Authorities are able to safely operate at least one turbine-generator unit within its normal operating range.

exceptions (e.g., meet downstream water obligations and continuous flow releases and during documented grid emergencies where an insufficient supply of firm or non-interruptible power to the licensees' wholesale customers requires that the Authorities generate hydropower).

38. To protect water quality, and in addition to the proposed water temperature monitoring, the license requires periodic bathymetric surveys to ensure the submerged cofferdam continues to prevent the discharge of lower oxygenated reservoir water from the powerhouse.

39. The license requires bald eagle surveys prior to construction of the minimum flow generating facility to ensure any nests are not disturbed and a transmission line design plan to minimize potential avian electrocution and collision hazards.

40. To minimize the spread of Chinese tallow, the license requires an annual report outlining the amount and general location of Chinese tallow treatment on Sabine National Forest lands funded under Forest Service condition 15.

41. To protect recreation resources the license requires: (1) modification and implementation of a revised recreation management plan that incorporates the shoreline areas of the Cow Bayou Wilderness Area, the tailrace channel area, and spillway channel area into the current recreation management plan; and (2) increases in weekend flow releases from the powerhouse that benefit downstream recreation. Including the three additional recreation sites listed above into the recreation management plan will ensure recreation opportunities and recreation resources are protected for future use. Increases in weekend flows from the powerhouse will increase the recreation opportunities for boaters in the tailrace channel area.

42. To protect land use resources, the license requires a modification to the proposed SMP for the control of Chinese tallow on non-federal lands at project recreation areas maintained by the Authorities and at Conservation and Public Access classification areas where future ground-disturbing activities may occur and the protection of bald eagle nesting activities from future construction-related activities and a specific plan to monitor the shoreline and inventory existing encroachments at the project.

43. To protect aesthetic resources, the proposed minimum flow generating facility must be designed to minimize effects on visual quality.

44. To protect cultural resources, the license requires implementation of a Programmatic Agreement and the Historic Properties Management Plan.

WATER QUALITY CERTIFICATION

45. Under section 401(a)(1) of the Clean Water Act (CWA),[18] the Commission may not issue a license authorizing the construction or operation of a hydroelectric project unless the state water quality certifying agency either has issued water quality certification for the project or has waived certification by failing to act on a request for certification within a reasonable period of time, not to exceed one year. Section 401(d) of the CWA provides that the certification shall become a condition of any federal license that authorizes construction or operation of the project.[19]

46. On August 1, 2012, the Authorities applied to the Texas CEQ and Louisiana Department of Environmental Quality (Louisiana DEQ) for water quality certification. Texas CEQ and Louisiana DEQ received this request on August 2, 2012 and August 3, 2012, respectively. Texas CEQ issued its water quality certification on July 30, 2013. Louisiana DEQ issued its certification on September 18, 2012. Neither certification includes conditions.

COASTAL ZONE MANAGEMENT ACT

47. Under section 307(c)(3)(A) of the Coastal Zone Management Act (CZMA),[20] the Commission cannot issue a license for a project within or affecting a state's coastal zone unless the state CZMA agency concurs with the license applicant's certification of consistency with the state's CZMA program, or the agency's concurrence is conclusively presumed by its failure to act within 6 months of its receipt of the applicant's certification.

48. By letters dated August 29, 2011, and September 16, 2011 (included in the license application filed on September 30, 2011), the Louisiana Department of Natural Resources, Office of Coastal Management, and the Texas General Land Office, Coastal Coordination Council notified the Authorities that the project is not subject to Texas or Louisiana coastal zone program review, and no consistency certification is needed.

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[18] 33 U.S.C. § 1341(a)(1) (2012).

[19] 33 U.S.C. § 1341(d) (2012).

[20] 16 U.S.C. § 1456(c)(3)(A) (2012).

SECTION 4(e) FINDINGS AND CONDITIONS

49. Section 4(e) of the FPA[21] provides that the Commission can issue a license for a project located within a federal reservation only if it finds that the license will not interfere or be inconsistent with the purpose for which such reservation was created or acquired. A portion of the project is located in the Sabine National Forest.

50. Staff has reviewed the Organic Administration Act of 1897,[22] which established the purposes for forest reservations, and the presidential proclamation that created the Sabine National Forest.[23] There is no evidence or allegation in this proceeding to indicate that relicensing the Toledo Bend Project will interfere with the purposes of the Sabine National Forest within which the project is located. Therefore, this license, as conditioned, will not interfere or be inconsistent with the purposes for which the Sabine National Forest was created.

51. FPA section 4(e) further requires that Commission licenses for projects located within federal reservations must include all conditions that the Secretary of the department under whose supervision the reservation falls shall deem necessary for the adequate protection and utilization of such reservation. The Toledo Bend Project is located in the Sabine National Forest, which is under the Forest Service's supervision.

52. The Forest Service filed final section 4(e) conditions on October 22, 2012. The conditions are set forth in Appendix A of this order and incorporated into the license by Ordering Paragraph (D).

53. Conditions 1 through 12 are general in nature and not discussed further. The three remaining project-specific conditions are consistent with the provisions of the Forest Service Settlement Agreement, which is discussed above.

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[21] 16 U.S.C. § 797(e) (2012).

[22] 16 U.S.C. § 471, *et seq.* (2012).

[23] The Sabine National Forest was created by presidential proclamation on October 13, 1936. *See* Presidential Proclamation No. 2204, 50 Stat. 1787. At that time, the Organic Administration Act of 1897, 16 U.S.C. § 475 (2012), stipulated that all national forest lands were established and administered only for watershed protection and timber production.

54. The EIS recommended all of the Forest Service 4(e) conditions;[24] however, with regard to condition 15, which requires the Authorities to provide $20,000 annually to the Forest Service for treatment of Chinese tallow on project lands within the Sabine National Forest, the EIS noted that the Commission does not have authority over the Forest Service to ensure that the monetary contribution is spent on Chinese tallow control. Therefore, the EIS recommended that the Authorities file an annual report describing the control activities funded under condition 15 and implement any additional measures, as directed by the Commission after review of the report, to treat Chinese tallow consistent with the intent of Forest Service condition 15.[25] Article 407 requires this measure. Any such measures will not be subject to a $20,000 limitation.

SECTION 18 FISHWAY PRESCRIPTIONS

55. Section 18 of the FPA[26] provides that the Commission shall require the construction, maintenance, and operation by a licensee of such fishways as may be prescribed by the Secretary of the Interior or the Secretary of Commerce, as appropriate.

56. On July 24, 2013, Interior converted its preliminary fishway prescription, filed on October 19, 2012, to its final prescription. On November 4, 2013, NMFS asked the Commission to accept its preliminary prescription, filed on December 4, 2012, as its final prescription. The identical prescriptions require upstream and downstream passage of American eel at Toledo Bend dam and require that the Authorities file upstream and downstream passage plans consistent with the Aquatic Settlement Agreement described above. A single fishway prescription common to both agencies is attached to the license (Appendix B) and required by Ordering Paragraph (E).

57. Interior and NMFS also requested that the Commission reserve authority to prescribe fishways. Consistent with Commission policy, Article 414 of the license reserves the Commission's authority to require fishways that may be prescribed by Interior or the Department of Commerce for the Toledo Bend Project.

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[24] *See* final EIS at 202-203.

[25] *See* final EIS at 194-195.

[26] 16 U.S.C. § 811 (2012).

THREATENED AND ENDANGERED SPECIES

58. Section 7(a)(2) of the Endangered Species Act of 1973[27] requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally listed threatened and endangered species, or result in the destruction or adverse modification of their designated critical habitat.

59. Two plant and two wildlife federally listed species may occur in the project vicinity: earth fruit, Texas golden gladecress, red-cockaded woodpecker, and Louisiana black bear. FWS has also designated critical habitat for the gladecress in the project vicinity.[28]

60. Staff concluded in the EIS that relicensing of the project, as proposed with the staff-recommended measures, would not be likely to adversely affect the red-cockaded woodpecker and Louisiana black bear because proposed construction activities will occur outside of preferred habitat for these species.[29] By letter filed July 25, 2013, FWS concurred with the findings in the EIS for the red-cockaded woodpecker and Louisiana black bear.

61. Finally, staff concluded in the EIS that the project would have no effect on the earth fruit and Texas golden gladecress or its designated critical habitat.[30] Therefore, no further action for either of these species is required.

NATIONAL HISTORIC PRESERVATION ACT

62. Under section 106 of the National Historic Preservation Act (NHPA)[31] and its implementing regulations,[32] federal agencies must take into account the effect of any proposed undertaking on properties listed or eligible for listing in the National Register (defined as historic properties) and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking. This generally requires the Commission to consult with the State Historic

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[27] 16 U.S.C. § 1536(a) (2012).

[28] *See* final EIS at 126-130.

[29] *See* final EIS at 130-132.

[30] *See* final EIS at 7.

[31] 16 U.S.C. § 470 et seq. (2012).

[32] 36 C.F.R. Part 800 (2014).

Preservation Officer (SHPO) to determine whether and how a proposed action may affect historic properties, and to seek ways to avoid or minimize any adverse effects.

63. To satisfy these responsibilities, the Commission executed a Programmatic Agreement (PA) with both the Texas and Louisiana State Historic Preservation Officers and invited the Authorities, Forest Service, Caddo Nation, Alabama Coushatta Tribe of Texas, and Choctaw Nation of Oklahoma to concur with the stipulations of the PA. The Authorities and Choctaw Nation concurred. The PA requires the Authorities to implement a Historic Properties Management Plan for the term of any new license issued for this project. Execution of the PA demonstrates the Commission's compliance with section 106 of the NHPA. Article 412 requires the Authorities to implement the PA and their management plan.

RECOMMENDATIONS OF FEDERAL AND STATE FISH AND WILDLIFE AGENCIES PURSUANT TO SECTION 10(j) OF THE FPA

64. Section 10(j)(1) of the FPA requires the Commission, when issuing a license, to include conditions based on recommendations submitted by federal and state fish and wildlife agencies pursuant to the Fish and Wildlife Coordination Act, to "adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)" affected by the project.

65. In response to the August 23, 2012 public notice that the project was ready for environmental analysis, Interior (October 19, 2012), Texas Parks and Wildlife (October 22, 2012), and NMFS (October 22, 2012) each filed four identical recommendations under section 10(j). These four recommendations, which are within the scope of section 10(j), are consistent with proposed Articles A-1 through A-4 in the Aquatic Settlement Agreement, as described above, and were recommended in the EIS. License Articles 402 (continuous spillway releases),[33] 403 (spillway flow release plan),[34] 404 (water quality and cofferdam effectiveness monitoring plan),[35] and 405 (seasonal powerhouse operations)[36] require measures consistent with these recommendations.

[33] *See* final EIS at 191.

[34] *See* final EIS at 185.

[35] *See* final EIS at 190-191.

SECTION 10(a)(1) OF THE FPA

66. Section 10(a)(1) of the FPA[37] requires that any project for which the Commission issues a license be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce; for the improvement and utilization of waterpower development; for the adequate protection, mitigation, and enhancement of fish and wildlife; and for other beneficial public uses, including irrigation, flood control, water supply, recreation, and other purposes.

A. Geology and Soils

67. While the Sabine National Forest Shoreline Erosion Monitoring and Management Plan required by Forest Service 4(e) condition 14 will address erosion issues on Forest Service land, erosion of reservoir shoreline areas outside of the forest, as a result of fluctuating reservoir levels, could impact sensitive resources, such as bald eagle nests, recreation areas, and cultural sites.[38] Developing and implementing an erosion monitoring and management plan for non-Forest Service lands classified in the SMP as Conservation and Public Access will protect these sensitive resources, and is required by Article 401.

B. Water Resources

Cofferdam Monitoring

68. The presence of the submerged cofferdam upstream of the powerhouse intakes prevents the intake of waters with low DO from the lower depths of the reservoir. As a result, flow releases from the powerhouse currently meet state water quality standards for DO. However, any future erosion of this cofferdam could result in powerhouse releases of colder low DO water, below state standards, into the tailrace.[39] To protect downstream water quality, staff recommended in the EIS, approval of the Authorities' proposal to monitor water temperature in the tailrace to ensure the cofferdam is functioning as desired. Article 404 requires this monitoring.

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[36] *See* final EIS at 191-192.

[37] 16 U.S.C. § 803(a)(1) (2012).

[38] *See* final EIS at 38-40.

[39] *See* final EIS at 94-99.

69. Under the Authorities proposal, however, physical monitoring of the cofferdam's structural integrity may not be required until a temperature threshold of 20 degrees Celsius in the tailrace channel is reached. However, the EIS explained that, based on the temperature profile of the reservoir, the entire cofferdam may significantly erode by the time that temperature threshold is observed.[40] Therefore, the EIS recommended that the Authorities directly monitor the cofferdam elevation by bathymetric surveys at 15-year intervals to supplement the water temperature monitoring and develop a cofferdam restoration plan, if needed, to prevent the release of low DO water. Article 404 requires this measure.

Seasonal Powerhouse Operations

70. The proposed *Seasonal Powerhouse Operations* article discussed above (Article A-4) included language indicating that the flow rate and duration of weekend releases could be changed, but no more than once every 10 years, unless authorized by the Commission. This language could have the effect of restricting other entities, including resource agencies, from recommending changes more frequently than once every 10 years to address as yet, unforeseen events. Therefore, this language is not included in Article 405.

Reservoir Levels

71. As noted above, the Authorities currently operate the project in accordance with a rule curve included in the current power sales agreement for the project. Under this agreement, which expires in 2018, normal hydropower operation is limited to times when the reservoir elevation is between 168 and 172 feet msl. The EIS recommended that the Authorities continue to operate the project according to this rule curve to balance power generation and environmental protection, including recreational use.[41]

72. The recommendation in the EIS focused on maintaining reservoir elevations between 168 and 172 feet, to protect recreational and shoreline resources, with certain exceptions as discussed below, including exceptions for water supply purposes or emergencies. Article 406 requires this measure.

73. The Authorities are concerned that restricting reservoir levels to 168 to 172 feet elevation could require changes in project operation beyond the scope of the recommendation of any party during the relicensing process, and could affect the

[40] *See* final EIS at 190

[41] *See* final EIS at 86-87

project's ability to meet future water supply releases. While the Authorities may consider water supply to be the primary project purpose, potentially to the exclusion of other purposes, the Commission is required to consider and balance all public interest considerations, including recreation and the environment. Accordingly, reservoir operations cannot be left to the sole discretion of the Authorities, and Article 406 requires that reservoir levels during normal operation generally remain between the 168 and 172 feet. However, in recognition of the significance of the project with respect to water supply and generation, Article 406 includes several exceptions, discussed below, that should allow the Authorities sufficient operational flexibility. Article 406 also requires the licensees to file an annual report outlining the instances in which reservoir levels fall outside the required parameters, so that the Commission and stakeholders are kept informed about project operations.

74. As noted above, the EIS recommended authorization of power generation outside of this reservoir elevation range under four exceptions , as proposed by the Authorities: (1) during storm events when the reservoir rises above 172 feet msl and the Authorities can release excess water through the powerhouse, rather than by spilling the water over the spillway; (2) during maintenance operations when the Authorities draw down the reservoir below 168 feet msl while generating power; (3) when the reservoir elevation falls below 168 feet msl, while releasing the minimum flow through the new minimum flow turbine; and (4) for water supply purposes, when the reservoir is below elevation 168 feet msl and water is released for downstream customers. The EIS concluded that the recommended reservoir elevation restrictions with these limited exceptional circumstances would still allow the project to generate hydropower as an ancillary benefit from necessary releases, thereby enhancing the overall benefits of the project.[42] The exceptions noted above are included in Article 406.

75. In comments on the EIS, the Authorities requested that the Commission consider additional circumstances that would allow for generation when reservoir elevations drop below 168 feet msl. First, the Authorities requested that the Commission authorize generation outside of the recommended lower limit of reservoir elevation when there is an insufficient supply of firm or non-interruptible power to the licensees' wholesale customers. According to the Authorities, they have only used this exception three times in 8 years, for a total run time of 13 hours. Because this exception would be rare and brief with insignificant impacts on reservoir levels and recreation it is also included in Article 406 to ensure grid reliability.

[42] *See* final EIS at A-10

76. Second, the Authorities request that the Commission authorize generation outside of the recommended lower limit of reservoir elevation in circumstances when they have not yet complied with their power sales agreement requirement to annually provide 65,700,000 kilowatt-hours of prime energy to their customers. The Authorities acknowledge that this exception has never been invoked.

77. Staff's review of the power sales agreement indicates that there is a provision allowing the Authorities to either credit or pay its customers for the extra costs of obtaining replacement power in the event that they are unable to meet their contractual energy obligations due to low reservoir elevations. Given the uncertainty with respect to the duration and extent of reservoir drawdowns associated with this scenario, and because there is an existing mechanism for effectively managing the situation through the power sales agreement, this exception is not included in Article 406.

Downstream Flooding

78. Toledo Bend reservoir has no storage specifically allocated for flood control. To manage high flow situations, in addition to monitoring flow gages and forecasts, the Authorities release flood waters according to a Spillway Operating Guide, gradually releasing more water in response to rising reservoir levels. To protect public safety during expected spillway releases, the Authorities are required by their Emergency Action Plan to issue periodic advisories and notify local authorities and the general public of high flow conditions on the Sabine River.

79. Due to the lack of allocated flood control storage, some flooding has occurred downstream of the project along the Sabine River, and several downstream residents recommend changes to current reservoir operations to prevent future flooding. These recommended changes include pre-releasing flows prior to storm events or operating the project at lower reservoir levels to provide increased flood control.[43] The Commission previously analyzed these recommendations in a separate 2002 proceeding and did not recommend adoption due to the limited ability of the project to pre-release flows prior to storms and the limited benefit that the additional flood storage would provide to the extremely flat downstream topography.[44]

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[43] Letters from Katie Duffin, Mike and Shannon Cates, and Alan Simmons filed August 5, 2013, and Alice Simmons filed July 18, 2013.

[44] Federal Energy Regulatory Commission. 2002. Toledo Bend Dam, FERC Project No. 2305. Report on Analysis of Flood Notification and Reservoir

(continued)

80. The EIS concluded that the size of the reservoir and current project operations provide some incidental flood control, but substantially lower reservoir levels associated with dedicated flood control operations would have adverse effects on water supply, power production, and recreational use. The EIS also stated that the recommended flood control releases could conceivably exacerbate downstream flooding if rainfall from a predicted storm falls predominantly downstream of the dam.[45] Therefore, the license does not include the recommended flood control provisions.

81. To minimize the effects of operational changes on public safety, Article 304 requires an evaluation of the effects of the changes in reservoir operations and minimum flows, included in the Aquatic Settlement Agreement, on local flooding and spillway adequacy and is subject to the approval of the Commission's Division of Dam Safety and Inspections (D2SI).

C. Terrestrial Resources

82. Construction activities associated with the new minimum flow generating facility could disturb eagle nesting.[46] Conducting pre-construction surveys for bald eagles and implementing protective measures if bald eagle nests are found within potential disturbance buffers will protect nesting bald eagles from construction noise and human-related activities. These surveys and protective measures are required by Article 409. To ensure future protection of eagle nests in the project area with respect to activities associated with the Authorities' shoreline permitting program such as construction of docks, piers, and retaining walls, Article 411 requires the Authorities to ensure that permitted activities conducted within 660 feet of a bald eagle nest are consistent with the current National Bald Eagle Management Guidelines issued by FWS.

83. To transmit power generated from the proposed minimum flow generating facility, the Authorities will construct a new 10,400-foot-long transmission line. This newly constructed line could adversely affect birds through collision or electrocution.[47] Article 408 requires a transmission line design in accordance with

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Operation. Issued December 30, 2002.

[45] *See* final EIS at 88-94.

[46] *See* final EIS at 122-124.

[47] *See* final EIS at 122-124.

Avian Power Line Interaction Committee guideline to minimize these potential bird hazards.

84. Chinese tallow is an invasive tree species found in the project area that can adversely affect native botanical species and wildlife habitat. Controlling Chinese tallow at project recreation areas maintained by the Authorities as part of routine maintenance and on Conservation and Public Access classification lands where project-related ground-disturbing activities, such as revegetation projects, will occur will help protect wildlife habitat on these lands.[48] Control of Chinese tallow is required by Article 411.

D. Recreation, Land Use, and Aesthetics

Recreation Management Plan

85. The Authorities' proposed Recreation Management Plan covers public access to project lands and waters for recreational purposes at 13 sites. However, the EIS indicated there are an additional 16 recreation sites that provide access to project land or water. Of these 16 sites, 4 are owned and operated by the Authorities and are fully or partially within the project boundary, including the Cow Bayou Wilderness Area,[49] a Tourist Information Center, and two informal recreation areas associated with the tailrace and spillway channels. The remaining 12 sites are owned and operated by federal,[50] state,[51] and local[52] entities. In addition to the 13 sites that the Authorities included in their recreation management plan, the EIS recommended that the Authorities include an inventory and description of the other 4 sites owned by the Authorities to ensure these sites

[48] *See* final EIS at 119-120.

[49] The Cow Bayou Wilderness Area is owned and operated by the Authorities. Despite its name, this area is not a federally designated wilderness area protected under the Wilderness Act.

[50] Federally managed recreation sites include Haley's Ferry, Ragtown Recreation Area, East Hamilton, Indian Mounds Recreation Area, Lakeview Recreation Area, and Willow Oak. All of these sites are managed by the Sabine National Forest.

[51] State managed recreation sites include North Toledo Bend State Park, South Toledo Bend State Park, and Joaquin Public Ramp.

[52] Locally managed recreation sites include Yellow Dog Park, Garrett Park, and Frontier Park.

receive the same consideration as the other sites owned and operated by the Authorities. The EIS also recommended that the Recreation Management Plan include brief descriptions and location information of the 12 recreational sites owned and operated by other entities to more accurately convey the full suite of available recreation opportunities at the project.[53]

86. In comments on the EIS filed January 14, 2014, the Authorities object to the recommended inclusion of the Tourist Information Center and Cow Bayou Wilderness Area in the Recreation Management Plan. The Authorities state that these sites are not within the current or proposed project boundary, and that the sites do not provide project-related recreation activities, and are not needed to meet public recreation demand at the project.

87. The EIS recommendation regarding the Tourist Information Center was based upon a prior applicant filing,[54] indicating that the center included numerous recreation amenities and access to the reservoir through a small pier. However, the Authorities now explain that the Tourist Information Center is housed at the Sabine River Authority--Louisiana headquarters office located 200 feet from the reservoir, and all of the recreation features near the information center are part of their Pendleton Park recreation site, and are not part of the Tourist Information Center. Additionally, the Authorities explain that the Tourist Information Center provides regional tourism information for Texas and Louisiana, and is not specific to the project. In light of this information, the Tourist Information Center should not be designated as a project recreation facility, because the information center provides no direct access to project land or water, and provides limited project-specific visitor services. Thus, the license does not require the Authorities to include the Tourist Information Center in the Revised Recreation Management Plan.

88. In their comment on the EIS, the Authorities' also provided new information regarding the Cow Bayou Wilderness Area. This new information included a map showing the Cow Bayou parcel boundary and the proposed project boundary. The Authorities state that the site does not provide any water-based recreation or facilitate any access to the reservoir.

89. While the Authorities contend that the Cow Bayou Wilderness Area does not provide or facilitate access to the reservoir, their website indicates that the

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[53] *See* final EIS at 142-146.

[54] *See* Updated Study Report: Recreation Use and Needs Assessment Report at Appendix A, filed October 31, 2011.

Cow Bayou Wilderness Area provides "1.5 miles of shoreline" along the project reservoir.[55] In addition, other websites associated with the project depict information[56] or videos[57] showing recreationists accessing the project reservoir from the wilderness area using off-highway vehicles (OHVs) and personal vehicles with boat trailers.[58] Staff concludes that the shoreline of the Authorities' Cow Bayou Wilderness Area, inside the project boundary, provides access to shore-based project recreation opportunities on the project reservoir and that access to the reservoir is facilitated by this area. While only a portion of the wilderness area is shoreline, it is important that the Authorities manage use of this shoreline area[59] in the context of the project Recreation Plan and SMP. Therefore, while this license does not require the Authorities to incorporate the entire Cow Bayou Wilderness Area into the Recreation Management Plan, Article 410 requires the Authorities to include the shoreline areas to the high water mark and associated areas[60] at the Cow Bayou Wilderness Area into the Recreation Management Plan to ensure appropriate management and maintenance of the site.

90. Article 410 requires the Authorities to include, in their Recreation Management Plan, a comprehensive inventory and descriptions of the 16 identified public recreation facilities that the licensees are responsible for operating and maintaining within the project boundary, including the 13 sites that

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[55] Information retrieved May 5, 2014 from http://srala-toledo.com.

[56] Information retrieved May 5, 2014 from http://www.toledobendlakecountry.com/listing/cow-bayou-wilderness-area.

[57] Information retrieved May 5, 2014 from http://www.youtube.com/watch?v=bhD06RtE7qs.

[58] *See* Updated Study Report filed October 31, 2011. The results of the Recreation Use and Needs Assessment visitor count shows that some visitors parked near the reservoir at Cow Bayou Wilderness Area have boat trailers attached to their vehicles.

[59] OHV use is known to create natural resource impacts, including loss of ground cover, trail-widening, and wheel ruts resulting in an increase in runoff and sedimentation (*see* U.S. Department of Agriculture, Forest Service, 2008, Effects of All-Terrain Vehicles on Forested Lands and Grasslands, 0823 1811- SDTDC, September 2008).

[60] Associated areas include all improvements necessary for recreation access and management (e.g., parking areas).

the Authorities already included in their Recreation Management Plan, the shoreline to the high water mark and associated areas of Cow Bayou Wilderness Area, and the current informal recreational areas associated with the spillway[61] and tailrace channels.[62] Article 410 also requires that the plan include brief descriptions of and location information on the other 12 recreation sites at the project that are managed by other federal, state, and local agencies, but does not require these sites to be considered project recreation sites.

Spillway Channel Recreation Access Plan

91. Article 410 also requires the licensees to file a plan, for Commission approval, for recreational access to the spillway channel. Currently, there is informal use of the spillway channel for whitewater boating with limited guidelines for balancing access and public safety.[63] The plan must provide for public, car-top boating access to the spillway channel during times of boatable flows, and will also set criteria to protect public safety. Within 60 days of Commission approval of the access plan, Article 306 requires the Authorities to submit an updated Project Safety Plan, including a map showing the location of all public safety measures, to the Commission's Division of Dam Safety to evaluate the need for any new safety measures at the spillway channel site.

Increased Weekend Flow Releases

92. As described above, Article 405 requires weekend operational flows through the powerhouse and tailrace to benefit aquatic resources. These additional weekend flows create recreational opportunities. Therefore, Article 405 requires the Authorities to consult with American Whitewater and Sabine Whitewater Club to address how the scheduling and timing of the proposed March through June 1,450 acre-foot/day weekend flow releases can benefit recreational use.

93. The Authorities propose to provide continuous spillway release information to the Commission and resources agencies. However, near real-time flow release

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[61] The informal recreation area within the spillway begins immediately below the spillway baffle blocks and extends to the furthest extent of the proposed project boundary within the spillway.

[62] The informal recreation area within the tailrace begins 900 feet downstream of the powerhouse and extends to the confluence with the Sabine River.

[63] *See* final EIS at 148-150.

volumes and reservoir level data would also benefit boaters, swimmers, and anglers at the project. Therefore, Article 403 requires the Authorities to provide flow release data (measurement of continuous spillway releases and lake elevation levels) to the public in near real time on a public website.

Shoreline Management Plan

94. The Authorities filed a proposed SMP on February 3, 2012, that includes shoreline management policies, shoreline classifications, a permitting program, monitoring and enforcement, and a process for periodically reviewing and updating the plan.[64] The shoreline management policies provide for maintaining reasonable public access, protecting fish and wildlife habitat, protecting cultural resources, protecting operational needs, facilitating compliance with pertinent license articles, minimizing adverse impacts on water quality, minimizing erosion, minimizing adverse scenic impacts, and guiding shoreline development. Implementing the plan will ensure the shoreline is managed to minimize negative impacts to water and near shore environments.[65] Article 411 requires implementation of the SMP with the modifications discussed above for control of Chinese tallow and protection of bald eagle nesting. Article 411 also clarifies the Authorities' proposed SMP update process. Finally, Article 411 requires the

[64] On October 10, 2012, Mr. Temple, an adjacent landowner in Louisiana, filed comments objecting to certain shoreline policies. The Sabine River Authority of Louisiana owns all project lands in fee in Louisiana and has issued leases to adjacent shoreline owners for terms of 99 years, subject to the safety, sanitary, building, and zoning requirements established by the Authority. (Appendix B of the Shoreline Management Plan contains the policies and guidelines for Louisiana.) Mr. Temple objected to two provisions of the permitting program: (1) provision 1.1.2, which requires adjacent landowners who exercise their first option to seek a use permit for proposed structures or activities to waive claims against the Authority for damages; and (2) the landscaping provision in section 1.2.2.2 that prevents landowners from removing trees more than three inches in diameter from project lands, without the Authority's prior approval. We do not find it unreasonable for the Authority to require a waiver of claims against it, when an adjacent shoreline owner exercises its first option to seek a use permit on the Authority's land. The prohibition on the removal of trees on the Authority's land is also a reasonable restriction to minimizing potential negative scenic or environmental impacts. We find that Authorities' permitting program is consistent with the Authority's policies to protect and manage shoreline uses on their land.

[65] *See* final EIS at 151-152.

Authorities to file GIS data regarding the reservoir area and shoreline management classifications to allow detailed tracking of shoreline resources and uses, and facilitate future reviews.

95. In the proposed SMP, the Authorities recognize that some adjacent landowners may have erected dwellings and other structures on project lands within the project boundary. The Authorities propose to address these existing encroachments on a case by case basis. The Authorities also propose to address existing unpermitted facilities and other unauthorized activities when discovered through incidental or opportunistic monitoring of the reservoir shoreline or in response to a report from the public, a landowner, or resource agency. Encroaching structures or unauthorized uses located on lands within the project boundary can have adverse effects on project purposes and the project's scenic, recreational, and environmental values. In order to ensure that existing encroachments at the project do not adversely affect project purposes and resource values, they must be addressed in a timely manner. For these reasons, Article 411 includes modifications requiring the Authorities to develop a specific plan to monitor the shoreline and inventory existing encroachments at the project.

Aesthetics

96. The Authorities propose to construct a new intake and powerhouse for discharging flows into the spillway channel by replacing one of the tainter gates at the top of the spillway. Designing the proposed minimum flow generating facility with consideration for area aesthetics, as recommended in the EIS, will minimize effects on aesthetics in the vicinity of the spillway structure,[66] and is required by Article 413.

OTHER ISSUES

A. Environmental Justice

97. EPA recommended in its May 8, 2014 comments on the final EIS that the license include a socioeconomic and environmental justice analysis. The final EIS noted that no socioeconomic impacts related to relicensing the project were identified during scoping, consultation on the application, or in public and agency comments.[67] Although, as EPA pointed out, census tracts with significant minority and low-income populations are located near the project site (2010 census data), there is no evidence that continued operation of the project will have

[66] *See* final EIS at 163-164.

[67] *See* final EIS at 34.

disproportionately high and adverse human health and environmental effects, including social and economic effects, on such populations.

ADMINISTRATIVE PROVISIONS

A. Annual Charges

98. The Commission collects annual charges from licensees for administration of the FPA. Article 201 provides for the collection of funds for administration of the FPA based on the installed capacity of the project and the use and occupancy of U.S. lands. The project occupies 3,797 acres of federal land administered by the Forest Service, which is subject to annual charges, and has an installed capacity of 81 MW that will increase to 82.3 MW upon installation of the new minimum flow generating facility.[68]

99. The date of the commencement of construction of the minimum flow turbine is used to revise capacity based annual charges. Article 206 requires the Authorities to notify the Commission of the construction commencement date for the minimum flow generating facility to allow the Commission to determine annual charges for the project.

B. Project Description and Exhibit Drawings

100. The Commission requires licensees to file sets of approved project drawings in electronic file format. Article 202 requires the filing of the approved Exhibit F and Exhibit G drawings.

101. Three of the Exhibit G drawings (sheets 81, 131, and 132) are not approved because certain project recreational facilities owned and operated by the Authorities are not clearly delineated as project recreation areas inside the project boundary. Specifically, the shoreline areas to the high water mark and associated areas of the Cow Bayou Wilderness Area, the tailrace recreation area, and the spillway recreation area, should be identified as project recreation areas inside the project boundary. Article 203 requires the Authorities to revise and refile the three Exhibit G drawings.

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[68] The project also affects about 31,000 acres of former federal lands subject to a power site reservation under section 24 of the FPA (*Sabine River Authority of Texas*, 30 FERC ¶ 61,225 [1985]). Under the Commission's policy currently in effect, projects occupying section 24 lands will not be assessed an annual charge for those lands (*Power Site Reservation Fees Group*, 142 FERC ¶ 61,196 [2013]).

102. The Authorities provided a preliminary rather than a final design of the proposed spillway minimum flow generating facility in Exhibit A (Project Description) and the Exhibit F drawings (MP-19 to MP-24). Accordingly, these exhibits are not approved. Article 204 requires the filing of a revised Exhibit A and revised Exhibit F drawings describing the final design of the spillway minimum flow generating facility.

C. Headwater Benefits

103. Some projects directly benefit from headwater improvements that were constructed by other licensees, the United States, or permittees. Article 205 requires the Authorities to reimburse such entities for these benefits if they were not previously assessed and reimbursed.

D. Use and Occupancy of Project Lands and Waters

104. Requiring a licensee to obtain prior Commission approval for every use or occupancy of project land would be unduly burdensome. Therefore, Article 415 allows the Authorities to grant permission, without prior Commission approval, for the use and occupancy of project lands for such minor activities as landscape planting and single family boat docks. Such uses must be consistent with the purposes of protecting and enhancing the scenic, recreational, and environmental values of the project.

E. Review of Final Plans and Specifications

105. Article 301 requires the Authorities to submit a copy of its plans and specifications and supporting design document to the Commission's D2SI-Atlanta Regional Engineer for review and approval. The submittal must also include a plan for a quality control and inspection program, a temporary emergency action plan, and a soil erosion and sediment control plan.

F. Cofferdam and Deep Excavation Drawings

106. Article 302 requires the Authorities to provide the Commission's D2SI-Atlanta Regional Engineer with approved cofferdam and deep excavation construction drawings.

G. As-built Drawings

107. Where new construction or modifications to the project are involved, the Commission requires licensees to file revised drawings of project features as-built. Article 303 provides for the filing of these drawings.

H. Report on Effects of Modifying Project Operations

108. The new license will modify project operation. Article 304 requires the Authorities to provide a report on the effects of modifying project operation on local flooding and to develop a plan, if necessary, to ensure the continued safe operation of the project during high flows.

I. Project Safety Plan

109. Article 306 requires the licensee to submit an updated Project Safety Plan to update the evaluation of public safety concerns at the site and assess the need for safety measures. The licensee must file the plan with the Commission's D2SI-Atlanta Regional Engineer within 60 days of Commission approval of the revised Recreation Management Plan required by Article 410.

J. Permanent or Temporary Modification

110. The new minimum flow unit will be located in an existing spillway bay. Article 305 requires that any permanent or temporary modification that may affect the project works or operations must be coordinated with the Commission's D2SI–Atlanta Regional Engineer at the beginning of the planning and design phase. This includes those modifications resulting from license environmental requirements.

STATE AND FEDERAL COMPREHENSIVE PLANS

111. Section 10(a)(2)(A) of the FPA 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. Under section 10(a)(2)(A), federal and state agencies filed 19 comprehensive plans that address various resources in Texas and Louisiana. Of these, the staff identified and reviewed 16 comprehensive plans relevant to this project.[69] No conflicts were found.

APPLICANT'S PLANS AND CAPABILITIES

112. In accordance with sections 10(a)(2)(C) and 15(a) of the FPA, Commission staff evaluated the Authorities' record as a licensees for these areas: (A) conservation efforts; (B) compliance history and ability to comply with the new license; (C) safe management, operation, and maintenance of the project; (D) ability to provide efficient and reliable electric service; (E) need for power; (F)

[69] The list of applicable plans can be found in section 5.5 of the final EIS.

transmission services; (G) cost effectiveness of plans; and (H) actions affecting the public. This order adopts staff's analyses and conclusions.

A. Conservation Efforts

113. Section 10(a)(2)(C) of the FPA requires the Commission to consider the electricity consumption efficiency improvement program of the applicant, including its plans, performance, and capabilities for encouraging or assisting its customer to conserve electricity cost effectively taking into account the published policies restrictions and requirements of state regulatory authorities. The Authorities sell the project's power to three utilities that promote conservation of electricity use by their customers. Staff concludes that given the limits of its ability to influence users of the electricity generated by the project, the Authorities comply with section 10(a)(2)(C) of the FPA.

B. Compliance History and Ability to Comply with the New License

114. Based on a review of the Authorities' compliance with the terms and conditions of the existing license, staff finds that the Authorities' overall record of making timely filings and compliance with its license is satisfactory. Therefore, staff concludes that the Authorities can satisfy the conditions of a new license.

C. Safe Management, Operation, and Maintenance of the Project

115. Staff has reviewed the Authorities management, operation, and maintenance of the project pursuant to the requirements of 18 C.F.R. Part 12 and the Commission's Engineering Guidelines. Staff concludes that the dams and other project works are safe, and that there is no reason to believe that the Authorities cannot continue to safely manage, operate, and maintain these facilities under a new license.

D. Ability to Provide Efficient and Reliable Electric Service

116. Staff has reviewed the Authorities plans and their ability to operate and maintain the project in a manner most likely to provide efficient and reliable electric service. Staff's review indicates that the Authorities have demonstrated their ability and commitment to managing, operating, and maintaining the Toledo Bend Project. Staff concludes that the Authorities are capable of operating the project to provide efficient and reliable electric service in the future.

E. Need for Power

117. The Toledo Bend Project provides hydroelectric generation to meet part of Texas's and Louisiana's power requirements, resource diversity, and capacity needs. The existing project has an installed capacity of 81.0 MW and generates approximately 239,635 megawatt-hours (MWh) per year. The proposed minimum flow generating facility will increase the project's installed capacity to 82.3 MW, generating approximately 251,235 MWh per year.

118. The North American Electric Reliability Corporation annually forecasts electrical supply and demand nationally and regionally for a 10-year period. The project is located in the Southwest Power Pool Regional Entity/Regional Transmission Organization region of the NERC. According to NERC's 2013 forecast, the planning reserve margins for summer are expected to range from 35.71 percent to 28.64 percent and for winter are expected to range from 80.46 percent to 72.93 percent from 2014 to 2023 compared to the planning goal of 15.00 percent. The compound annual rate of growth for peak total demand is projected to grow at 0.89 percent for summer and 0.84 percent for winter from 2014 through 2023.[70] Power from the project will help meet a need for power in the Southwest Power Pool region in both the short and long term.

F. Transmission Services

119. The project includes a 138-kV transmission line that extends 394 feet from the powerhouse transformer to a switchyard, interconnecting with the transmission grid via Entergy-TX transmission lines. The Authorities propose to construct a new 10,400-foot-long, 15-kV transmission line from the new minimum flow generating facility transformer to the main powerhouse substation. The Authorities are not proposing any other changes that would affect its own or other transmission line services in the region.

G. Cost Effectiveness of Plans

120. The Authorities propose to make a number of facility and operational modifications to improve the delivery of electricity and enhance fish, wildlife, and recreation resources affected by the project. Based on the Authorities' record as an existing licensee, staff concludes that these plans are likely to be carried out in a cost-effective manner.

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[70] National Energy Reliability Corporation. 2013 Long Term Reliability Assessment. December 2013.

H. Actions Affecting the Public

121. The Authorities provided extensive opportunity for public involvement in the development of their application for a new license for the Toledo Bend Project. During the previous license period, the Authorities maintained recreational facilities including campgrounds, boat launches, picnic areas, and trails, which enhanced the public use of project lands. The Authorities use the project to help meet local power needs and water supply. In addition, the project provides employment opportunities.

PROJECT ECONOMICS

122. In determining whether to issue a new license for an existing hydroelectric project, the Commission considers a number of public interest factors, including the economic benefits of project power. Under the Commission's approach to evaluating the economics of hydropower projects, as articulated in *Mead Corp.*,[71] the Commission uses current costs to compare the costs of the project and likely alternative power with no forecasts concerning potential future inflation, escalation, or deflation beyond the license issuance date. The basic purpose of the Commission's economic analysis is to provide a general estimate of the potential power benefits and the costs of a project, and of reasonable alternatives to project power. The estimate helps to support an informed decision concerning what is in the public interest with respect to a proposed license.

123. In applying this analysis to the Toledo Bend Project, we have considered three options: the no-action alternative, Sabine River Authorities' proposal, and the project as licensed herein. Under the no-action alternative, the project would continue to operate as it does now. The existing project has an installed capacity of 81.0 MW, and generates an average of 239,635 MWh of electricity annually. The average annual project cost is about $17,886,356 or $74.64/MWh. When we multiply our estimate of average generation by the alternative power cost of $95.54/MWh,[72] staff gets a total value of the project's power of $22,894,728 in 2014 dollars. To determine whether the proposed project is currently economically beneficial, staff subtracts the project's cost from the value of the

[71] 72 FERC ¶ 61,027 (1995).

[72] The alternative power cost is based on energy rate of $41.46/MWh from the current Power Sales Agreement and a capacity rate of $162/kilowatt-year estimated by staff.

project's power.[73] Therefore, the project costs $5,008,372, or $20.90/MWh, less to produce power than the likely alternative cost of power.

124. As proposed by Sabine River Authorities, the project would have an installed capacity of 82.3 MW and generate 246,595 MWh of electricity annually. The levelized annual cost of operating the Toledo Bend Project is $22,671,944, or $91.94/MWh. Based on the estimated average generation of 246,595 MWh and alternative power cost of $94.87/MWh, staff gets a total value of the project's power of $23,394,467 in 2014 dollars. Therefore, in the first year of operation, the project would cost $722,523, or $2.93/MWh, less than the likely alternative cost of power.

125. As licensed herein with the mandatory conditions and staff measures, the levelized annual cost of operating the project will be about $22,745,922, or $92.24/MWh. Based on an estimated average generation of 246,595 MWh, the project will produce power valued at $23,394,467 in 2014 dollars when multiplied by the $94.87/MWh value of the project's power. Therefore, in the first year of operation, project power will cost $648,545, or $2.63/MWh, less than the likely cost of alternative power.

COMPREHENSIVE DEVELOPMENT

126. Sections 4(e) and 10(a)(1) of the FPA[74] require the Commission to give equal consideration to the power development purposes and to the purposes of energy conservation; the protection, mitigation of damage to, and enhancement of fish and wildlife; the protection of recreational opportunities; and the preservation of other aspects of environmental quality. Any license issued shall be such as in the Commission's judgment will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses. The decision to license this project, and the terms and conditions included herein, reflect such consideration.

127. The EIS for the project contains background information, analysis of effects, and support for related license articles. The project will be safe if operated and maintained in accordance with the requirements of this license.

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[73] Details of staff's economic analysis for the project as licensed herein and for various alternatives are included in the final EIS. All costs here have been escalated by staff to 2014 dollars.

[74] 16 U.S.C. §§ 797(e) and 803(a)(1) (2012).

128. Based on an independent review and evaluation of the Toledo Bend Project, recommendations from the resource agencies and other stakeholders, and the no-action alternative, as documented in the final EIS, the proposed Toledo Bend Project, as licensed herein, is selected and found to be best adapted to a comprehensive plan for improving or developing the Sabine River.

129. This alternative is selected because: (1) issuance of a new license will serve to maintain a beneficial and dependable source of electric energy; (2) the required environmental measures will protect and enhance fish and wildlife resources, water quality, and recreational resources; and (3) the 82.3 MW of authorized electric capacity comes from a renewable resource that does not contribute to atmospheric pollution.

LICENSE TERM

130. Section 15(e) of the FPA[75] 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. The Commission's general policy is to establish 30-year terms for projects with little or no redevelopment, new construction, new capacity, or 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.[76]

131. In this case, based on staff's review, this license requires an extensive amount of new construction and environmental measures. These include construction of a new minimum flow generating facility; erosion monitoring and management; increases in continuous spillway flow releases; changes in weekend and seasonal operation to benefit downstream aquatic resources; cofferdam monitoring; American eel passage; invasive species control; bald eagle protection measures; and implementation of recreation management, shoreline management, and historic properties management plans. Consequently, a 50-year license term for the Toledo Bend Project is appropriate.

The Director orders:

(A) This license is issued to the Sabine River Authority of Texas and Sabine River Authority, State of Louisiana (licensees), for a period of 50 years, effective the first day of the month in which this order is issued, to construct,

[75] 16 U.S.C. § 808(e) (2012).

[76] *See Consumers Power Co.*, 68 FERC ¶ 61,077 at 61,383-84 (1994).

operate, and maintain the Toledo Bend Project. This license is subject to the terms and conditions of the Federal Power Act (FPA), which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the FPA.

(B) The project consists of:

(1) All lands, to the extent of the licensees' interests in those lands, enclosed by the project boundary shown by Exhibit G filed on April 9, 2012.

Exhibit G Drawing	FERC No. 2305-	Description
Sheets 1-132 (except 81, 131, and 132)	1018-1149 (except 1058, 1148, and 1149)	Project Boundary Map

(2) Existing project works consisting of the following facilities: (a) an earthen dam with three earthen saddle dikes having a combined length of about 11,250 feet including (i) a 9,075-foot-long, earth-filled embankment main dam, (ii) saddle dike no. 1 about 690 feet long, (iii) saddle dike no. 2 about 1,170 feet long, and (iv) saddle dike no. 3 about 315 feet long, with crest elevations of 185 feet mean sea level (msl); (b) a 838-foot-long spillway located at the north dam abutment with (i) eleven 40-foot-wide by 28-foot-high tainter gates, (ii) an 8.33-foot-wide by 12-foot-high sluice gate, (iii) two 20-inch-diameter low-flow bypass conduits, and (iv) a concrete spillway chute and stilling basin; (c) a 1.7-mile-long excavated spillway channel; (d) a 65-foot-high, 152-foot-wide intake structure with six 6.75-foot by 29-foot intakes; (e) two 160-foot-long, 29-foot-diameter penstocks; (f) a 180-foot-wide, 80-foot-long, and 55-foot-high powerhouse containing two identical Kaplan turbines rated at 40.5 megawatts (MW) each for a total installed capacity of 81 MW; (g) a 220-foot-long concrete tailrace; (h) a 2-mile-long excavated tailrace channel; (i) a reservoir that is about 70 miles long, a normal surface water elevation of 172 feet msl, a surface area of about 185,000 acres, and a gross storage capacity of 4,477,000 acre-feet, all at the normal maximum water surface elevation of 172 feet msl; (j) a station step-up transformer (13kilovolts [kV] to 138 kV); (k) a 138-kV primary transmission line extending 394 feet from the transformer to a switchyard, interconnecting with the transmission grid via Entergy-TX transmission lines; and (l) appurtenant facilities.

(3) A new minimum flow generating facility consisting of: (a) a 23-foot-wide, 70-foot-long powerhouse located immediately below one of the spillway bays; (b) a steel intake structure occupying part of a spillway bay; (c) a 460-foot-long, 5-foot-inner-diameter steel penstock; (d) a 1.3-MW Francis turbine-generator unit; (e) a 4.16-kV/13.8-kilovolt transformer and substation; (f) a 10,400-foot-long, 15-kV transmission line from the minimum flow unit substation to the main powerhouse substation; and (g) a 1,500-foot-long access road.

(4) The project works generally described above are more specifically shown and described by those portions of Exhibits A and F shown below:

Exhibit A: The following sections of Exhibit A filed on September 30, 2011:

Section 2, pages 2 through Table 2.9-2 on page 8, entitled "Project Facilities," describing the mechanical, electrical, and transmission equipment within the application for license.

Exhibit F: The following Exhibit F drawings filed on September 30, 2011:

Exhibit F Drawing	FERC No. 2305-	Description
F-1	1001	Location Plan
F-2	1002	Power Plant Area General Plan
F-3	1003	Power Plant Elevation at 120.00
F-4	1004	Power Plant Elevation at 93.50
F-5	1005	Power Plant Transverse Section
F-6	1006	Power Plant Longitudinal Section at Centerline of Units
F-7	1007	Power Plant Longitudinal Section at Service Bay
F-8	1008	Intake Channel and Tailrace Section
F-9	1009	Embankment Plan and Profile
F-10	1010	Embankment Plan and Profile
F-11	1011	Embankment Sections
F-12	1012	Spillway General Plan
F-13	1013	Spillway Section and Elevations
F-14	1014	Spillway Low Flow Pier Plan and Sections
F-15	1015	Spillway Low Flow Pier Elevations
F-16	1016	Spillway Non-Overflow Plans
F-17	1017	Spillway Non-Overflow Sections

(5) All of the structures, fixtures, equipment or facilities used to operate or maintain the project, all portable property that may be employed in connection with the project, and all riparian or other rights that are necessary or appropriate in the operation or maintenance of the project.

(6) Project recreation facilities including: (a) Swede Johnson Recreation Area; (b) Oak Ridge Park; (c) Bubba Cowser Recreation Area; (d) Converse Bay

Recreation Area; (e) Hot Wells Recreation; (f) Blue Lake Landing Recreation Area; (g) Clyde's Crossing Recreation Area; (h) San Miguel Park; (i) Pendleton Park; (j) Cypress Bend Park; (k) Pleasure Point Park; (l) Toledo Bend Observation Towers;[77] (m) Sam Forse Collins Recreation Area; (n) shoreline areas to the high water mark and associated areas of the Cow Bayou Wilderness Area; (o) tailrace channel area; and (p) spillway channel area.

(C) The Exhibits A, F, and G described above are approved and made part of this license. The Exhibit A description of the spillway minimum flow generating facility and the Exhibit F drawings in Attachment F-2 General Design Drawings of the proposed minimum flow generating facility are preliminary, not in conformance with Commission regulations, and are not approved. The Exhibit G sheets 81, 131, and 132 do not show certain project recreation facilities identified in part B of the Administrative Provisions section of the order, and likewise, are not approved.

(D) This license is subject to the conditions submitted by the U.S. Forest Service under section 4(e) of the FPA, as those conditions are set forth in Appendix A to this order.

(E) This license is subject to the conditions submitted by the Secretary of the U.S. Department of the Interior and the Department of Commerce under section 18 of the FPA, as those conditions are set forth in Appendix B to this order.

(F) This license is also subject to the articles set forth in Form L-5 (Oct. 1975), entitled Terms and Conditions of License for Constructed Major Project Affecting Navigable Waters and Lands of the United States (see 54 F.P.C. 1792 et *seq.*), as reproduced at the end of this order, and the following additional articles:

Article 201. *Administrative Annual Charges*. The licensees must pay the United States annual charges, effective the first day of the month in which the license is issued, and as determined in accordance with provisions of the Commission's regulations in effect from time to time, for the purposes of:

(a) reimbursing the United States for the cost of administration of Part I of the Federal Power Act. The authorized installed capacity for that purpose is 81,000 kilowatts, until the date commencement of construction of the new capacity authorized by this license, after which time the authorized

[77] This recreation site consists of two observation towers: one on the Texas side of the dam and one on the Louisiana side of dam.

installed capacity for that purpose is 82,300 kilowatts; and

(b) recompensing the United States for the use, occupancy and enjoyment of 3,797 acres of its lands.

Article 202. *Exhibit Drawings.* Within 45 days of the date of issuance of this license, as directed below, the licensee shall file two sets of the approved exhibit drawings, form FERC-587, and GIS data in electronic file format on compact disks with the Secretary of the Commission, ATTN: OEP/DHAC.

(1) Digital images of the approved exhibit drawings shall be prepared in electronic format. Prior to preparing each digital image, the FERC Project-Drawing Number (i.e., P-2305-1001 through P-2305-1149) shall be shown in the margin below the title block of the approved drawing. Exhibit F drawings must be segregated from other project exhibits, and identified as **(CEII) material under 18 CFR §388.113(c).** Each drawing must be a separate electronic file, and the file name shall include: FERC Project-Drawing Number, FERC Exhibit, Drawing Title, date of this license, and file extension in the following format [P-2305-1018, G-1, Project Boundary Map, MM-DD-YYYY.TIF].

Each Exhibit G drawing that includes the project boundary must contain a minimum of three known reference points (i.e., latitude and longitude coordinates, or state plane coordinates). The points must be arranged in a triangular format for GIS georeferencing the project boundary drawing to the polygon data, and must be based on a standard map coordinate system. The spatial reference for the drawing (i.e., map projection, map datum, and units of measurement) must be identified on the drawing and each reference point must be labeled. In addition, each project boundary drawing must be stamped by a registered land surveyor. All digital images of the exhibit drawings shall meet the following format specification:

IMAGERY - black & white raster file
FILE TYPE – Tagged Image File Format (TIFF), CCITT Group 4
(also known as T.6 coding scheme)
RESOLUTION – 300 dpi desired, (200 dpi min)
DRAWING SIZE FORMAT – 22” x 34” (min), 24” x 36” (max)
FILE SIZE – less than 1 MB desired

A third set (Exhibit G only) and a copy of Form FERC-587 shall be filed with the Bureau of Land Management office at the following address:

State Director
Bureau of Land Management
Branch of Lands and Minerals Operations (NM-943C-2)

PO Box 27115
Santa Fe, NM 87502-0115
ATTN: FERC Withdrawal Recordation

Form FERC-587 is available through the Commission's website at the following URL: http://www.ferc.gov/docs-filing/forms/form-587/form-587.pdf. Although instruction no. 3 requires microfilm copies of the project boundary maps in aperture card format, electronic copies that meet the digital specifications in this ordering paragraph should be substituted. If the FERC-587 cannot be downloaded from the Internet, a hard copy may be obtained by mailing a request to the Secretary of the Commission.

(2) Project boundary GIS data shall be in a georeferenced electronic file format (such as ArcView shape files, GeoMedia files, MapInfo files, or a similar GIS format). The filing shall include both polygon data and all reference points shown on the individual project boundary drawings. An electronic boundary polygon data file(s) is required for each project development. Depending on the electronic file format, the polygon and point data can be included in single files with multiple layers. The georeferenced electronic boundary data file must be positionally accurate to ±40 feet in order to comply with National Map Accuracy Standards for maps at a 1:24,000 scale. The file name(s) shall include: FERC Project Number, data description, date of this license, and file extension in the following format [P-2305, boundary polygon/or point data, MM-DD-YYYY.SHP]. The filing must be accompanied by a separate text file describing the spatial reference for the georeferenced data: map projection used (i.e., UTM, State Plane, Decimal Degrees, etc.), the map datum (i.e., North American 27, North American 83, etc.), and the units of measurement (i.e., feet, meters, miles, etc.). The text file name shall include: FERC Project Number, data description, date of this license, and file extension in the following format [P-2305, project boundary metadata, MM-DD-YYYY.TXT].

In addition, for those projects that occupy federal lands, a separate georeferenced polygon file(s) is required that identifies transmission line acreage and non-transmission line acreage affecting federal lands for the purpose of meeting the requirements of 18 CFR §11.2. The file(s) must also identify each federal owner (e.g., Bureau of Land Management, Forest Service, U.S. Army Corps of Engineers, etc.), land identification (e.g., forest name, Section 24 lands, national park name, etc.), and federal acreage affected by the project boundary. Depending on the georeferenced electronic file format, the polygon, point, and federal lands data can be included in a single file with multiple layers.

Article 203. *Revised Exhibit G Drawings.* Within 90 days of the issuance date of the license, the licensees must file, for Commission approval, revised

Exhibit G drawings clearly delineating the shoreline to the high water mark and associated areas of the Cow Bayou Wilderness Area (sheet 81), the spillway channel recreation area (sheet 131), and the tailrace channel recreation area (sheet 132). The Exhibit G drawings must comply with sections 4.39 and 4.41 of the Commission's regulations.

Article 204. *Revised Exhibit A and Exhibit F Drawings*. Within180 days of the submission of the flow release plan required by Article 403, the licensees must file, for Commission approval, a revised Exhibit A describing the final proposed design of the minimum flow generating facility at the spillway, and revised Exhibit F drawings, specifying the final design of the generating facility. The revised Exhibit A must conform to section 4.51 of the Commission's regulations. The Exhibit F drawing(s) must comply with sections 4.39 and 4.41 of the Commission's regulations, including the requirement that drawing(s) be consistent with the information included in the revised Exhibit A.

Article 205. *Headwater Benefits*. If the licensees' project was directly benefited by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement during the term of the original license (including extensions of that term by annual licenses), and if those headwater benefits were not previously assessed and reimbursed to the owner of the headwater improvement, the licensees must reimburse the owner of the headwater improvement for those benefits, at such time as they are assessed, in the same manner as for benefits received during the term of this new license. The benefits will be assessed in accordance with Part 11, Subpart B, of the Commission's regulations.

Article 206. *Administrative Annual Charge Notification.* Within 30 days of the start of construction of project facilities as authorized in this order, the licensees must file with the Commission notification of the construction commencement date. The Commission will use the commencement of construction date to revise the project's annual charges under Article 201.

Article 301. *Contract Plans and Specifications*. At least 60 days prior to the start of any construction, the licensees must submit one copy of its plans and specifications and supporting design document to the Commission's Division of Dam Safety and Inspections (D2SI) - Atlanta Regional Engineer, and two copies to the Commission (one of these must be a courtesy copy to the Director, D2SI). The submittal must also include as part of preconstruction requirements: a Quality Control and Inspection Program, Temporary Construction Emergency Action Plan, and Soil Erosion and Sediment Control Plan. The Soil Erosion and Sediment Control Plan must include at a minimum: (1) a description of specific best management practices to be used; (2) detailed descriptions and/or drawings

showing the location of hay bales, siltation fabric, the cofferdam, staging locations, and spoil pile locations, in the area of disturbance; (3) a description of how construction areas will be restored to their original state, including any plans to revegetate disturbed areas; and (4) a schedule for implementation of the plan and completion of restoration measures, as applicable. The licensees may not begin construction until the D2SI - Atlanta Regional Engineer has reviewed and commented on the plans and specifications, determined that all preconstruction requirements have been satisfied, and authorized start of construction.

Article 302. *Cofferdam and Deep Excavation Construction Drawings*. Should construction require cofferdams or deep excavations, the licensees must: (1) review and approve the design of contractor-designed cofferdams and deep excavations prior to the start of construction; and (2) ensure that construction of cofferdams and deep excavations is consistent with the approved design. At least 30 days before starting construction of any cofferdams or deep excavations, the licensees must submit one copy to the Commission's Division of Dam Safety and Inspections (D2SI) - Atlanta Regional Engineer and two copies to the Commission (one of these copies must be a courtesy copy to the Commission's Director, D2SI), of the approved cofferdam and deep excavation construction drawings and specifications, and the letters of approval.

Article 303. *As-built Exhibits*. Within 90 days of completion of construction of the facilities authorized by the license, the licensees must file for Commission approval, revised exhibits A, F, and G, as applicable, to describe and show those project facilities as built. A courtesy copy must be filed with the Commission's Division of Dam Safety and Inspections (D2SI) - Atlanta Regional Engineer; the Director, D2SI; and the Director, Division of Hydropower Administration and Compliance.

Article 304. *Reservoir Operation Report*. At least 90 days prior to start of construction of the minimum flow generating facility or modifications to the reservoir release operations or minimum flow requirements, the licensees must submit one copy to the Division of Dam Safety and Inspections (D2SI) - Atlanta Regional Engineer and two copies to the Commission (one of these must be a courtesy copy to the Director, D2SI), of a report describing the effects of modifying project operations on local flooding and spillway adequacy of the project dam.

The report must include a flood routing study that evaluates the ability of the project to safely pass flows up to the Inflow Design Flood. The licensees must compare the frequency that the non-overflow structures would be overtopped under the historical and limited drawdowns. The report must discuss if there would be an increased likelihood of low-lying structures located upstream and

downstream of the reservoir being flooded under the new operating scenario. If necessary, the report must include a plan and schedule for performing any remedial measures necessary to ensure the continued safe operation of the project during high flows.

The licensees must not revise reservoir operations for the project until the D2SI - Atlanta Regional Engineer determines that these altered project operations have no adverse impact on project safety and issues a letter indicating such.

Article 305. *Project Modification Resulting from Environmental Requirements*. Any permanent or temporary modification which may affect the project works or operations must be coordinated with the Commission's Division Dam Safety and Inspections (D2SI) - Atlanta Regional Engineer at the beginning of the planning and design phase. This includes those modifications resulting from license environmental requirements. This schedule is to allow sufficient review time for the Commission to insure that the proposed work does not adversely affect the project works, dam safety, or project operation.

Article 306. *Public Safety Plan*. Within 60 days from Commission approval of the Revised Recreation Management Plan required by Article 410, the licensees must submit one copy to the Commission's Division of Dam Safety and Inspections (D2SI) - Atlanta Regional Engineer and two copies to the Commission (one of these copies must be a courtesy copy to the Commission's Director, D2SI) of an updated Public Safety Plan. The plan must include an updated evaluation of public safety concerns at the project site, including all updated designated recreation areas, and assess the need for the installation of safety devices or other safety measures. The submitted plan should include a description of all public safety devices and signage, as well as a map showing the location of all public safety measures. For guidance on preparing public safety plans the licensees can review the *Guidelines for Public Safety at Hydropower Projects* on the FERC website.

Article 401. *Erosion Monitoring and Management on Non-federal Lands*. Within 1 year of license issuance, the licensees must file with the Commission for approval, an erosion monitoring and management plan for non-Forest Service project lands classified as Conservation and Public Access in the licensees' Shoreline Management Plan, required by Article 411.

The plan must use the monitoring methodology and frequency included in the Sabine National Forest Erosion Monitoring and Management Plan, required by Forest Service 4(e) condition 14, and must include provisions for: (1) identifying representative sites for erosion monitoring from available records and through selected site visits; (2) establishing baseline conditions at these locations during a

field survey using appropriate photo-documentation and descriptions; (3) revisiting these areas in the field every 5 years using the same approach; and (4) developing and filing a site-specific erosion management plan, for Commission approval, if erosion shows potential for adversely affecting federally listed threatened or endangered species, eagle nests, special status plant species, project recreation facilities identified in the Recreation Management Plan required by Article 410, or cultural resources.

The plan must be developed after consultation with the U.S. Fish and Wildlife Service, Texas Parks and Wildlife Department, Louisiana Department of Wildlife and Fisheries, and Louisiana Department of Culture, Recreation and Tourism. The plan must include documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the above entities, and a specific description of how comments are accommodated by the plan. The licensees must allow a minimum of 30 days for the agencies to comment before filing the plan with the Commission. If the licensees do not adopt a recommendation, the filing must include the licensees' reasons, based on project-specific information.

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

Article 402. *Continuous Releases from the Spillway*. From the issuance date of the license through the later of: (1) the end of the second year of the license term; or (2) 10 days following the Commission's approval of the flow release plan required by Article 403, the licensees must release continuous minimum flows at the project spillway of 144 cubic feet per second (cfs). Such releases must be measured by a gage that meets or exceeds the U.S. Geological Survey standards used for gage 08025360, Sabine River at the Toledo Bend reservoir tailrace. The licensees are not required to provide releases at the spillway greater than 144 cfs, but may do so at their discretion.

Upon the later of: (1) the commencement of the third year of the license term; or (2) the Commission-approved schedule required by Article 403, the licensees must release continuous minimum flows at the project's spillway from a reservoir outlet structure with an elevation invert no lower than 145 feet above sea level (msl) according to the flow release schedule in the table below. All flow releases in this table are targeted, continuous values.

Reservoir Elevation (msl)	Continuous Flow Releases at Spillway (cfs)											
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
At >162 feet	150	150	300	300	300	300	200	200	200	200	200	150
From 162 feet to 156 feet	150	150	225	225	225	225	150	150	150	150	150	150
At <156 feet	150	150	150	150	150	150	150	150	150	150	150	150

The licensees will be considered in compliance with this article so long as: (1) the releases at the project spillway on an instantaneous basis are at least 144 cfs; (2) the releases at the project spillway on a mean daily basis are at least 90 percent of the applicable continuous flow release value in the table above; and (3) the release rate for the calendar month (calculated as the mean of the mean daily flows for the calendar month) is at least 95 percent of the applicable continuous flow release value in the table above. The licensees are not required to provide releases at the spillway greater than the applicable continuous flow release value in the table above, but may provide greater releases at the spillway at their discretion.

The continuous flow release requirement in this article may be temporarily modified or suspended: (1) due to circumstances beyond the reasonable control of the licensees, such as equipment failure or malfunction, disruption in operations, blockage of intake structures, or operating emergencies; or (2) as necessary to protect public and project safety.

The licensees must notify the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Texas Commission on Environmental Quality, Texas Parks and Wildlife Department, Texas Water Development Board, Louisiana Department of Environmental Quality, and Louisiana Department of Wildlife and Fisheries (collectively, resource agencies) and the Commission of any such temporary modification or suspension as soon as possible, but not later than 10 days after any such incident. The licensees also may provide releases at the project spillway that are less than the applicable continuous flow value in the table above for short periods upon prior mutual agreement of the licensees and resource agencies. The licensees must notify the Commission of any such mutually agreed upon flow modification as soon as possible, but not later than 10 days after any such incident.

Article 403. *Spillway Flow Release Plan*. Within 18 months of license issuance, the licensees must file with the Commission for approval, a flow release plan for releasing and monitoring compliance with the continuous flow releases required at the project spillway pursuant to Article 402. The plan must:

(1) Identify the location and means of delivery of the continuous flow releases, including the specifications and drawings, as appropriate, of all structures necessary to deliver continuous flows at the spillway;

(2) Describe the means for measuring the continuous flow releases at the project spillway structure as provided in the Article 402 table, including: (a) the specifications and drawings, as appropriate, of any device, structure, or method to measure flow releases at the spillway, which must meet or exceed U.S. Geological Survey (USGS) standards; and (b) the means for making such flow release data (measurement of continuous spillway releases and lake elevation levels) available electronically to the Commission, resource agencies, and the public in near real time on a public website;

(3) Include a schedule for the construction and commencement of operation of the facilities described under elements (1) and (2) above, as well as interim measures for releasing flows under the Article 402 table, beginning the later of (a) the end of the second year of the new license term, or (b) 10 days following the Commission's approval of the plan; and

(4) Include a process for amending the plan to accommodate the development schedule for the minimum flow generating facility at the spillway and to implement any measures for downstream passage of American eel (*Anguilla rostrata*), as provided in the fishway prescriptions set forth in Appendix B of the license.

The licensees must develop the flow release plan after consultation with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Texas Commission on Environmental Quality, Texas Parks and Wildlife Department, Texas Water Development Board, Louisiana Department of Environmental Quality, and Louisiana Department of Wildlife and Fisheries (collectively, resource agencies). The licensees must allow a minimum of 90 days for the resource agencies to comment and to make recommendations before filing the plan with the Commission. The licensees must include with the plan documentation of consultation with the resources agencies, including copies of any comments received, and specific descriptions of how the resource agencies' comments are accommodated by the plan. If the licensees do not adopt a recommendation, the filing must include the licensees' reasons, based on project

specific reasons.

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

Article 404. *Water Quality and Cofferdam Effectiveness Monitoring*.

(a) Water Quality Monitoring

Each year during the months of July, August, and September, the licensees must continuously monitor water temperature in the project's tailrace channel at Station RM 141TR, located at the pipeline crossing approximately mid-way down the tailrace channel. If the mean daily temperature of at least 10 percent of the monitored days in July, August, and September, during which the project is generating under normal conditions, is below 20 degrees Celsius, the licensees must obtain an in situ measurement of dissolved oxygen at Station RM 141TR during a period of normal project generation (when the reservoir is operating between 168 and 172 feet above mean sea level [msl]).

The licensees must prepare an annual report summarizing the water quality monitoring and file the report with the Commission by November 30 of each year. Prior to filing the report, the licensees must provide the report to the U.S. Fish and Wildlife Service (FWS), National Marine Fisheries Service (NMFS), Texas Commission on Environmental Quality (Texas CEQ), Texas Parks and Wildlife Department (Texas Parks and Wildlife), Texas Water Development Board (Texas Water Board), Louisiana Department of Environmental Quality (Louisiana DEQ), and Louisiana Department of Wildlife and Fisheries (Louisiana Wildlife and Fisheries) (collectively, resource agencies). The licensees must allow a minimum of 30 days for the resource agencies to comment before filing the report with the Commission. The licensees must include with the report documentation of consultation with the resources agencies, including copies of any comments received, and specific descriptions of how the resource agencies' comments are accommodated.

(b) Cofferdam Survey

If any water quality monitoring required in part (a) of this article demonstrates that the mean daily temperature of at least 10 percent of the monitored days in July, August, and September, during which the project is generating under normal conditions, is below 20 degrees Celsius, the licensees must undertake a survey of the submerged cofferdam located at the entrance of the powerhouse approach channel approximately 600 feet from the powerhouse

intakes. The survey must include, at a minimum: (1) the average crest elevation of the entire span of the cofferdam; (2) a comparison of this average crest elevation with the 2011 baseline cofferdam profile appearing in Appendix C to the Aquatic Resources Agreement filed on August 1, 2012; and (3) the available area for flow over the cofferdam above elevation 145 feet msl.

In addition, the licensees must directly monitor the elevation of the cofferdam by bathymetric survey at 15-year intervals during the license term to ensure the maintenance of the cofferdam's stability and elevation.

By January 31 following completion of any of the cofferdam surveys described above, the licensees must complete the cofferdam survey report, together with an analysis of the survey results, and file the report with the Commission. Prior to filing the report, the licensees must provide the report to the resource agencies. The licensees must allow a minimum of 30 days for the resource agencies to comment before filing the report with the Commission. The licensees must include with the report documentation of consultation with the resources agencies, including copies of any comments received, and specific descriptions of how the resource agencies' comments are accommodated.

(c) Cofferdam Restoration

If any of the licensees' cofferdam surveys, described above, demonstrates that either: (1) the average crest elevation of the entire span of the cofferdam, as compared to the 2011 baseline cofferdam profile has lowered by at least 20 percent; or (2) the available area for flow over the cofferdam above elevation 145 feet msl is less than 80 percent of the available total flow area when computed with the reservoir at elevation 170 feet msl, the licensees must develop a Cofferdam Restoration Plan. The plan must be filed with the Commission for approval by July 1 following the January 31 distribution of the cofferdam survey report, and include detailed specifications, methods, and a schedule for restoring the cofferdam to elevations consistent with the 2011 baseline cofferdam survey.

Prior to filing the plan for Commission approval, the licensees must develop the plan after consultation with the resource agencies. The licensees must allow a minimum of 45 days for the resource agencies to comment and make recommendations before filing the plan with the Commission. The licensees must include with the plan filed with the Commission documentation of consultation, copies of comments and recommendations from the resource agencies, and specific descriptions of how the resource agencies' recommendations are accommodated by the plan. If the licensees do not adopt a recommendation, the filing must include the licensees' reasons, based on project-specific information.

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

Article 405. *Seasonal Powerhouse Operations*. Upon the earlier of: (1) the scheduled April 30, 2018 expiration of the current sales agreement; or (2) the effective date of any new or extended power sales agreement, the licensees must implement seasonal powerhouse operations to enhance downstream aquatic resources and improve recreational boating opportunities as specified by the following components.

(a) Powerhouse Releases during Seasonal Peaking Operations

During the months of March, April, May, and June, the licensees must limit the maximum powerhouse flow during peaking operations at the project to 12,000 cubic feet per second (cfs). This limitation on peaking operations shall not apply to: (1) any call from either the Midcontinent Independent System Operator (MISO) or the Southwest Power Pool (SPP) on the portion of the project's generation capacity that is held in reserve, as spinning or non-spinning reserve, or is needed to respond to unanticipated changes in scheduled system generation; or (2) any emergency call on power from either MISO or SPP that requires the licensees to respond to an unexpected transmission system upset or anomaly, including such issues as congestion, frequency or voltage anomalies, or grid disturbances, including brown-outs or black-outs.

(b) Weekend Operations during March through June

March and April: On each Saturday and Sunday in March and April, the licensees must provide a minimum volume of 1,450 acre-feet/day of flow releases from the powerhouse to enhance downstream aquatic habitat. Such flows will be released in the range of 4,000 to 7,000 cfs, after approval of the weekend operations plan by the Commission under this article.

May and June: On each Saturday and Sunday in May and June, the March and April weekend operations scenario described above must apply if both of the following conditions are met:

(1) The mean calculated inflow to the reservoir for the first 6 months of the current water year (October 1 to March 31) is greater than 80 percent of the mean calculated inflow of the water year for the same six-month period for the most recent 38-year period of record. The current water year must not be included in the most recent 38-year period of record.

(2) The licensees are able to safely operate at least one turbine-generator unit within its normal operating range of 4,000 to 7,000 cfs.

For purposes of the annual calculation of the inflow to the reservoir in (1) above, the licensees must perform such calculation in substantial conformance with the methods provided in section 3 of the final report entitled *Toledo Bend Project, Operations Model, Operations/Verification Report* dated October 2010 (filed on June 18, 2011). By April 10 of each year, the licensees must submit the required calculation described in (1) above and supporting documentation to the U.S. Geological Survey (USGS), U.S. Fish and Wildlife Service (FWS), National Marine Fisheries Service (NMFS), Texas Commission on Environmental Quality (Texas CEQ), Texas Parks and Wildlife Department (Texas Parks and Wildlife), Texas Water Development Board (Texas Water Board), Louisiana Department of Environmental Quality (Louisiana DEQ), and Louisiana Department of Wildlife and Fisheries (Louisiana Wildlife and Fisheries) (collectively, resource agencies) for review and comment. The licensees must allow 10 days for the resource agencies to comment on the calculation and supporting documentation. No later than April 25, the licensees must file with the Commission their May/June weekend flow schedule and any comments received from the resource agencies.

Each tenth year following license issuance, the licensees must evaluate the frequency of May and June weekend powerhouse operations. If this evaluation demonstrates that weekend powerhouse operations in May and June occurred in fewer than 7 years of the prior 10-year period, the licensees must propose to adjust the 80-percent criterion described in (1) above, such that weekend powerhouse operations in May and June occur in approximately two-thirds of the years over the next 10-year period.

Any proposed adjustment to the criterion for triggering weekend powerhouse operations must be filed with the Commission for approval.

Prior to filing with the Commission, the licensees must provide any proposed adjustments to the criterion for triggering weekend powerhouse operations to the resource agencies for review and comment. The licensees must allow a minimum of 30 days for the resource agencies to comment and make recommendations before filing the proposal with the Commission. The licensees must include with the proposal filed with the Commission documentation of consultation, copies of comments and recommendations from the resource agencies, and specific descriptions of how the resource agencies' recommendations are accommodated by the proposal. If the licensees do not adopt a recommendation, the filing must include the licensees' reasons, based on project-specific information.

The Commission reserves the right to require changes to the proposed criterion for triggering weekend powerhouse operations. Implementation of the criterion for triggering powerhouse operations must not begin until the licensee is notified by the Commission that the proposal is approved. Upon Commission approval, the licensees must implement the proposal, including any changes required by the Commission.

(c) Flow Testing to Establish Weekend Operations

Prior to implementing the weekend powerhouse operations under this article, the licensees must cooperate with the resource agencies' monitoring of flow conditions and hydraulic parameters on the lower Sabine River downstream of Toledo Bend dam. The licensees' obligations related to cooperating with the resource agencies' on their monitoring and evaluation program must be consistent with the *Flow Testing to Optimize Weekend Operations Benefits* contained in Appendix D to the Aquatic Resources Agreement filed on August 1, 2012.

Not later than 4 months prior to initiating weekend operations under this article, the licensees must file with the Commission for approval a weekend operations plan for implementing weekend operations as provided under this article. The plan must include a provision specifying that the project's powerhouse operations under the plan will not require the licensees to operate either turbine-generator unit at flows considered by the licensees to be unsafe, potentially damaging to the unit, or at very low efficiency. The plan must also specify that the licensees must support any such determination with appropriate documentation of the unfavorable conditions. The Commission reserves the right, based on review of the licensees' documentation or other information, to require the licensees to initiate the weekend operations under this article during unfavorable conditions.

The licensees must develop the weekend operations plan after consultation with the resource agencies. The licensees must also consult with American Whitewater and Sabine Whitewater Club regarding the scheduling and timing of the weekend releases. The licensees must allow a minimum of 45 days for the resource agencies and other entities to comment and make recommendations before filing the plan with the Commission. The licensees must include with the plan documentation of consultation with the resource agencies and other entities, copies of comments and recommendations from the resource agencies and other entities, and specific descriptions of how the resource agencies' and other entities' recommendations are accommodated by the plan. If the licensees do not adopt a recommendation, the filing must include the licensees' reasons based on project-specific information.

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

Article 406. *Reservoir Levels*. The licensees shall maintain the project reservoir surface elevation between 168 and 172 feet above mean sea level (msl). The reservoir surface elevation may fall outside of this range:

(1) due to storm or high water events;
(2) due to reservoir drawdown necessary for inspection of public works, maintenance, or other reasons as required by the Commission;
(3) for releases needed to meet continuous release requirements under Article 402;
(4) for releases needed to satisfy the licensees' current water supply or other downstream obligations; or
(5) to avoid an insufficient supply of firm or non-interruptible power to the licensees' wholesale customers in accordance with the terms of the current power sales agreement.

By January 31 of each year, the licensees must file with the Commission a report outlining the instances when reservoir levels were outside the required range during the previous year along with an explanation of the deviations in reservoir levels.

Article 407. *Report on Chinese Tallow Treatment.* By December 31 of each year, the licensees must file with the Commission a report specifying the amount and general location and management objectives of Chinese tallow treatment on Sabine National Forest lands funded by the licensees under Forest Service 4(e) condition 15, *Treatment of Chinese Tallow.* Based on this report, the Commission reserves the right to require any additional measures necessary to treat Chinese tallow consistent with the intent of Forest Service 4(e) condition 15.

Article 408. *Transmission Lines Design Plan*. At least 90 days before the start of any land-disturbing or land-clearing activities associated with construction of the primary transmission line associated with the minimum flow generating facility, the licensees must file with the Commission for approval, a transmission line design plan to protect birds from electrocution and collision hazards.

The plan must include provisions for adequate separation of energized conductors, groundwires, and other metal hardware; adequate insulation; and any other measures necessary to limit potential for collisions or electrocutions. The

licensees must design and construct the primary transmission lines associated the proposed minimum flow generating facility consistent with guidelines set forth in the current versions of the following protection guidelines: (1) Avian Power Line Interaction Committee (APLIC) *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006;* and (2) APLIC's *Reducing Avian Collisions with Power Line: The State of the Art in 2012.*

The plan must be prepared after consultation with the U.S. Fish and Wildlife Service and the state wildlife department for any state the line may cross (Texas Parks and Wildlife Department and/or Louisiana Department of Wildlife and Fisheries). The licensees must include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensees must allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensees do not adopt a recommendation, the filing must include the licensees' reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. No land-disturbing or land-clearing activities associated with construction of the primary transmission line associated with the minimum flow generating facility must commence until the licensees are notified by the Commission that the plan is approved. Upon Commission approval, the licensees must implement the plan, including any changes required by the Commission.

Article 409. *Bald Eagle Protection Measures.* At least 90 days before the start of any land-disturbing or land-clearing activities associated with construction of the minimum flow generating facility, the licensees must conduct surveys for bald eagle nests within 660 feet of the construction site. If any eagle nests are identified in the survey area, the licensees must implement protection measures consistent with the current U.S. Fish and Wildlife Service's National Bald Eagle Management Guidelines.

Article 410. *Revised Recreation Management Plan*. Within 1 year of license issuance, the licensees must file, for Commission approval, a revision to the proposed Recreation Management Plan filed with the Commission on March 6, 2012. The revised plan must include the following: (1) a comprehensive inventory and descriptions of the 16 identified project recreation facilities listed in ordering paragraph (B)(6) that the licensees manage at the project; (2) brief descriptions and location information for the 12 additional recreation areas (Haley's Ferry, Ragtown Recreation Area, East Hamilton, Indian Mounds Recreation Area, Lakeview Recreation Area, Willow Oak, North Toledo Bend

State Park, South Toledo Bend State Park, Joaquin Public Ramp, Yellow Dog Park, Garrett Park, and Frontier Park) that are managed by other federal, state, and local agencies; (3) a detailed discussion of and an implementation schedule for the facility improvements proposed on pages 10-13 of the proposed recreation plan and any additional improvements for the Cow Bayou Wilderness Area, spillway channel area, and tailrace channel area; (4) a spillway channel recreation access plan that: (a) evaluates the physical condition of the spillway channel access site and associated uses to establish baseline conditions and recreational uses; (b) establishes specific safety criteria (either flow releases or associated reservoir levels) that would trigger closure of the site; and (c) provides a protocol for warning recreationists present in the spillway channel before releases occur (e.g., sounding a siren); and (5) a schedule for proposed recreation and visitor survey monitoring reports that would include provisions to file Recreation Management Plan updates every 12 years.

The revised plan must be developed after consultation with the U.S. Forest Service, U.S. Fish and Wildlife Service, Texas Parks and Wildlife Department, Louisiana Department of Wildlife and Fisheries, Louisiana Department of Culture, Recreation and Tourism, American Whitewater, and the Sabine Whitewater Club. The licensees must include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the consultation list, and a specific description of how comments are accommodated by the plan. The licensees must allow a minimum of 30 days for agencies and other entities to comment before filing the plan with the Commission. If the licensees do not adopt a recommendation, the filing must include the licensees' reasons, based on site-specific information.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensees must implement the plan, including any changes required by the Commission.

Article 411. *Shoreline Management Plan.* The licensees must implement the Shoreline Management Plan (SMP) filed on February 3, 2012 with the following modifications: (1) implement measures to control the spread of Chinese tallow at project recreation areas maintained by the licensees as part of routine vegetation management and on Conservation and Public Access classification lands where ground-disturbing activities would occur; (2) ensure that permitted activities conducted within 660 feet of a bald eagle nest are consistent with the current U.S. Fish and Wildlife Service's National Bald Eagle Management Guidelines; (3) within 5 years of the date of this order, file, for Commission approval, a report that summarizes its review of the SMP after consultation with interested agencies and stakeholders, determines whether or not any modifications to the SMP are needed, and if so, provides a plan and schedule for modifying the

SMP; and (4) within 6 months of this order, file, for Commission approval, a plan and schedule to monitor project lands within the project boundary to identify existing encroachments (i.e., unpermitted or unauthorized uses and structures) at the project. At a minimum, the plan shall include: (1) procedures, methods, and schedule for monitoring project lands around the reservoir; (2) procedures to identify and assess encroachments discovered through monitoring; and (3) a plan and schedule for filing with the Commission a comprehensive report on encroaching structures found at the project that describes the types of encroachments and how the licensees intend to resolve any encroachments.

Additionally, within 45 days of the date of this order, the licensees shall file two separate sets of GIS data in a georeferenced electronic file format (such as ArcView shape files, GeoMedia files, MapInfo files, or a similar GIS format) with the Secretary of the Commission, ATTN: OEP/DHAC. The data shall include: (1) polygon files of the project reservoir surface area including a separate polygon for the tailrace area; and (2) polyline files representing the shoreline management classifications. The filing must be in compact disk or diskette format and shall include polygon data that represents the surface area of the reservoir/tailrace, as shown on the project boundary exhibits, and polyline data that represents the linear extent of each shoreline classification segment as shown on maps in the shoreline management plan.

A polygon GIS data file is required for the reservoir/tailrace, with the reservoir separately identified. The attribute table for the reservoir/tailrace must include water elevation and elevation reference datum. A polyline GIS data file is required for the shoreline classifications associated with the reservoir. The attribute table for the reservoir must include at least the management classification description for each polyline, consistent with the shoreline management plan.

All GIS data must be positionally accurate to ±40 feet in order to comply with National Map Accuracy Standards for maps at a 1:24,000 scale. The file name(s) shall include: FERC Project Number, data description, date of this order, and file extension in the following format [P-2305, reservoir name polygon/or reservoir name shoreline polyline data, MM-DD-YYYY.SHP]. The filing must be accompanied by a separate text file describing the spatial reference for the georeferenced data: map projection used (i.e., UTM, State Plane, Decimal Degrees), the map datum (i.e., North American 27, North American 83), and the units of measurement (i.e., feet, meters, miles). The text file name shall include: FERC Project Number, data description, date of this order, and file extension in the following format [P-2305, project reservoir/or shoreline classification metadata, MM-DD-YYYY.TXT].

Article 412. *Programmatic Agreement and Historic Properties Management Plan.* The licensees must implement the "Programmatic Agreement

Among the Federal Energy Regulatory Commission and the Texas and Louisiana State Historic Preservation Officers for Managing Historic Properties that may be Affected by Issuing a License to Sabine River Authority of Texas and Sabine River Authority, State of Louisiana, for the Continued Operation of the Toledo Bend Hydroelectric Project in Shelby, Sabine, and Newton Counties, Texas; and De Soto, Sabine, and Vernon Parishes, Louisiana (FERC No. 2305-036)," executed on January 14, 2014, and including but not limited to the Historic Properties Management Plan (HPMP) for the project filed on June 12, 2012. In the event that the Programmatic Agreement is terminated, the licensees must continue to implement the provisions of its approved HPMP. The Commission reserves the authority to require changes to the HPMP at any time during the term of the license.

Article 413. *Design of Minimum Flow Generating Facility.* The licensees must design the colors, forms, and textures of the minimum flow generating facility and appurtenant facilities to match the setting in the vicinity of the project spillway. The licensees must file photographic documentation with the Commission within 30 days of completion of the powerhouse and appurtenant facilities to verify that all new facilities comply with this article.

Article 414. *Reservation of Authority to Prescribe Fishways.* Authority is reserved to the Commission to require the licensees to construct, operate, and maintain, or to provide for construction, operation, and maintenance of such fishways as may be prescribed by the Secretaries of the Interior and Commerce pursuant to section 18 of the Federal Power Act.

Article 415. *Use and Occupancy.* (a) In accordance with the provisions of this article, the licensees must have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain types of use and occupancy, without prior Commission approval. The licensees may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the licensees must also have continuing responsibility to supervise and control the use and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the licensees for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the licensees must take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, canceling the permission to use

and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The type of use and occupancy of project lands and waters for which the licensees may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 water craft at a time and where said facility is intended to serve single-family type dwellings; (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and (4) food plots and other wildlife enhancement. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensees must require multiple use and occupancy of facilities for access to project lands or waters. The licensees must also ensure that, to the satisfaction of the Commission's authorized representative, the use and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the licensees must: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the impoundment shoreline. To implement this paragraph (b), the licensees may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensees' costs of administering the permit program. The Commission reserves the right to require the licensees to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

(c) The licensees may convey easements or rights-of-way across, or leases of project lands for: (1) replacement, expansion, realignment, or maintenance of bridges or roads where all necessary state and federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69-kilovolts or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project impoundment. No later than January 31 of each year, the licensees must file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the

location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed.

(d) The licensees may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 water craft at a time and are located at least one-half mile (measured over project waters) from any other private or public marina; (6) recreational development consistent with an approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from project waters at normal surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 60 days before conveying any interest in project lands under this paragraph (d), the licensees must submit a letter to the Director, Office of Energy Projects, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked Exhibit G map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the licensees to file an application for prior approval, the licensees may convey the intended interest at the end of that period.

(e) The following additional conditions apply to any intended conveyance under paragraph (c) or (d) of this article:

(1) Before conveying the interest, the licensees must consult with federal and state fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer.

(2) Before conveying the interest, the licensees must determine that the proposed use of the lands to be conveyed is not inconsistent with any approved report on recreational resources of an Exhibit E; or, if the project does not have an approved report on recreational resources, that the lands to be conveyed do not have recreational value.

(3) The instrument of conveyance must include the following covenants running with the land: (i) the use of the lands conveyed must not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; (ii) the grantee must take all reasonable precautions to ensure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project; and (iii) the grantee must not unduly restrict public access to project waters.

(4) The Commission reserves the right to require the licensees to take reasonable remedial action to correct any violation of the terms and conditions of this article, for the protection and enhancement of the project's scenic, recreational, and other environmental values.

(f) The conveyance of an interest in project lands under this article does not in itself change the project boundaries. The project boundaries may be changed to exclude land conveyed under this article only upon approval of revised Exhibit G drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article will be excluded from the project only upon a determination that the lands are not necessary for project purposes, such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary circumstances, proposals to exclude lands conveyed under this article from the project must be consolidated for consideration when revised Exhibit G drawings would be filed for approval for other purposes.

(g) The authority granted to the licensees under this article must not apply to any part of the public lands and reservations of the United States included within the project boundary.

(G) The licensees must serve copies of any Commission filing required by this order on any entity specified in the order to be consulted on matters relating to that filing. Proof of service on these entities must accompany the filing with the Commission.

(H) This order constitutes final agency action. Any party may file a request for rehearing of this order within 30 days from the date of its issuance, as provided in section 313(a) of the FPA, 16 U.S.C. § 825*l* (2012), and section 385.713 of the Commission's regulations, 18 C.F.R. § 385.713 (2014). The filing of a request for rehearing does not operate as a stay of the effective date of this license or of any other date specified in this order. The licensees' failure to file a request for rehearing shall constitute acceptance of this order.

Jeff C. Wright
Director
Office of Energy Projects

Form L-5
(October, 1975)

FEDERAL ENERGY REGULATORY COMMISSION

TERMS AND CONDITIONS OF LICENSE FOR CONSTRUCTED MAJOR PROJECT AFFECTING NAVIGABLE WATERS AND LANDS OF THE UNITED STATES

Article 1. The entire project, as described in this order of the Commission, shall be subject to all of the provisions, terms, and conditions of the license.

Article 2. No substantial change shall be made in the maps, plans, specifications, and statements described and designated as exhibits and approved by the Commission in its order as a part of the license until such change shall have been approved by the Commission: Provided, however, That if the Licensee or the Commission deems it necessary or desirable that said approved exhibits, or any of them, be changed, there shall be submitted to the Commission for approval a revised, or additional exhibit or exhibits covering the proposed changes which, upon approval by the Commission, shall become a part of the license and shall supersede, in whole or in part, such exhibit or exhibits theretofore made a part of the license as may be specified by the Commission.

Article 3. The project area and project works shall be in substantial conformity with the approved exhibits referred to in Article 2 herein or as changed in accordance with the provisions of said article. Except when emergency shall require for the protection of navigation, life, health, or property, there shall not be made without prior approval of the Commission any substantial alteration or addition not in conformity with the approved plans to any dam or other project works under the license or any substantial use of project lands and waters not authorized herein; and any emergency alteration, addition, or use so made shall thereafter be subject to such modification and change as the Commission may direct. Minor changes in project works, or in uses of project lands and waters, or divergence from such approved exhibits may be made if such changes will not result in a decrease in efficiency, in a material increase in cost, in an adverse environmental impact, or in impairment of the general scheme of development; but any of such minor changes made without the prior approval of the Commission, which in its judgment have produced or will produce any of such results, shall be subject to such alteration as the Commission may direct.

Article 4. The project, including its operation and maintenance and any

work incidental to additions or alterations authorized by the Commission, whether or not conducted upon lands of the United States, shall be subject to the inspection and supervision of the Regional Engineer, Federal Energy Regulatory Commission, in the region wherein the project is located, or of such other officer or agent as the Commission may designate, who shall be the authorized representative of the Commission for such purposes. The Licensee shall cooperate fully with said representative and shall furnish him such information as he may require concerning the operation and maintenance of the project, and any such alterations thereto, and shall notify him of the date upon which work with respect to any alteration will begin, as far in advance thereof as said representative may reasonably specify, and shall notify him promptly in writing of any suspension of work for a period of more than one week, and of its resumption and completion. The Licensee shall submit to said representative a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of any such alterations to the project. Construction of said alterations or any feature thereof shall not be initiated until the program of inspection for the alterations or any feature thereof has been approved by said representative. The Licensee shall allow said representative and other officers or employees of the United States, showing proper credentials, free and unrestricted access to, through, and across the project lands and project works in the performance of their official duties. The Licensee shall comply with such rules and regulations of general or special applicability as the Commission may prescribe from time to time for the protection of life, health, or property.

Article 5. The Licensee, within five years from the date of issuance of the license, shall acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction maintenance, and operation of the project. The Licensee or its successors and assigns shall, during the period of the license, retain the possession of all project property covered by the license as issued or as later amended, including the project area, the project works, and all franchises, easements, water rights, and rights or occupancy and use; and none of such properties shall be voluntarily sold, leased, transferred, abandoned, or otherwise disposed of without the prior written approval of the Commission, except that the Licensee may lease or otherwise dispose of interests in project lands or property without specific written approval of the Commission pursuant to the then current regulations of the Commission. The provisions of this article are not intended to prevent the abandonment or the retirement from service of structures, equipment, or other project works in connection with replacements thereof when they become obsolete, inadequate, or inefficient for further service due to wear and tear; and mortgage or trust deeds or judicial sales made thereunder, or tax sales, shall not be deemed voluntary

transfers within the meaning of this article.

Article 6. In the event the project is taken over by the United States upon the termination of the license as provided in Section 14 of the Federal Power Act, or is transferred to a new licensee or to a nonpower licensee under the provisions of Section 15 of said Act, the Licensee, its successors and assigns shall be responsible for, and shall make good any defect of title to, or of right of occupancy and use in, any of such project property that is necessary or appropriate or valuable and serviceable in the maintenance and operation of the project, and shall pay and discharge, or shall assume responsibility for payment and discharge of, all liens or encumbrances upon the project or project property created by the Licensee or created or incurred after the issuance of the license: Provided, That the provisions of this article are not intended to require the Licensee, for the purpose of transferring the project to the United States or to a new licensee, to acquire any different title to, or right of occupancy and use in, any of such project property than was necessary to acquire for its own purposes as the Licensee.

Article 7. The actual legitimate original cost of the project, and of any addition thereto or betterment thereof, shall be determined by the Commission in accordance with the Federal Power Act and the Commission's Rules and Regulations thereunder.

Article 8. The Licensee shall install and thereafter maintain gages and stream-gaging stations for the purpose of determining the stage and flow of the stream or streams on which the project is located, the amount of water held in and withdrawn from storage, and the effective head on the turbines; shall provide for the required reading of such gages and for the adequate rating of such stations; and shall install and maintain standard meters adequate for the determination of the amount of electric energy generated by the project works. The number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, shall at all times be satisfactory to the Commission or its authorized representative. The Commission reserves the right, after notice and opportunity for hearing, to require such alterations in the number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, as are necessary to secure adequate determinations. The installation of gages, the rating of said stream or streams, and the determination of the flow thereof, shall be under the supervision of, or in cooperation with, the District Engineer of the United States Geological Survey having charge of stream-gaging operations in the region of the project, and the Licensee shall advance to the United States Geological Survey the amount of funds estimated to be necessary for such supervision, or cooperation for such periods as may mutually agreed upon. The Licensee shall keep accurate and sufficient records of the foregoing

determinations to the satisfaction of the Commission, and shall make return of such records annually at such time and in such form as the Commission may prescribe.

Article 9. The Licensee shall, after notice and opportunity for hearing, install additional capacity or make other changes in the project as directed by the Commission, to the extent that it is economically sound and in the public interest to do so.

Article 10. The Licensee shall, after notice and opportunity for hearing, coordinate the operation of the project, electrically and hydraulically, with such other projects or power systems and in such manner as the Commission may direct in the interest of power and other beneficial public uses of water resources, and on such conditions concerning the equitable sharing of benefits by the Licensee as the Commission may order.

Article 11. Whenever the Licensee is directly benefited by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement, the Licensee shall reimburse the owner of the headwater improvement for such part of the annual charges for interest, maintenance, and depreciation thereof as the Commission shall determine to be equitable, and shall pay to the United States the cost of making such determination as fixed by the Commission. For benefits provided by a storage reservoir or other headwater improvement of the United States, the Licensee shall pay to the Commission the amounts for which it is billed from time to time for such headwater benefits and for the cost of making the determinations pursuant to the then current regulations of the Commission under the Federal Power Act.

Article 12. The United States specifically retains and safeguards the right to use water in such amount, to be determined by the Secretary of the Army, as may be necessary for the purposes of navigation on the navigable waterway affected; and the operations of the Licensee, so far as they affect the use, storage and discharge from storage of waters affected by the license, shall at all times be controlled by such reasonable rules and regulations as the Secretary of the Army may prescribe in the interest of navigation, and as the Commission my prescribe for the protection of life, health, and property, and in the interest of the fullest practicable conservation and utilization of such waters for power purposes and for other beneficial public uses, including recreational purposes, and the Licensee shall release water from the project reservoir at such rate in cubic feet per second, or such volume in acre-feet per specified period of time, as the Secretary of the Army may prescribe in the interest of navigation, or as the Commission may prescribe for the other purposes hereinbefore mentioned.

Article 13. On the application of any person, association, corporation, Federal agency, State or municipality, the Licensee shall permit such reasonable use of its reservoir or other project properties, including works, lands and water rights, or parts thereof, as may be ordered by the Commission, after notice and opportunity for hearing, in the interests of comprehensive development of the waterway or waterways involved and the conservation and utilization of the water resources of the region for water supply or for the purposes of steam-electric, irrigation, industrial, municipal or similar uses. The Licensee shall receive reasonable compensation for use of its reservoir or other project properties or parts thereof for such purposes, to include at least full reimbursement for any damages or expenses which the joint use causes the Licensee to incur. Any such compensation shall be fixed by the Commission either by approval of an agreement between the Licensee and the party or parties benefiting or after notice and opportunity for hearing. Applications shall contain information in sufficient detail to afford a full understanding of the proposed use, including satisfactory evidence that the applicant possesses necessary water rights pursuant to applicable State law, or a showing of cause why such evidence cannot concurrently be submitted, and a statement as to the relationship of the proposed use to any State or municipal plans or orders which may have been adopted with respect to the use of such waters.

Article 14. In the construction or maintenance of the project works, the Licensee shall place and maintain suitable structures and devices to reduce to a reasonable degree the liability of contact between its transmission lines and telegraph, telephone and other signal wires or power transmission lines constructed prior to its transmission lines and not owned by the Licensee, and shall also place and maintain suitable structures and devices to reduce to a reasonable degree the liability of any structures or wires falling or obstructing traffic or endangering life. None of the provisions of this article are intended to relieve the Licensee from any responsibility or requirement which may be imposed by any other lawful authority for avoiding or eliminating inductive interference.

Article 15. The Licensee shall, for the conservation and development of fish and wildlife resources, construct, maintain, and operate, or arrange for the construction, maintenance, and operation of such reasonable facilities, and comply with such reasonable modifications of the project structures and operation, as may be ordered by the Commission upon its own motion or upon the recommendation of the Secretary of the Interior or the fish and wildlife agency or agencies of any State in which the project or a part thereof is located, after notice and opportunity for hearing.

Article 16. Whenever the United States shall desire, in connection with the

project, to construct fish and wildlife facilities or to improve the existing fish and wildlife facilities at its own expense, the Licensee shall permit the United States or its designated agency to use, free of cost, such of the Licensee's lands and interests in lands, reservoirs, waterways and project works as may be reasonably required to complete such facilities or such improvements thereof. In addition, after notice and opportunity for hearing, the Licensee shall modify the project operation as may be reasonably prescribed by the Commission in order to permit the maintenance and operation of the fish and wildlife facilities constructed or improved by the United States under the provisions of this article. This article shall not be interpreted to place any obligation on the United States to construct or improve fish and wildlife facilities or to relieve the Licensee of any obligation under this license.

Article 17. The Licensee shall construct, maintain, and operate, or shall arrange for the construction, maintenance, and operation of such reasonable recreational facilities, including modifications thereto, such as access roads, wharves, launching ramps, beaches, picnic and camping areas, sanitary facilities, and utilities, giving consideration to the needs of the physically handicapped, and shall comply with such reasonable modifications of the project, as may be prescribed hereafter by the Commission during the term of this license upon its own motion or upon the recommendation of the Secretary of the Interior or other interested Federal or State agencies, after notice and opportunity for hearing.

Article 18. So far as is consistent with proper operation of the project, the Licensee shall allow the public free access, to a reasonable extent, to project waters and adjacent project lands owned by the Licensee for the purpose of full public utilization of such lands and waters for navigation and for outdoor recreational purposes, including fishing and hunting: Provided, That the Licensee may reserve from public access such portions of the project waters, adjacent lands, and project facilities as may be necessary for the protection of life, health, and property.

Article 19. In the construction, maintenance, or operation of the project, the Licensee shall be responsible for, and shall take reasonable measures to prevent, soil erosion on lands adjacent to streams or other waters, stream sedimentation, and any form of water or air pollution. The Commission, upon request or upon its own motion, may order the Licensee to take such measures as the Commission finds to be necessary for these purposes, after notice and opportunity for hearing.

Article 20. The Licensee shall clear and keep clear to an adequate width lands along open conduits and shall dispose of all temporary structures, unused

timber, brush, refuse, or other material unnecessary for the purposes of the project which results from the clearing of lands or from the maintenance or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. All clearing of the lands and disposal of the unnecessary material shall be done with due diligence and to the satisfaction of the authorized representative of the Commission and in accordance with appropriate Federal, State, and local statutes and regulations.

Article 21. Material may be dredged or excavated from, or placed as fill in, project lands and/or waters only in the prosecution of work specifically authorized under the license; in the maintenance of the project; or after obtaining Commission approval, as appropriate. Any such material shall be removed and/or deposited in such manner as to reasonably preserve the environmental values of the project and so as not to interfere with traffic on land or water. Dredging and filling in a navigable water of the United States shall also be done to the satisfaction of the District Engineer, Department of the Army, in charge of the locality.

Article 22. Whenever the United States shall desire to construct, complete, or improve navigation facilities in connection with the project, the Licensee shall convey to the United States, free of cost, such of its lands and rights-of-way and such rights of passage through its dams or other structures, and shall permit such control of its pools, as may be required to complete and maintain such navigation facilities.

Article 23. The operation of any navigation facilities which may be constructed as a part of, or in connection with, any dam or diversion structure constituting a part of the project works shall at all times be controlled by such reasonable rules and regulations in the interest of navigation, including control of the level of the pool caused by such dam or diversion structure, as may be made from time to time by the Secretary of the Army.

Article 24. The Licensee shall furnish power free of cost to the United States for the operation and maintenance of navigation facilities in the vicinity of the project at the voltage and frequency required by such facilities and at a point adjacent thereto, whether said facilities are constructed by the Licensee or by the United States.

Article 25. The Licensee shall construct, maintain, and operate at its own expense such lights and other signals for the protection of navigation as may be directed by the Secretary of the Department in which the Coast Guard is operating.

Article 26. Timber on lands of the United States cut, used, or destroyed in the construction and maintenance of the project works, or in the clearing of said lands, shall be paid for, and the resulting slash and debris disposed of, in accordance with the requirements of the agency of the United States having jurisdiction over said lands. Payment for merchantable timber shall be at current stumpage rates, and payment for young growth timber below merchantable size shall be at current damage appraisal values. However, the agency of the United States having jurisdiction may sell or dispose of the merchantable timber to others than the Licensee: Provided, That timber so sold or disposed of shall be cut and removed from the area prior to, or without undue interference with, clearing operations of the Licensee and in coordination with the Licensee's project construction schedules. Such sale or disposal to others shall not relieve the Licensee of responsibility for the clearing and disposal of all slash and debris from project lands.

Article 27. The Licensee shall do everything reasonably within its power, and shall require its employees, contractors, and employees of contractors to do everything reasonably within their power, both independently and upon the request of officers of the agency concerned, to prevent, to make advance preparations for suppression of, and to suppress fires on the lands to be occupied or used under the license. The Licensee shall be liable for and shall pay the costs incurred by the United States in suppressing fires caused from the construction, operation, or maintenance of the project works or of the works appurtenant or accessory thereto under the license.

Article 28. The Licensee shall interpose no objection to, and shall in no way prevent, the use by the agency of the United States having jurisdiction over the lands of the United States affected, or by persons or corporations occupying lands of the United States under permit, of water for fire suppression from any stream, conduit, or body of water, natural or artificial, used by the Licensee in the operation of the project works covered by the license, or the use by said parties of water for sanitary and domestic purposes from any stream, conduit, or body of water, natural or artificial, used by the Licensee in the operation of the project works covered by the license.

Article 29. The Licensee shall be liable for injury to, or destruction of, any buildings, bridges, roads, trails, lands, or other property of the United States, occasioned by the construction, maintenance, or operation of the project works or of the works appurtenant or accessory thereto under the license. Arrangements to meet such liability, either by compensation for such injury or destruction, or by reconstruction or repair of damaged property, or otherwise, shall be made with the appropriate department or agency of the United States.

Article 30. The Licensee shall allow any agency of the United States, without charge, to construct or permit to be constructed on, through, and across those project lands which are lands of the United States such conduits, chutes, ditches, railroads, roads, trails, telephone and power lines, and other routes or means of transportation and communication as are not inconsistent with the enjoyment of said lands by the Licensee for the purposes of the license. This license shall not be construed as conferring upon the Licensee any right of use, occupancy, or enjoyment of the lands of the United States other than for the construction, operation, and maintenance of the project as stated in the license.

Article 31. In the construction and maintenance of the project, the location and standards of roads and trails on lands of the United States and other uses of lands of the United States, including the location and condition of quarries, borrow pits, and spoil disposal areas, shall be subject to the approval of the department or agency of the United States having supervision over the lands involved.

Article 32. The Licensee shall make provision, or shall bear the reasonable cost, as determined by the agency of the United States affected, of making provision for avoiding inductive interference between any project transmission line or other project facility constructed, operated, or maintained under the license, and any radio installation, telephone line, or other communication facility installed or constructed before or after construction of such project transmission line or other project facility and owned, operated, or used by such agency of the United States in administering the lands under its jurisdiction.

Article 33. The Licensee shall make use of the Commission's guidelines and other recognized guidelines for treatment of transmission line rights-of-way, and shall clear such portions of transmission line rights-of-way across lands of the United States as are designated by the officer of the United States in charge of the lands; shall keep the areas so designated clear of new growth, all refuse, and inflammable material to the satisfaction of such officer; shall trim all branches of trees in contact with or liable to contact the transmission lines; shall cut and remove all dead or leaning trees which might fall in contact with the transmission lines; and shall take such other precautions against fire as may be required by such officer. No fires for the burning of waste material shall be set except with the prior written consent of the officer of the United States in charge of the lands as to time and place.

Article 34. The Licensee shall cooperate with the United States in the disposal by the United States, under the Act of July 31, 1947, 61 Stat. 681, as amended (30 U.S.C. sec. 601, et seq.), of mineral and vegetative materials from

lands of the United States occupied by the project or any part thereof: Provided, That such disposal has been authorized by the Commission and that it does not unreasonably interfere with the occupancy of such lands by the Licensee for the purposes of the license: Provided further, That in the event of disagreement, any question of unreasonable interference shall be determined by the Commission after notice and opportunity for hearing.

Article 35. If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of the license and the lawful orders of the Commission mailed to the record address of the Licensee or its agent, the Commission will deem it to be the intent of the Licensee to surrender the license. The Commission, after notice and opportunity for hearing, may require the Licensee to remove any or all structures, equipment and power lines within the project boundary and to take any such other action necessary to restore the project waters, lands, and facilities remaining within the project boundary to a condition satisfactory to the United States agency having jurisdiction over its lands or the Commission's authorized representative, as appropriate, or to provide for the continued operation and maintenance of nonpower facilities and fulfill such other obligations under the license as the Commission may prescribe. In addition, the Commission in its discretion, after notice and opportunity for hearing, may also agree to the surrender of the license when the Commission, for the reasons recited herein, deems it to be the intent of the Licensee to surrender the license.

Article 36. The right of the Licensee and of its successors and assigns to use or occupy waters over which the United States has jurisdiction, or lands of the United States under the license, for the purpose of maintaining the project works or otherwise, shall absolutely cease at the end of the license period, unless the Licensee has obtained a new license pursuant to the then existing laws and regulations, or an annual license under the terms and conditions of this license.

Article 37. The terms and conditions expressly set forth in the license shall not be construed as impairing any terms and conditions of the Federal Power Act which are not expressly set forth herein.

APPENDIX A

FOREST SERVICE SECTION 4(e) CONDITIONS

(filed October 22, 2012)

The Forest Service (USFS) provides the following final 4(e) conditions for the Toledo Bend Hydropower Project, FERC No. P-2305, in accordance with 18 CFR 4.34(b)(l)(i).

License articles contained in the Federal Energy Regulatory Commission's (FERC's) Standard Form L-1 (revised October 1975) issued by Order No. 540, dated October 31, 1975, cover general requirements that the Secretary of Agriculture, acting by and through the Forest Service (USFS), considers necessary for the adequate protection and utilization of the land and resources of the National Forests and Grasslands in Texas. For the USFS's determination under Section 4(e) of the Federal Power Act (16 U.S.C. 797(e)), the purposes for which National Forest System lands were created or acquired shall be the protection and utilization of those resources enumerated in the Organic Administration Act of 1897 (30 Stat. 11), the Multiple-Use Sustained Yield Act of 1960 (74 Stat. 215), the National Forest Management Act of 1976 (90 Stat. 2949), and any other law specifically establishing a unit of the National Forest System or prescribing the management thereof (such as the Wilderness Act or the Wild and Scenic Rivers Act), as such laws may be amended from time to time, and as implemented by regulations and approved Forest Plans prepared in accordance with the National Forest Management Act. Specifically, these conditions are based on the Revised Land and Resource Management Plan for the National Forests and Grasslands in Texas, as approved by the Regional Forester of the Southern Region. Therefore, pursuant to Section 4(e) of the Federal Power Act, the following conditions covering specific requirements for protection and utilization of National Forest System lands shall also be included in any license amendment issued.

Condition 1 – Reservation of Authority in the Event the Settlement Agreement is Materially Modified or Not Accepted by the Commission

The U.S. Department of Agriculture Forest Service (USFS) 4(e) conditions are premised on two considerations:

1. The Commission's acceptance and incorporation of these USFS Section 4(e) conditions, which are included as Appendix A to the Settlement Agreement, without material modification into the license.

2. The Licensees' immediate and complete implementation of their obligations in accordance with the Settlement Agreement as it may be modified or conformed by the Parties following issuance of the license by the Commission.

In the event that either of these considerations is not met, the USFS reserves its authority to amend, supplement or modify its terms and conditions at a later time.

Condition 2 – Reservation of Authority

The Licensees shall implement, upon order of the Commission, such additional conditions as may be identified by the Secretary of Agriculture, pursuant to the authority provided in Section 4(e) of the Federal Power Act, as necessary for the adequate protection and utilization of reservations of the United States occupied by the Project and under the authority of the USFS, provided that such additional conditions are necessary, based on compelling new evidence that is not in the record of the FERC proceeding or otherwise available at the time the Commission issues the license, to address changed circumstances.

Condition 3 – Surrender of License or Transfer of Ownership

Prior to any surrender of this license, the Licensees shall provide assurance acceptable to USFS that the Licensees shall restore any Project area directly affecting National Forest System (NFS) lands to a condition satisfactory to the USFS upon or after surrender of the license, as appropriate. To the extent restoration is required, the Licensees shall prepare a restoration plan, which shall identity the measures to be taken to restore such NFS lands and shall include or identity adequate financial mechanisms to ensure performance of the restoration measures.

In the event of any transfer of the license or sale of the Project, the Licensees shall assure that, in a manner satisfactory to the USFS, the Licensees or transferee will provide for the costs of surrender and restoration. If deemed necessary by the USFS to assist it in evaluating the Licensees' proposal, the Licensees shall conduct an analysis, using experts approved by the USFS, to estimate the potential costs associated with surrender and restoration of any Project area directly affecting NFS lands to USFS specifications. In addition, the USFS may require the Licensees to pay for an independent audit of the transferee to assist the USFS in determining whether the transferee has the financial ability to fund the surrender and restoration work specified in the analysis.

Condition 4 – Indemnification

The Licensees shall indemnify, defend, and hold the United States harmless for any costs, damages, claims, liabilities, and judgments arising from past, present, and future acts or omissions of the Licensees in connection with the Licensees' use and/or occupancy of NFS lands authorized by this license. This indemnification and hold harmless provision applies to any negligent acts and omissions of the Licensees or the Licensees' assigns, agents, employees, affiliates, subsidiaries, fiduciaries, contractors, or lessees in connection with the Licensees' use and/or occupancy of NFS lands authorized by this license which result in: (1) violations of any laws and regulations which are now or which may in the future

become applicable, and including but not limited to environmental laws such as the Comprehensive Environmental Response Compensation and Liability Act, Resource Conservation and Recovery Act, Oil Pollution Act, Clean Water Act, and the Clean Air Act; (2) judgments, claims, demands, penalties, or fees assessed against the United States; (3) costs, expenses, and damages incurred by the United States (other than as contemplated by the license); or (4) the release or imminent release of any solid waste, hazardous substances, pollutant, contaminant, or oil in any form in the environment.

The provisions of this condition do not apply to any damages, judgments, claims, or demands arising out of the negligence, recklessness, or willful misconduct of the United States or other third parties or to damages, judgments, claims, or demands arising out of any activity initially occurring outside the Project boundary or outside NFS lands.

Condition 5 – Compliance with Regulations on National Forest System Lands

The Licensees shall comply with the regulations of the U.S. Department of Agriculture for activities on NFS lands. The Licensees also shall comply with any and all applicable Federal, State, county, and municipal laws, ordinances, or regulations in connection with the Licensees' use and/or occupancy of NFS lands authorized by the license, to the extent those laws, ordinances or regulations are not preempted by Federal law.

Condition 6 – Pesticide Use Restrictions

Pesticides may not be used to control undesirable woody and herbaceous vegetation, aquatic plants, fish, insects, and rodents on NFS lands without the prior written approval of the USFS. The Licensees shall submit a request for approval of planned uses of pesticides on NFS lands. The request must cover annual planned use and be updated as required by the USFS. The Licensees shall provide information essential for review, including a forest-specific pesticide risk assessment, in the form specified. Exceptions to this condition may be allowed only when unexpected outbreaks of pests require control measures that were not anticipated at the time the request was submitted. In such an instance, an emergency request and approval may be made.

The Licensees shall use on NFS lands only those materials registered by the U.S. Environmental Protection Agency for the specific purpose planned. The Licensees must strictly follow label instructions in the preparation and application of pesticides and disposal of excess materials and containers.

Condition 7 – Hazards on National Forest System Lands

The Licensees have a continuing responsibility to report to the USFS all hazardous conditions on or directly affecting NFS lands observed by or reported to the Licensees in connection with the Licensees' use and/or occupancy of NFS lands authorized by the license, and to take any reasonable and appropriate action for the

abatement of such conditions. For areas covered by the SNF Recreation Plan, that plan establishes the Licensees' responsibility for maintaining public safety. For those areas not covered by the SNF Recreation Plan, the Licensees will report to the USFS all hazardous conditions on NFS lands observed by or reported to the Licensees in connection with the Licensees' use and/or occupancy of NFS lands as soon as practicable following the observation or report. If the hazard presents an immediate threat to public safety or NFS lands or facilities, the Licensees shall take reasonable and appropriate action for the abatement of the hazardous condition. The Licensees shall notify the USFS of its emergency abatement actions as soon as practicable after such actions have been taken. If the hazard does not present an immediate threat to public safety or NFS lands or facilities, the Licensees shall consult with the USFS to determine the need for and timing of abatement of the hazardous condition, and shall undertake any abatement activities as mutually agreed upon by the USFS and the Licensees.

Condition 8 – Hazardous Substances Plan

Prior to any activities on NFS lands involving the use or storage of any hazardous substances, the Licensees shall file with the Commission a plan approved by the USFS for hazardous substances storage, spill prevention, and spill cleanup for Project facilities on or directly affecting NFS lands. In addition, during planning and prior to any new construction or maintenance not addressed in an existing plan, the Licensees shall notify the USFS, and the USPF shall make a determination whether a plan approved by the USFS for oil and hazardous substances storage and spill prevention and cleanup is needed.

At a minimum, the plan must require the Licensees to: (1) maintain in the Project area, or, at an alternative location approved by the USFS, a cache of spill cleanup equipment suitable to contain any spill from the Project; (2) periodically inform the USFS of the location of the spill cleanup equipment on NFS lands and of the location, type, and quantity of oil and hazardous substances stored in the Project area; (3) inform the USFS immediately of the nature, time, date, location, and action taken for any spill affecting NFS lands, and Licensees' adjoining property when such spill could reasonably be expected to affect NFS lands; and (4) provide annually to the USFS a list of Licensees' project contacts.

Condition 9 – Valid Claims and Existing Rights

This license is subject to all valid rights and claims of third parties. The United States is not liable to the Licensees for the exercise of any such right or claim.

Condition 10 – Surveys, Land Corners

The Licensees shall avoid disturbance to all public land survey monuments, private property comers, and forest boundary markers. In the event that any such land markers or monuments on NFS lands are destroyed by an act or omission of the Licensees, in connection with the use and/or occupancy authorized by this

license, depending on the type of monument destroyed, the Licensees shall reestablish or reference same in accordance with (1) the procedures outlined in the "Manual of Instructions for the Survey of the Public Land of the United States," (2) the specifications of the County Surveyor, or (3) the specifications of the USFS.

Further, the Licensees shall ensure that any such official survey records affected are amended as provided by law.

Condition No. 11 – Damage to Land, Property, and Interests of the United States

The Licensees have an affirmative duty to protect the land, property, and interests of the United States from damage arising from the Licensees' construction, maintenance, or operation of the Project works or the works appurtenant or accessory thereto under the license. The Licensees' liability for fire and other damages to NFS lands shall be determined in accordance with the Federal Power Act and FERC Standard Form L-5 Articles 27 and 29.

Condition No. 12 – Sunset Provision

Conditions 1 through 12 will automatically expire as to and upon the deed or transfer of title to one or both Licensees or any other non-federal entity of all lands of the United States administered by the USFS that are either: (1) embraced within the Commission-approved Project boundary; or (2) within a USFS recreation area or boat launch adjacent to Toledo Bend Reservoir. In the event these conditions expire as a result of the deed or transfer of all the United States lands described above, Conditions 1 through 12 will be deemed removed from the license, and the Licensees shall have no further compliance obligations under these Conditions.

Condition 13 – USFS Recreation Areas at Toledo Bend

The Licensee Sabine River Authority of Texas (SRA-TX) shall completely and fully comply with all provisions of the SNF Recreation Plan, attached as Appendix C to the Relicensing Settlement Agreement for Sabine National Forest and filed with the Commission.

The SNF Recreation Plan may be amended only upon mutual agreement of the USFS and Licensee SRA-TX. As provided in the SNF Recreation Plan, Licensee SRA-TX shall convene an annual meeting with the USFS by March 31 of each year to review current recreation needs and determine whether adjustments to the SNF Recreation Plan are warranted. If Licensee SRA-TX and the USFS mutually agree to any changes to the SNF Recreation Plan, Licensee SRA-TX shall prepare an amended SNF Recreation Plan, which incorporates the mutually agreed-upon changes. Licensee SRA-TX shall submit any such amended SNF Recreation Plan to the Commission for approval by September 30. Upon Commission approval, Licensee SRA-TX shall comply

with the amended SNF Recreation Plan.

Concurrent with the Commission's relicensing of the Project, the Licensees and USFS are endeavoring to reach a land exchange agreement that would transfer title to one or both Licensees or any other non-federal entity of all lands of the United States administered by the USFS that are either: (1) embraced within the Commission-approved Project boundary; or (2) within a USFS recreation area or boat launch adjacent to Toledo Bend Reservoir. Accordingly, this Condition 13 will automatically expire: (1) as to and upon the deed or transfer of title to one or both Licensees or any other non-federal entity of those United States lands associated with one or more of the "USFS Recreation Areas," as that term is defined in the SNF Recreation Plan; and (2) the Commission's approval of the Licensees' plan for the orderly disposition of the USFS Recreation Areas, as described below.

Upon reaching an agreement for a land exchange involving the United States lands associated with the USFS Recreation Areas, the Licensees shall prepare a plan, in consultation with the USFS, for the orderly continuation or retirement of the USFS Recreation Areas deeded or transferred to one or both Licensees or any other non-federal entity. Such plan may include, but is not limited to, an amendment of the Commission-approved Recreation Management Plan for the Project. Following the transfer, the Licensees shall file the plan for the Commission's approval. The Licensees shall implement the plan as approved by the Commission.

In the event this Condition 13 fully expires as a result of the deed or transfer of the United States lands associated with all the USFS Recreation Areas, this Condition 13 will be deemed removed from the license, and the Licensees shall have no further compliance obligations under this Condition 13.

Condition 14 – Erosion Monitoring and Management

The Licensees shall completely and fully comply with all provisions of the Sabine National Forest Erosion Monitoring and Management Plan (SNF Erosion Plan), attached as Appendix B to the Relicensing Settlement Agreement for Sabine National Forest and filed with the Commission.

This Condition 14 will automatically expire as to and upon the deed or transfer of title to one or both Licensees or any other non-federal entity of those lands of the United States administered by the USFS that are either: (1) embraced within the Commission-approved Project boundary; or (2) within a USFS recreation area or boat launch adjacent to Toledo Bend Reservoir. In the event this Condition 14 fully expires as a result of the deed or transfer of all the United States lands described above, this Condition 14 will be deemed removed from the license, and the Licensees shall have no further compliance obligations under this Condition 14.

Condition 15 – Treatment of Chinese Tallow

The Licensees shall provide monetary contributions to the USFS during the term of the license in the amount of twenty thousand dollars ($20,000) per year to be used by the USFS for its ongoing treatment program for Chinese tallow. These funds are based on 2013 dollars and shall be adjusted annually according to the U.S. Department of Labor, Bureau of Labor Statistics Consumer Price Index for All Urban Consumers (CPI-U). If in any year the USFS does not expend all funds contributed by the Licensees for that year, the remaining unexpended amount may be used by the USFS in subsequent years for the purposes for which the contributions have been made.

In each calendar year during the term of the license, the Licensees shall submit to the USFS one (1) payment representing the total cash contribution to be paid for that particular year. The payment will be in the form of a single check made payable to "National Forests and Grasslands in Texas," and shall be transmitted to the USFS no later than November 1 of each year.

In addition, the Licensees shall require, as a provision in the Commission-approved Shoreline Management Plan for the Project, that lessees and permittees on Project lands take measures to control and remove Chinese tallow on the leased and permitted premises.

The annual monetary contribution requirement of this Condition 15 will automatically expire as to and upon the deed or transfer of title to one or both Licensees or any other non-federal entity of all lands of the United States administered by the USFS that are either: (1) embraced within the Commission-approved Project boundary; or (2) within a USFS recreation area or boat launch adjacent to Toledo Bend Reservoir. In the event the annual monetary contribution requirement of this Condition 15 fully expires as a result of the deed or transfer of all the United States lands described above, the requirement will be deemed removed from the license, and the Licensees shall have no further compliance obligations for providing monetary contributions under this Condition 15.

APPENDIX B

SECTION 18 PRESCRIPTION FOR FISHWAYS

U.S. Department of the Interior
U.S. Fish and Wildlife Service (filed October 19, 2012)

U.S. Department of Commerce
National Marine Fisheries Service (filed December 4, 2012)

To facilitate the migration of American eels in the Sabine River Basin past the Toledo Bend Hydroelectric Project (Project), the U.S. Fish and Wildlife Service (FWS)/NMFS requests the Commission include the following conditions as part of any license it may issue for the Project. At this time, the prescription is limited to structures and measures necessary to facilitate passage of American eels. The Secretary reserves the authority, after notice and opportunity for hearing, to modify this prescription and/or to prescribe additional fishways during the term of any license issued, based on new material and relevant information.

General Terms and Conditions for Fishways

1. The Sabine River Authority, State of Louisiana, and the Sabine River Authority of Texas (Licensees) shall construct, operate, and maintain at their own expense the fishways prescribed herein in order to provide safe, timely and effective passage through the Project for American eels.
2. The Licensees shall provide designated representatives of the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Louisiana Department of Wildlife and Fisheries, and Texas Parks and Wildlife Department (Agencies) access to the Project and to pertinent records for the purpose of inspecting the fishways and determining compliance with the fishways prescription.
3. The Licensees shall monitor the migration of the American eel at the Toledo Bend Project and shall operate upstream passage fishways throughout the upstream migration period and operate downstream passage fishways throughout the downstream migration period, in accordance with the terms of this prescription.
4. The Licensees shall maintain fishways in proper working order and shall clear fishways and adjacent areas, upstream and downstream, of trash, logs, and other material that would hinder safe, timely and effective passage. The Licensees shall perform necessary maintenance sufficiently in advance of migratory periods to ensure that fishways are ready for testing and inspection, and will operate effectively, during the migratory periods.

5. If ramp trap operations in Years 3 through 5 of the Upstream Passage Plan result in the passage of fewer than an average of 150 eels per year, the Licensees may propose to FWS/NMFS to discontinue all requirements of this fish passage prescription, and to revert to a reservation of authority to prescribe fishways. FWS/NMFS will grant this request if the Licensees demonstrate that they have made a good-faith effort to operate the ramp traps properly through Year 5, without any extended equipment failures, and Project-specific information demonstrates that the ramp traps in Years 3 through 5 effectively capture eels in the immediate vicinity of the spillway or tailrace structure.

Upstream Passage Plan

Within 18 months after the effective date of the new license, the Licensees shall file, for Commission approval, a plan to deploy and operate portable ramp traps and to safely pass juvenile American eels from the Sabine River to suitable locations upstream of the Project works. The plan shall consist of the following:

1. Detailed design drawings, with explanatory text, for portable ramp traps, specifying dimensions, slopes, materials, substrate, methods and facilities for providing sufficient attraction flow to the ramp traps, including:
    - Two (2) portable ramp traps at the downstream end of, or within, the concrete tailrace structure of the Project powerhouse, with due consideration of the full range of tailwater elevation changes.
    - Four (4) portable ramp traps within the spillway structure, at or upstream of the lower end of the concrete wing walls along each bank, with due consideration of the location of continuous flow releases and the full range of tailwater elevation changes.
2. A schedule for installing and testing the ramp traps so that they are operational within six months of the Commission's approval of the Plan.
3. A protocol for safely transporting juvenile eels captured in the ramp traps for release from the shoreline upstream of the dam at two locations (one for tailrace captures and one for spillway captures) a safe distance away from the spillway gates and the powerhouse intake.
4. Procedures for collecting data, which shall include, but not be limited to, the size and number of eels captured, the timing and location of eel captures and releases, and water temperature at the ramp trap entrance during trap inspections.
5. A phased schedule for operating, inspecting, and possibly relocating ramp traps and/or modifying the attraction flow provided to the ramps based on their performance, as follows:

Year – 1

- Select initial ramp trap locations in consultation with the Agencies.
- Operate year-round, checking for eels at least once per week.
- Prepare an annual report (see item 6, below), including any recommended changes to the plan to improve effectiveness.

Year – 2

- Implement any ramp trap location, ramp trap design, or operational changes recommended in the Year 1 annual report and finalized in consultation with the Agencies.
- Operate year-round, checking for eels at least once each week and more frequently during periods of higher abundance or trap mortality, as indicated by Year 1 experience.
- Prepare an annual report (see item 6, below), including any recommended changes to the plan to improve effectiveness and to define the seasonal period(s) for operations during Year 3, based on capture results during the first two years of year-round operation.

Year – 3 and Beyond

- Implement any ramp trap location, ramp trap design, or operational changes recommended in the prior year's annual report and finalized in consultation with the Agencies.
- Operate during the season(s) recommended in the prior year's annual report and finalized in consultation with the Agencies, checking for eels at least once each week and more frequently during periods of higher abundance or trap mortality, as indicated by experience in prior years.
- Prepare an annual report (see item 6, below), including any recommended changes to the plan to improve effectiveness and, if necessary, to further adjust the seasonal period(s) for operation of the ramp traps.

All Years

- During ramp trap operations, the Licensees shall sample for eels (e.g., by electro-fishing and/or other appropriate methods at the Licensees' discretion) in the vicinity of the ramp traps within the spillway or tailrace structures to determine whether low catch rates at one or more traps are due to ineffective trap design, location, or attraction flow. Sampling may occur at any time during ramp trap operations as deemed necessary, but shall occur at least once per calendar month when water temperature as measured at the ramp traps is in the range of 16-21 degrees C. However, sampling will not be required at the spillway

structure if the traps located at that structure captured more than 50 eels in the previous calendar month. Likewise, sampling will not be required at the tailrace structure if the traps located at that structure captured more than 50 eels in the previous calendar month. Unless otherwise agreed to by the Agencies, this sampling will occur each of the first five years of ramp trap operations and every fifth year thereafter.

- The Licensees may remove ramp traps as necessary to prevent loss or damage during flood events, promptly returning them to operation when the flood has passed.
- The Licensees will increase the frequency of trap inspections as necessary to avoid eel mortality or to accommodate high eel capture rates.
- Before implementing any change in Project operations that could substantially affect performance of the ramp traps (e.g., a relocation of the continuous flow release point), the Licensees shall consult with and propose to the Agencies adjustments to the location, design, and/or operation of the ramp traps necessary to maintain or enhance their performance, allowing 90 days for the Agencies to comment. The Licensees shall file the proposal with the Commission for approval, including documentation of Agency consultation.

  If the Licensees do not adopt an Agency recommendation, the filing shall include the Licensees' reasons, based on project-specific information.

6. An annual report of ramp trap operations, to be filed with the Commission and the Agencies. The report shall include timing, locations, numbers, and sizes of eels captured and released, trap mortality, results of any eel sampling conducted in the vicinity of the ramp traps, water temperature data, and any proposed revisions to the plan to improve its effectiveness at passing juvenile eels upstream of the dam.

   After five years of ramp trap operations, the 5th annual report will address whether to continue such operations based on the number of eels passed upstream to date, giving due consideration to hydrologic/meterologic conditions and other relevant factors (e.g., down time for the various ramps). If ramp trap operations in Years 3 through 5 result in the passage of fewer than an average of 150 eels per year, the Licensees may propose to discontinue all requirements of this fish passage prescription, as provided in the General Terms and Conditions for Fishways, above.

   Beginning with the 5th annual report, and every fifth year thereafter, the annual report will address whether to reduce or increase the number of ramp traps

The Licensees will submit the annual report to the Agencies for review no later than August 1 each year. The Agencies shall provide comments and recommendations within 45 days. The Licensee shall file the annual report, including documentation of Agency consultation, with the Commission within 45 days after the close of the comment period. The filing date for this report may be adjusted by mutual agreement between the Licensees, USFWS and NMFS, after filing notice of any such agreement with the Commission.

7. A schedule for an annual site visit and review of ramp trap operations with the Agencies during the 45-day annual report Agency review period.

The Licensees shall prepare the plan after consulting with the Agencies. The Licensees shall include with the plan documentation of consultation, copies of comments and recommendations received, and specific descriptions of how the Agencies' comments are accommodated in the Licensees' plan.

The Licensees shall allow a minimum of 90 days for the Agencies to comment on the plan before filing it with the Commission. If the Licensees do not adopt an Agency recommendation, the filing shall include the Licensees' reasons, based on project-specific information.

The Commission reserves the right to require changes to the proposed plan. Upon Commission approval, the Licensees shall implement the plan, including any changes required by the Commission.

Downstream Passage Plan

Within 6 years after the Commission's approval of the Upstream Passage Plan, the Licensees shall file, for Commission approval, a plan to safely pass adult American eels from the Project reservoir to the Sabine River downstream of the Project via the continuous flow releases or by other means at the Project spillway. Eel passage and/or protection measures are not required at the Project's existing powerhouse.

The Licensees' plan shall consist of the following:

1. Detailed design drawings, with explanatory text, and a construction schedule for any modifications necessary for the continuous releases from the spillway to provide safe, timely, and effective downstream passage via the continuous releases or other means, consisting of either:

   a. design of a screening and diversion system to safely divert and transport eels away from the new continuous flow hydro turbine at the spillway, if constructed, and to the lower Sabine River; or

   b. design of a near-surface (upper 12 feet) continuous flow weir/intake facility at or near the spillway structure to safely transport eels to the lower Sabine River, if the continuous flow hydro turbine is not

constructed.

2. Proposed schedule for initiating downstream passage operations following Commission approval of the plan.
3. Annual reporting of downstream passage operations, including documentation that the downstream passage facilities were available throughout the year, and any other measures implemented to promote safe and timely downstream passage.
4. Provisions for an annual site visit and review of downstream passage operations by the Agencies.

The Licensees shall prepare the plan after consulting with the Agencies. The Licensees shall include with the plan documentation of consultation, copies of comments and recommendations received, and specific descriptions of how the Agencies' comments are accommodated in the Licensees' plan. The Licensees shall allow a minimum of 90 days for the Agencies to comment on the plan before filing it with the Commission. If the Licensees do not adopt an Agency recommendation, the filing shall include the Licensees' reasons, based on project-specific information.

The Commission reserves the right to require changes to the proposed plan. Upon Commission approval, the Licensees shall implement the plan, including any changes required by the Commission.

Document Content(s)