

152 FERC ¶ 62,045
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Seneca Generation, LLC

Project No. 2280-018

ORDER ISSUING NEW LICENSE

(Issued July 22, 2015)

INTRODUCTION

1. On December 2, 2013, FirstEnergy Generation, LLC (FirstEnergy) 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 Kinzua Pumped Storage Project No. 2280 (Kinzua Project or project), located on the Allegheny River in Warren County, Pennsylvania. On January 16, 2014, Commission staff approved the transfer of FirstEnergy's license to Seneca Generation, LLC (Seneca Generation) and the substitution of Seneca Generation as the applicant in the pending application for new license.²
2. The project's authorized capacity being licensed is 452.35 megawatts (MW).³ The project is located at the U.S. Army Corps of Engineers' (Corps) Kinzua Dam located at

¹ 16 U.S.C. §§ 797(e) and 808 (2012).

² 146 FERC ¶ 62,040 (2014).

³ The authorized installed capacity as reported in the license application was 451.80 MW. Commission staff observed during a May 6, 2014 site visit that the unit 2 turbine had been replaced in 1991 and the unit 1 turbine had been replaced in 1992. The unit 1 and unit 2 generators were rewound in 2007 (*See* letter from FirstEnergy filed with the Commission on September 20, 2007). Under the current Commission regulations, 18 C.F.R. § 11.1(i) (2014), the authorized installed capacity is based on the lesser of the turbine and generator ratings for each unit. As a result of the turbine replacements and generator rewinds, staff has recalculated the project's current installed capacity as 452.35 MW.

river mile (RM) 198 on the Allegheny River, a navigable waterway,⁴ and occupies 14.6 acres of federal land administered by the Corps and 212.1 acres of federal land administered by the U.S. Department of Agriculture's Forest Service (Forest Service) as part of the Allegheny National Forest.⁵ In 1992, several segments of the Allegheny River downstream of Kinzua Dam were designated as a component of the national wild and scenic rivers system under the Wild and Scenic Rivers Act (Rivers Act).⁶

3. As discussed below, this order issues a new license for the project.

BACKGROUND

4. The Federal Power Commission, the Commission's predecessor, issued an original license for the project on December 28, 1965, and the license will expire on November 30, 2015.⁷

5. On April 29, 2014, the Commission issued a public notice that was published in the *Federal Register* accepting the application for filing, soliciting motions to intervene and protests, indicating the application was ready for environmental analysis, and soliciting comments, recommendations, preliminary terms and conditions, and preliminary fishway prescriptions.⁸ The notice set June 28, 2014, as the deadline for filing motions to intervene, comments, final recommendations, preliminary terms and conditions, and preliminary prescriptions.⁹

⁴ See "Report on Navigable Status of Allegheny River, Pennsylvania and New York," Federal Power Commission, Chicago Regional Office, July 1939, at 13.

⁵ Under section 23(b)(1) of the FPA, 16 U.S.C. § 817(1) (2012), a project is required to be licensed if, as pertinent here, it (1) uses a government dam, (2) is located on a navigable waterway, or (3) occupies federal lands.

⁶ Pub. L. No. 102-271, § 1, 106 Stat. 108 (1992) (codified at 16 U.S.C. § 1274(a)(133) (2012)).

⁷ 34 F.P.C. 1567 (1965).

⁸ 79 Fed. Reg. 25,861 (May 6, 2014).

⁹ Because the deadline fell on a Saturday, a day on which the Commission is closed, the deadline was extended to the close of business of the next day on which the Commission was open, which was Monday June 30, 2014. See 18 C.F.R. § 385.2007(a)(2) (2014).

6. The U.S. Department of the Interior (Interior) and the Forest Service filed timely notices of intervention,¹⁰ and the Seneca Nation of Indians (Seneca Nation) filed a timely motion to intervene.¹¹ New York State Department of Environmental Conservation filed a late motion to intervene on July 7, 2014, which was granted.¹²

7. None of the intervenors oppose relicensing the project. Interior, the Pennsylvania Fish and Boat Commission (Pennsylvania FBC), Forest Service, Corps, and Seneca Nation filed comments and recommendations. In addition, Interior filed a reservation of authority to prescribe fishways.

8. On October 24, 2014, Commission staff issued an Environmental Assessment (EA) that analyzed the effects of the proposed project and alternatives to it. The Forest Service, Corps, Pennsylvania Historical and Museum Commission's Bureau for Historic Preservation, and Seneca Generation filed comments on the EA.

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

PROJECT DESCRIPTION

A. Existing Corps Facilities and Operation

10. The Corps' 179-foot-high Kinzua Dam has four crest gates, eight discharge sluice gates, and an earthen embankment section. The impoundment, known as Allegheny Reservoir, extends upstream from the dam approximately 24.2 miles. Allegheny Reservoir has a surface area of 12,080 acres at the normal summer pool elevation of 1,328 feet National Geodetic Vertical Datum (NGVD) of 1929.¹³

11. The Corps manages Kinzua Dam for flood control, water quality, and low-flow augmentation.

¹⁰ Under Rule 214(a) of the Commission's Rules of Practice and Procedure, Interior and the Forest Service became parties to the proceeding upon timely filing of their notices of intervention. 18 C.F.R. § 385.214(a) (2014).

¹¹ 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).

¹² See Secretary's Notice Granting Late Intervention issued July 16, 2015.

¹³ All elevations in this order are referenced to NGVD 1929.

B. Project Facilities

12. The Kinzua Project uses the Allegheny Reservoir as its lower reservoir. The project includes: an intake tower located in Allegheny Reservoir on the upstream side of Kinzua Dam; a 2,480-foot-diameter upper reservoir located on a plateau adjacent to Kinzua Dam created by an earth and rockfill dike with a crest elevation of 2,078.1 feet¹⁴ and a maximum height of 115 feet, completely encircling the reservoir that includes an emergency spillway consisting of a 100-foot-long broad-crested weir incorporating a fuse plug;¹⁵ a powerhouse located about 300 feet downstream of the southern abutment of Kinzua Dam that houses two reversible pump-turbines (unit 1 and unit 2) and one conventional hydro unit (unit 3) with a total installed capacity of 452.35 MW; and water conveyance tunnels and penstocks between the powerhouse and the upper reservoir, between Allegheny Reservoir and the powerhouse, and between the powerhouse and the Allegheny River downstream of the dam. The project also includes a 3,100-foot-long, 230-kilovolt primary transmission line that transmits project power from the powerhouse to the existing Glade substation (a non-project structure) located west of the upper reservoir. The Kinzua Project has no recreation facilities.

C. Project Operation

13. During non-peak electricity demand periods, water is pumped from Allegheny Reservoir through the powerhouse to the project's upper reservoir using one or both of the project's reversible pump-turbines (unit 1 and unit 2). During peak demand periods, water flows back through unit 1 and/or unit 2 to Allegheny Reservoir or through unit 2 and/or unit 3 to the Allegheny River downstream of Kinzua Dam to generate power. The project pumps and generates every day, except during certain powerhouse or unit outages. The upper reservoir water level control system is designed to shut off the pump-turbines if the water level rises to about elevation 2,073.8 feet, or about 1.8 feet above the current normal operating pool elevation of 2,072.0 feet.

14. Operation of the Kinzua Project is governed by the conditions of the existing license. Article 44 of the existing license states that the Corps retains the rights to regulate reservoir releases, either through the project facilities or the Corps' facilities, in such amount to be determined by the Corps for the purposes of flood control and low-flow regulation. Article 44 further provides that no water shall be released through the Corps' facilities when project facilities are available for such release and when the

¹⁴ All elevations are referenced to the National Geodetic Vertical Datum of 1929.

¹⁵ The fuse plug consists of gravelly sand called "pea gravel," which is designed to wash out when freeboard is reduced to about 3 feet from the crest of the dike encircling the upper reservoir or about elevation 2,075.1 feet.

project's operating requirements are such that release through the project facilities would be beneficial to the licensee and would result in downstream water temperatures that would be generally similar to those that would result from releases through the Corps' facilities. Article 44 requires that procedures for preventing impairment of the authorized functions of the Corps' facility be specified in an operating agreement between the licensee and the Corps.

15. The current operating agreement is a Memorandum of Agreement (MOA) the prior licensee developed with the Corps in 1976.¹⁶ The 1976 MOA provides, among other things, procedures for coordination and operation of the Kinzua Project with the Corps' Kinzua Dam and Allegheny Reservoir, with the mutual understanding that such operation shall not impair the authorized functions of the Corps' Kinzua Dam and Allegheny Reservoir facilities. The MOA includes 14 General Conditions that describe procedures for coordination of the Kinzua Project with the Corps' facilities with respect to the quantities of water to be released from each facility; the maintenance of water temperatures, dissolved oxygen concentrations, and water levels downstream of Kinzua Dam; project shutdowns; the operation of the Corps' sluice gates by the licensee; and reporting requirements. The MOA also specifies operating procedures for the three power generating units.

D. Proposed Project Facilities and Operation

16. Seneca Generation proposes to increase the maximum operating level of the upper reservoir by 1 foot, from elevation 2,072 feet to 2,073 feet. This would increase the usable storage volume in the upper reservoir from 5,697 acre-feet to 5,807 acre-feet. Increasing the water level would reduce the normal freeboard on the upper reservoir crest from 6.1 feet to 5.1 feet and the elevation at which the fuse plug would initiate from 4.1 feet to 3.1 feet.¹⁷

17. Seneca Generation also proposes modifications to project facilities that would increase generation by allowing unit 2 to be operated to discharge downstream of Kinzua Dam more frequently than it has in the past. This mode of operation would increase power production by providing more head to the unit than is available when it discharges to Allegheny Reservoir. The modifications include installing a system to automate the

¹⁶ See Contract with Licensees of FPC Project No. 2280 for Operation of Project No. 2280 in Conjunction with Kinzua Dam and Allegheny Reservoir (Contract No. DACW59-74-C-0082) entered into on April 30, 1976 (filed on December 14, 2010).

¹⁷ The freeboard of the upper reservoir refers to the height of the dike above the maximum operating water surface elevation. The crest elevation of the upper reservoir dike is 2,078.1 feet. The elevation at which the fuse plug would initiate is 2,076.1 feet.

operation of the project's lower intake bulkheads and the Corps' sluice gates and refurbishing unit 2's butterfly valve. The system would use a programmable logic controller (PLC) that would automatically open, close, and position the Corps' sluice gates, the unit 2 butterfly valve, and the lower intake bulkheads. The new PLC would be integrated with the existing unit 2 PLC and unit 3 PLC so that the Corps' sluice gates and unit 2 and unit 3 discharges would automatically adjust to maintain the Corps' downstream target flows.

E. Other Proposed Measures

18. In addition to the operational measures described above, Seneca Generation proposes the following measures.

19. To improve public access at the project, Seneca Generation proposes to design a fishing access facility to be constructed adjacent to an existing Corps' boat ramp downstream of Kinzua Dam at the Big Bend Access Area, in consultation with the Corps, which would include a fishing platform, ramp, and parking.

20. To enhance existing public education and interpretation opportunities, Seneca Generation proposes to prepare new educational materials and displays and upgrade existing displays and materials about the project in the visitor center at the Corps' Big Bend Access Area, located just outside the entrance to the project, in consultation with the Corps. Seneca Generation also proposes to design an educational kiosk or similar structure for public viewing to be constructed adjacent to the parking area at the access to the upper reservoir in consultation with the Forest Service.

21. To manage non-native invasive vegetation within the Kinzua Project boundary, Seneca Generation proposes to prepare an invasive species management plan for project lands.

22. To protect cultural resources, Seneca Generation proposes to prepare a historic properties management plan (HPMP) for the project in accordance with a Programmatic Agreement (PA) to be developed between the Commission and the Pennsylvania State Historic Preservation Officer (SHPO).

F. Project Boundary

23. The existing Kinzua Project boundary encloses 14.6 acres of land administered by the Corps, including land occupied by the intake structure and powerhouse, and parts of the water conveyance tunnels, penstocks, and the transmission line. The project boundary also encloses 212.1 acres of land administered by the Forest Service, including land occupied by the upper reservoir and the remaining parts of the transmission line, water conveyance tunnels, and penstocks. Kinzua Dam and Allegheny Reservoir, which

serves as the lower reservoir for the Kinzua Project, are federal facilities and thus not included in the license for the Kinzua Project.

24. Seneca Generation proposes to remove 6.6 acres of land from the project boundary that it contends are not necessary for project purposes. These lands include a road that passes through the Corps' Big Bend Access Area before it connects to the powerhouse access road and a small parcel of land underlying State Route 59 in the vicinity of Kinzua Dam. Seneca Generation also proposes to remove two roads near the upper reservoir, one located to the south of the upper reservoir that was used to access one or more weirs used by the project in the past to measure leakage, and the other that accessed a communication tower on the northeast side of the upper reservoir that was never used for a project purpose. Seneca Generation proposes to add 0.03 acre to the project for the new fishing access facility adjacent to the existing Corps' boat ramp. The resulting area remaining within the project boundary would be 220.13 acres.

SUMMARY OF LICENSE REQUIREMENTS

25. As summarized below, this license, which authorizes 452.35 MW of electric capacity available from a renewable resource, requires a number of measures to protect and enhance fish, terrestrial, wildlife, cultural, and aesthetic resources at the project.

26. To ensure the project does not interfere with the operation of the Corps' dam and associated facilities for the purposes of flood control, water quality, and low-flow augmentation, the license requires project operation consistent with a new Memorandum of Agreement (MOA) to be developed between Seneca Generation and the Corps and in the interim, operation consistent with the existing MOA until such time as a new operating agreement and MOA are approved by the Corps and filed with the Commission. The license also requires an operation compliance monitoring plan to document compliance with these requirements.

27. To minimize project-induced variance from natural water temperature oscillations and to ensure compliance with state water quality standards, the license requires Seneca Generation to develop a water quality management and monitoring plan.

28. To manage non-native invasive terrestrial vegetation, the license requires Seneca Generation to file a vegetation management plan that includes provisions for invasive species management on all project lands.

29. To protect bald eagles, the license requires Seneca Generation to follow the U.S. Fish and Wildlife Service's (FWS) national bald eagle management guidelines to minimize potential disturbances associated with operation and maintenance of the project.

30. To reduce the potential for erosion, restore natural spring-flow conditions, and restore vegetation associated with the removal of one or more weirs and an access road that are no longer needed for project purposes, the license requires Seneca Generation to file a weir removal and site restoration plan.

31. To protect cultural resources, the license requires Seneca Generation to prepare and implement a final HPMP for the protection of cultural resources.

WATER QUALITY CERTIFICATION

32. 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 a water quality certification (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

33. On June 23, 2014, the Pennsylvania Department of Environmental Protection (Pennsylvania DEP) received an application for certification from Seneca Generation. On January 13, 2015, Pennsylvania DEP issued certification for the Kinzua Project. The certification does not include any terms or conditions.

COASTAL ZONE MANAGEMENT ACT

34. 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.

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).

35. In a letter dated August 1, 2013, Pennsylvania DEP stated that the Kinzua Project is not located within Pennsylvania's coastal zones, and would have no impact upon them.²¹ Therefore, no consistency certification is required.

SECTION 4(e) FINDINGS AND CONDITIONS

36. Section 4(e) of the FPA²² 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.

37. Staff has reviewed the Organic Administration Act of 1897,²³ which established the purposes for forest reservations, and the presidential proclamation that created the Allegheny National Forest.²⁴ There is no evidence or allegation in this proceeding to indicate that relicensing the Kinzua Project will interfere with the purposes of the Allegheny 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 Allegheny National Forest was created.

38. 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 Kinzua Project is located in the Allegheny National Forest, which is under the Forest Service's supervision.

39. The Forest Service filed preliminary 4(e) conditions on June 26, 2014, and final conditions on January 22, 2015.²⁵ The conditions include 4 standard conditions that are

²¹ Seneca Generation filed a copy of this correspondence on April 30, 2014.

²² 16 U.S.C. § 797(e) (2012).

²³ 16 U.S.C. § 473 *et seq.* (2012).

²⁴ The Allegheny National Forest was created by presidential proclamation on September 24, 1923. See Presidential Proclamation No. 1675, 43 Stat. 1925. 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.

²⁵ The final conditions are virtually identical to the preliminary conditions, with the exception of some deadlines for filing certain plans.

general or administrative in nature: need to obtain a Forest Service special use authorization for any additional Forest Service lands brought into the project boundary (condition 1), Forest Service approval of final design plans (condition 2) and changes after initial construction (condition 3), and annual consultation with the Forest Service (condition 4). The final 4(e)s include additional conditions regarding: surrender of license or transfer of ownership (condition 5); reservation of Forest Service's authority to modify conditions, if necessary (condition 6); maintenance of project facilities (condition 7); compliance with local and federal regulations (condition 8); valid existing claims (condition 9); Forest Service approval of signs (condition 10); the protection of United States property (condition 11); indemnification (condition 12); identification and reporting of risks and hazards on forest lands (condition 13); protection of Forest Service property (condition 14); road use (condition 15); Forest Service access (condition 16); protection of public land survey monuments, private property corners, and forest boundary markers (condition 17); protection of Forest Service special status species (condition 18); protection of federally listed species and species proposed for listing (condition 19); treatment of hazardous substances (condition 20); ground-disturbing activities or non-routine maintenance (condition 21); pesticide use on National Forest System land (condition 22); management of vegetation (including invasive species) (condition 23); road management (condition 24); management of historic properties (condition 25); implementation of habitat improvement projects (condition 26); and water quality management and monitoring (condition 27).

40. Commission staff supports the 4(e) conditions, except as discussed below.

41. Commission staff does not recommend requiring Seneca Generation to implement an aquatic habitat improvement plan (condition 26) to mitigate for fish losses associated with entrainment of fish through project turbines and potential adverse project-related effects on water quality downstream of Kinzua Dam.²⁶ As explained in the EA,²⁷ (1) project effects on downstream water temperatures are beneficial to the trophy trout fishery downstream of Kinzua Dam; (2) fish lost to entrainment would be mostly young fish that typically experience high rates of natural mortality during their first year of life, and fish populations are typically able to compensate for such losses; and (3) Allegheny Reservoir continues to support a robust sport fishery.

42. The Forest Service takes issue with the EA's conclusion that there is no evidence of a population-level adverse effect on fish populations in Allegheny Reservoir, noting

²⁶ This measure was also recommended by Interior, Pennsylvania FBC, the Corps, and Seneca Nation.

²⁷ See EA at 124-26.

that gillnet data collected by the Corps from 1991 to 2008 suggest that walleye populations in Allegheny Reservoir have been decreasing since 1998, that data from more recent surveys are available, and that data from Pennsylvania FBC indicate that walleye growth rates in Allegheny Reservoir are low compared to other reservoirs in Pennsylvania.²⁸

43. Although the results of the Corps' gillnet surveys indicate that the catch rate of walleye from 1999 through 2008 was lower than it was in most of the previous years that were surveyed, there is no reason to suspect that this is attributable to operation of the project because there have been no major changes in operation since the project began operating in 1970. The quality of the fishery in the reservoir is indicated by the fact that the current state recreational catch records for walleye (1980) and northern pike (2003) came from Allegheny Reservoir, and by the reservoir's reputation as a superior trophy muskellunge fishery.²⁹ There are many variables other than project operation that could affect catch and growth rates for a subset of years since the project has been operating, including variations in weather conditions, flood control operations, fishing pressure, competition with other species, and predation. Nevertheless, because condition 26 is mandatory under section 4(e) of the FPA, it is included in this license.

44. The Forest Service's final section 4(e) conditions filed on January 22, 2015, are set forth in Appendix A of this order and incorporated into the license by Ordering Paragraph (D). However, this order modifies the conditions in two minor respects. Condition 14 requires that the extent of the licensee's liability for fire and other damages to Forest Service lands shall be determined in accordance with the Commission's standard L-Form Articles 22 and 24 of the license. This order corrects condition 14 to refer to standard Articles 27 and 29 instead. In addition, this order modifies condition 23 (vegetation management plan) to clarify the filing deadline.

SECTION 18 FISHWAY PRESCRIPTION

45. Section 18 of the FPA³⁰ 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. By letter filed June 20, 2014, the Secretary of the Interior requested that the Commission reserve authority to prescribe fishways. Consistent with Commission policy, Article 404

²⁸ Forest Service comments on the EA filed on November 21, 2014.

²⁹ *See* http://fishandboat.com/pafish/musky/ab_articles/2003may_jun/00seeking.htm.

³⁰ 16 U.S.C. § 811 (2012).

of this license reserves the Commission's authority to require fishways that may be prescribed by Interior for the Kinzua Project.

THREATENED AND ENDANGERED SPECIES

46. Section 7(a)(2) of the Endangered Species Act of 1973 (ESA)³¹ 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.

47. In a letter dated October 25, 2012, Interior's Fish and Wildlife Service identified three federally listed endangered mussel species (northern riffleshell, clubshell, and rayed bean) and one federal candidate species, the rabbitsfoot mussel³² as inhabiting the area of the Allegheny River affected by the Kinzua Project.³³ However, historical data and recent field surveys conducted by Seneca Generation did not reveal the occurrence of these mussel species within the project area. Therefore, in the EA³⁴ staff concluded that relicensing the Kinzua Project, as proposed with staff-recommended measures, would have no effect on any federally listed or candidate mussel species.

48. Staff's review of FWS' Information, Planning, and Conservation System database identified two federally listed plant species that could occur in or near the project area: the endangered Northeastern bulrush and the threatened small whorled pogonia.³⁵ Neither species was identified during relicensing surveys, nor is either presently known to occur within the project area or adjacent counties. Furthermore, the proposed action does not include removal of vegetation or disturbance to the existing forested or riparian areas along the Allegheny River. Therefore, staff concluded that relicensing the Kinzua Project with staff recommended measures would have no effect on the Northeastern bulrush and small whorled pogonia.

49. The FWS database also indicated that the federally endangered Indiana bat had the potential to occur in the project area. Because there are no known populations or

³¹ 16 U.S.C. § 1536(a) (2012).

³² The rabbitsfoot mussel, which was identified as a candidate species in the EA, was listed as threatened on September 17, 2013. *78 Fed. Reg.* 57,076 (2013).

³³ Seneca Generation filed a copy of this correspondence on June 16, 2014.

³⁴ *See* EA at 6.

³⁵ *Id.*

occurrences of Indiana bat or observed hibernacula³⁶ in the project area, in the EA³⁷ staff concluded that relicensing the Kinzua Project, as proposed with staff-recommended measures, would have no effect on Indiana bat.

50. Subsequent to the issuance of the EA, the northern long-eared bat was listed as threatened under the ESA.³⁸ Although this species was not specifically included in staff's EA analysis, the habitat requirements and potential project-related effects would be comparable to those identified for the Indiana bat.

51. Similar to Indiana bats, northern long-eared bats typically roost singly or in colonies from April through August beneath bark or in cavities or crevices of both live trees and snag and forage in floodplain, riparian, and upland forest areas. Northern long-eared bats, however, prefer a denser, boreal forest than the Indiana bat. Both species overwinter in hibernacula that include caves, mines, and other enclosed areas from October through April.

52. The applicant conducted surveys for rare, threatened, and endangered species in 2012, and did not observe any individuals or potential hibernacula for either listed bat species. According to the Forest Service, bat-mist surveys performed in 2006 in the Allegheny Forest resulted in the capture of three northern long-eared bats; however, none were captured on project lands.

53. The proposed action does not include any activities that would affect the northern long-eared bat or its potential habitat, such as removal of any forests or disturbance to the existing forested or riparian areas along Allegheny Reservoir or the Allegheny River downstream of the project. Because the northern long-eared bat does not occur at the project and no suitable habitat for this species exists on project lands or in areas subject to project operation and maintenance activities, relicensing the project, as proposed with staff-recommended measures, would have no effect on the northern long-eared bat.

54. Therefore, no further action under the ESA is required for any of the above-listed species.

WILD AND SCENIC RIVERS ACT

³⁶ Hibernacula are places of shelter used by hibernating animals to overwinter such as a cave or mine shaft.

³⁷ *Id.*

³⁸ The northern long-eared bat was federally listed on April 2, 2015. 80 Fed. Reg. 17,974 (2015).

55. Section 7(a) of the Rivers Act³⁹ provides that the Commission “shall not license the construction of any dam, water conduit, reservoir, powerhouse, transmission line, or other project works . . . on or directly affecting any river which is designated” as a component of the Wild and Scenic Rivers System. As discussed above, Congress designated several segments of the Allegheny River as a component of the national wild and scenic rivers system in 1992. That designation includes a portion of the Allegheny River “from Kinzua Dam downstream approximately seven miles to the United States Route 6 Bridge.”⁴⁰

56. Section 7(a) also requires for projects below or above a wild, scenic, or recreational river area that the Secretary charged with the administration of the designated river make a finding that any water resources project recommended for authorization by a department or agency of the United States would not directly and adversely affect the values for which such river was established. The Forest Service, in its November 21, 2014 determination under section 7(a) of the Rivers Act concluded that the Kinzua Project “does not have a direct and adverse effect on the water quality or free-flow character of this portion of the Allegheny River, nor on its outstandingly remarkable values.”⁴¹

57. Although staff recommended in the EA⁴² that Seneca Generation prepare a recreation plan that included Seneca Generation’s proposed fishing access facility to be constructed adjacent to the Corps’ existing boat ramp and an educational kiosk, both of which would be located within the designated wild and scenic corridor,⁴³ the Commission is precluded by the Rivers Act from authorizing the construction of these facilities, and this license therefore does not include these measures. However, Seneca Generation could assist the Corps and the Forest Service if the agencies wish to pursue development of these facilities outside of the Kinzua Project license.

³⁹ 16 U.S.C. § 1278(a) (2012).

⁴⁰ 16 U.S.C. § 1274(a)(133) (2012).

⁴¹ The Forest Service determination concluded that the outstandingly remarkable values for the Allegheny River are scenic, heritage, and natural (undeveloped islands) values.

⁴² See EA at 119-21.

⁴³ See River Management Plan, Allegheny National Wild and Scenic River, Warren, Forest, and Venango Counties, Pennsylvania, September 1996 (filed by Commission staff on June 30, 2015).

NATIONAL HISTORIC PRESERVATION ACT

58. Under section 106 of the National Historic Preservation Act (NHPA)⁴⁴ and its implementing regulations,⁴⁵ federal agencies must take into account the effect of any proposed undertaking on properties listed or eligible for listing in the National Register of Historic Places (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 SHPO to determine whether and how a proposed action may affect historic properties and to seek ways to avoid or minimize any adverse effects.

59. To satisfy these responsibilities, the Commission executed a PA with the Pennsylvania SHPO and invited the Corps, Forest Service, Seneca Nation, and Seneca Generation to concur with the stipulations of the PA.⁴⁶ Only Seneca Generation concurred. The PA requires Seneca Generation to prepare and implement a final HPMP 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 408 requires the licensee to implement the PA and file a final HPMP with the Commission within one year of the effective date of the license.

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

60. Section 10(j)(1) of the FPA⁴⁷ 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,⁴⁸ to "adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)" affected by the project.

⁴⁴ Section 106 of the National Historic Preservation Act of 1966, as amended, 54 U.S.C. § 306108, Pub. L. No. 113-287, 128 Stat. 3188 (2014). (The National Historic Preservation Act was recodified in Title 54 in December 2014).

⁴⁵ 36 C.F.R. Part 800 (2014).

⁴⁶ See February 10, 2015 Commission staff transmittal of executed Programmatic Agreement.

⁴⁷ 16 U.S.C. § 803(j)(1) (2012).

⁴⁸ 16 U.S.C. §§ 661 *et seq.* (2012).

61. In response to the April 29, 2014 public notice that the project was ready for environmental analysis, Interior filed one recommendation under section 10(j) and Pennsylvania FBC filed two recommendations under section 10(j). Both agencies recommended the development of a habitat improvement plan, which was determined to be outside the scope of section 10(j) because it was not a specific measure to protect, mitigate, or enhance fish and wildlife resources.⁴⁹ Although staff did not recommend in the EA that Seneca Generation prepare a habitat improvement plan,⁵⁰ Forest Service 4(e) condition 26 requires it; therefore, due to the mandatory nature of the Forest Service 4(e) conditions, the habitat improvement plan is included in this license. In the EA,⁵¹ staff recommended preparing and implementing a water quality management and monitoring plan to address any changes in water temperatures associated with Unit 2 discharges downstream of Kinzua dam, and for project operation to be modified if needed to address any adverse effects. Also, because Forest Service condition 27 requires the development of a water temperature adaptive management program, Pennsylvania FBC's other section 10(j) recommendation is included in this license.

SECTION 10(a)(1) OF THE FPA

62. Section 10(a)(1) of the FPA⁵² 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.

63. The licensee's proposal and the recommendations and comments submitted by the Forest Service, Corps, Seneca Nation, and Interior are considered under the broad public interest standard of section 10(a)(1) of the FPA.

A. Operating Level of Upper Reservoir

64. As noted above, Seneca Generation proposes to increase the maximum operating level of the upper reservoir by 1 foot, from elevation 2,072 feet to 2,073 feet which would reduce the normal freeboard on the upper reservoir crest from 6.1 feet to 5.1 feet

⁴⁹ See EA at 127.

⁵⁰ See EA at 124-26.

⁵¹ See EA at 116-17.

⁵² 16 U.S.C. § 803(a)(1) (2012).

and the elevation at which the fuse plug would initiate from 4.1 feet to 3.1 feet. The decreased freeboard that would result from raising the normal maximum water level would lessen the margin of safety for unintentional release of water in the event the units fail to shut off in a timely manner during pump-back operations. Additionally, under the Inflow Design Flood (IDF) the dam's fuse plug is designed to activate resulting in no overtopping of the crest of the embankment. With a 1-foot operating level increase, during the IDF, the upper reservoir would be overtopped by approximately 3 inches which could lead to uncontrolled release of the entire reservoir. Embankment dams must be able to pass the IDF without overtopping. For these reasons, this order does not adopt Seneca Generation's proposal, and the maximum operating level of the upper reservoir must remain at elevation 2,072 feet. The increased use of unit 2 to pass flows downstream of Kinzua Dam would have no impacts on dam safety.

B. Project Operation Compliance Monitoring Plan

65. Commission licenses for non-federal projects at Corps' dams require the licensee to develop an operating plan and a MOA with the Corps.⁵³ The operating plan must describe the mode of hydropower operation, impoundment flow diversion, and regulation requirements for the Corps' project, and integration of operation of the hydroelectric facility in the Corps' emergency action plan. The MOA must describe the detailed operation of the project acceptable to the Corps and any restrictions needed to protect the purposes of the Corps' project. The operating plan and MOA are required by Article 303 of this license. In the EA,⁵⁴ staff recommended that Seneca Generation be required to develop an operation compliance monitoring plan to describe how it would document compliance with the operational requirements of the license. Article 403 requires the operation compliance monitoring plan.

C. Increasing Frequency of Unit 2 Downstream Discharges

66. Generating unit 2 can discharge water back into Allegheny Reservoir or into the Allegheny River downstream of Kinzua Dam. As described above, Seneca Generation proposes several modifications to project facilities that would increase generation by allowing unit 2 to be operated to discharge downstream of Kinzua Dam (instead of into Allegheny Reservoir) more frequently than it has in the past.⁵⁵ This mode of operation

⁵³ Memorandum of Understanding between the United States Army Corps of Engineers and the Federal Energy Regulatory Commission on Non-federal Hydropower Projects, March 30, 2011. <http://www.ferc.gov/legal/mou/mou-usace.pdf>.

⁵⁴ See EA, Appendix A Draft License Articles.

⁵⁵ See P 17, *supra*.

would increase power production by providing more head to the unit than is available when it discharges to Allegheny Reservoir. Neither the volume of flow released into the river downstream of Kinzua Dam nor the maximum flow that could be passed through unit 2 would change.⁵⁶ In the EA,⁵⁷ staff concluded that the proposed modifications, which would also automate control of the Corps' discharge gates, would improve coordination of changes in outflow from unit 2 with releases from the Corps' outlet works and reduce the potential for variations in downstream flow releases associated with project operations.

67. In Seneca Generation's comments on the EA, it notes that the Corps has stated that it is not in favor of Seneca Generation's proposal to automate operation of the Corps' gates. Seneca Generation states that it would withdraw that part of its proposal if the Corps will not agree, but that it could still install the proposed PLC-based system to operate the unit 2 butterfly valve and the lower intake bulkheads to increase the frequency of unit 2 discharges downstream of the dam.

1. Sediment scour and bank erosion

68. The Forest Service and the Corps state that the EA does not accurately assess the effects on the river and its mussel beds from changes to downstream discharges through unit 2. They also contend that there is a need to monitor scour downstream of unit 2 to ensure that there are no downstream effects from this increased discharge frequency compared to current operation of unit 2 and provide shoreline stabilization downstream of unit 2 if bank erosion occurs.

69. Because the maximum flow that could be discharged from unit 2 would not increase, and the total volume of flows released from Kinzua Dam (the Corps' plus the licensee's releases) would not change, the magnitude or downstream extent of sediment scour during unit operation would not be altered, nor would there be an increase in the magnitude of erosive forces along the shoreline. Accordingly, the scour and erosion monitoring suggested by the Forest Service and the Corps is not required by this license.⁵⁸

⁵⁶ The volume of water released downstream would remain the same because there would be a corresponding decrease in the Corps' releases from the dam.

⁵⁷ See EA at 44.

⁵⁸ No entity raised any concerns with Seneca Generation's proposal during scoping, including the Corps. As a result, these issues were not specifically addressed in the EA.

2. Water quality

70. Water temperatures in the Allegheny River downstream of Kinzua Dam are affected by project operation, especially when the project is generating during the summer months. Flows from the upper reservoir are discharged deep in Allegheny Reservoir, and the force of these flows being discharged disrupts Allegheny Reservoir's thermal stratification. As a result of this disruption, the denser, cooler water, which is normally located underneath the less dense and warmer surface water of the Allegheny Reservoir, is drawn into the Corps' intakes. However, increasing the frequency that unit 2 is operated to discharge water downstream of the dam rather than into Allegheny Reservoir may result in the opposite effect. Because there would be less disruption of the thermally stratified reservoir, less of the deeper cold water resulting from the stratification of the reservoir would be drawn into the Corps' intakes.⁵⁹ As a result, changing the operation of unit 2 by increasing the frequency that it discharges downstream of Kinzua Dam (with the corresponding decrease in the frequency that it discharges deep into Allegheny Reservoir) may increase downstream water temperatures, which could adversely affect the existing downstream trophy trout fishery.

71. In its comments on the EA, the Forest Service notes that increasing the frequency that unit 2 is operated to discharge downstream of Kinzua Dam may affect water temperatures differently on each side of the river due to differences between the temperature of water released from unit 2 towards one side of the river and the water released from the dam gates toward the other side of the river. To evaluate this effect, it recommends that Seneca Generation be required to monitor water quality along both banks of the river. It further recommends the use of continuous data recorders to measure, at a minimum, water temperature, dissolved oxygen, and total dissolved gases.

72. Forest Service section 4(e) condition 27 requires that Seneca Generation develop a water quality management and monitoring plan in consultation with Pennsylvania DEP, Pennsylvania FBC, the Corps, and the Forest Service. The plan must include: (1) a description of operational and/or structural measures to be taken to minimize project-induced variance from natural daily water temperature oscillations,⁶⁰ and (2) monitoring and adaptive management strategies to meet the water quality objectives.

73. In its comments on the EA, the Corps states its Pittsburgh District will develop an adaptive management plan for Allegheny Reservoir to ensure maintenance of the existing

⁵⁹ See EA at 45.

⁶⁰ The condition also states that the licensee must "ensure compliance with State of Pennsylvania and U.S. Environmental Protection Agency water quality standards," but does not identify what those standards are.

condition and protection of authorized project purposes and resources. It explains that the plan will require compliance with non-degradation water quality criteria and aquatic life management strategies developed by the Corps in coordination with state and federal resource agencies, which it states will be more stringent than state water quality criteria, and may include criteria that are not regulated by the state to ensure maintenance of existing high quality resources. It further states that the plan will require continuously recording, internet-accessible, real-time water quality monitoring in the Allegheny River downstream of the dam, along both the left and right banks and in the reservoir upstream of the dam. If non-degradation criteria are not being met and/or aquatic life is negatively affected with the proposed generation increases, generation will be decreased and flow through the dam correspondingly increased to reduce impacts and bring water quality into compliance.

74. It is not clear why the Corps believes it should require additional, and in some cases more stringent, criteria than required by the state agencies responsible for the protection of environmental resources in state waters. The water quality management and monitoring plan required by Forest Service condition 27 will be developed in consultation with the Pennsylvania DEP, Pennsylvania FBC, Corps, and Forest Service and will ensure that the waters of the Allegheny River downstream of Kinzua Dam continue to meet state water quality standards. There is no evidence to suggest that the Pennsylvania state water quality standards are not sufficient to protect all beneficial uses, and the fish population data summarized in the EA⁶¹ indicate that, under current water quality conditions, the Allegheny River downstream of Kinzua Dam supports a diverse and healthy fish community, including a popular trophy trout fishery. Thus, this license does not include such a non-degradation requirement.

D. Fish Entrainment Monitoring

75. Seneca Generation's desktop entrainment analysis provides an estimate of the number of fish that may be entrained at the project; however, the analysis was based on reference studies that may not duplicate intake conditions on Allegheny Reservoir.⁶² The Kinzua Project intake is located at one of the deepest locations in the reservoir, near the dam, which is not ideal habitat for many of the fish species (e.g. Percids and Centrarchids) that comprised a large percentage of the entrainment estimates. Percids and Centrarchids typically prefer shoreline, littoral zone habitat. The desktop analysis should therefore be considered a worst-case scenario, but whatever fish entrainment actually has been occurring over the nearly 50 years of project operation, there does not appear to be an adverse effect on the fish populations in Allegheny Reservoir. The

⁶¹ See EA at 41-42.

⁶² See EA at 48-50.

reservoir supports a thriving sport fishery, and recent Corps' data indicate an increasing population trend for many important species.

76. Nevertheless, in its comments on the EA, the Corps recommends that an adaptive fish monitoring plan be implemented to evaluate fish movement through the Kinzua Project turbines and the Corps' Kinzua Dam gates, and that future mitigation be required if monitoring should confirm an impact. It recommends that surveys be conducted to analyze the survival rate of fish passing through the Corps' gates compared to passage through the turbines, both under existing generation patterns and with the proposed increase in downstream generation from unit 2. It also recommends further analyses of the effects of reservoir pool elevation, intake depth, and season on fish movement, entrainment, and mortality.

77. Based on staff's analysis, little useable information would be gained from a plan to further analyze fish entrainment patterns and to compare the relative survival rates of fish passing through the Corps' gates as compared to fish passing through the project turbines. Seneca Generation's desktop entrainment analysis provides an adequate characterization of probable fish entrainment through the Kinzua Project, and additional monitoring, at a substantial expense, would not likely provide additional data that would be useful in designing mitigative measures that may not be feasible or needed. Fish protection facilities (such as fish screens) have generally not been provided at pumped storage projects because of the reversing flows at both the lower-reservoir and upper-reservoir intake structures. Many structural fish protection measures only work in one direction of flow. While behavioral measures (lights, sound) could be deployed at a pumped storage project, those types of facilities are generally considered to be experimental and have not been widely deployed. The Commission also has no jurisdiction over the operation of the Corps' gates, so it would be unable to enforce a requirement for studies on fish passage and survival over the Corps gates. Accordingly, this license does not include a requirement for Seneca Generation to implement the Corps recommended fish monitoring plan.

E. Funding of Hatchery and Habitat Improvements

78. In its comments on the license application, Seneca Nation expressed concerns over Seneca Generation's proposals to raise the maximum operating level of the upper reservoir and to generate more frequently using unit 2 and the potential effects of these modifications on fish entrainment. Seneca Nation states that raising the maximum operating level of the upper reservoir could increase the number of fish that are entrained by allowing a greater volume of water to be withdrawn from Allegheny Reservoir during each pumping cycle. Seneca Nation also states that operating unit 2 more frequently than it has in the past to discharge downstream of Kinzua Dam would reduce the disruption of thermal stratification near the Corps' intakes that is caused by generation releases into Allegheny Reservoir, and that reduction would have an unknown effect on the number

and species composition of fish that are entrained. To address its concerns, Seneca Nation recommends that Seneca Generation provide \$740,000 to fund enhancements to the Seneca Nation's existing walleye stocking program and \$200,000 to fund the Seneca Nation's Fish & Wildlife Department to implement a series of shallow- and deep-water habitat improvements in Allegheny Reservoir to provide structure and cover for various fish species.

79. Because this license does not authorize an increase in the maximum operating level of the upper reservoir, Seneca Nation's concern over increased fish entrainment resulting from the proposed water level increase is moot. Regarding Seneca Nation's concern over Seneca Generation's proposal to increase the frequency of unit 2 operation, the generating units discharge into one of the deepest locations in the Allegheny reservoir, which is not ideal habitat for many of the fish species that comprised a large percentage of the entrainment estimates. Furthermore, there does not appear to be an adverse effect on the fish populations in Allegheny Reservoir due to fish entrainment as the reservoir supports a thriving sport fishery.⁶³ In any event, there is no connection between Seneca Nation's funding measures for hatchery and habitat enhancements and any project-related environmental effects.⁶⁴ For these reasons, this license does not require the funding measures.

F. Invasive Species Management

80. To control the spread of noxious weeds and invasive plants on project lands, Seneca Generation proposes to develop an invasive species management plan for project lands for the term of a new license. The draft plan submitted with the license application includes provisions to prevent and reduce the establishment and spread of noxious weeds at the project through prevention, detection and documentation, control measures, and monitoring practices. The Corps recommends that the draft plan be revised to define goals for managing invasive species on all project lands, and Forest Service condition 23 requires that Seneca Generation file with the Commission a Forest Service-approved vegetation management plan.

81. In the EA,⁶⁵ Commission staff recommended incorporating the provisions of Seneca Generation's draft invasive species management plan described above into the plan required by the Forest Service to prevent and reduce the introduction and spread of invasive species at the project. Article 405 of this license requires Seneca Generation to

⁶³ See EA at 50.

⁶⁴ See EA at 124-26.

⁶⁵ See EA at 118.

file a Forest Service-approved vegetation management plan that includes the invasive species management measures presented in Seneca Generation's draft invasive species management plan. Because proper control of invasive species on project lands is important for preventing their spreading onto other lands managed by the Corps, Article 405 also requires that the Corps be consulted during development of the vegetation management plan, and that the plan encompass all lands within the project boundary.

82. In its comments on the EA, the Forest Service recommends that an invasive species management plan should be developed for all taxa of invasive species, including all types of aquatic and terrestrial invasive species (plants, animals, insects, and diseases), such as but not limited to, the zebra mussel and emerald ash borer. Given that the emerald ash borer is already widely distributed in Pennsylvania and surrounding states, it is unlikely that any aspects of project operation or maintenance would affect the spread or proliferation of this species. In addition, there does not appear to be any aspect of the operation or maintenance of the project that would contribute to the spread of zebra mussels or other aquatic invasive species. Accordingly, Article 405 does not require Seneca Generation to implement measures to control aquatic or non-vegetative species.

G. Bald Eagles

83. Interior recommends that Seneca Generation follow FWS's bald eagle management guidelines⁶⁶ to protect bald eagles and their habitat if present in the project area. Although the bald eagle is no longer protected under section 7 of the ESA, it remains a state-listed threatened species in New York and Pennsylvania; is listed as a sensitive species by the Forest Service; and is protected under the Pennsylvania Game and Wildlife Code, the Migratory Bird Treaty Act, and the Bald and Golden Eagle Protection Act. Interior's current bald eagle management guidelines include measures to prescribe distance buffers, natural or landscape buffers, and activity-specific guidelines, as applicable. In the EA,⁶⁷ Commission staff concluded that Seneca Generation's adherence to Interior's bald eagle management guidelines would provide a mechanism to protect bald eagles and their habitat in the project area by minimizing potential disturbance associated with operation and maintenance of the project. Accordingly, Article 406 of this license requires Seneca Generation to follow Interior's bald eagle management guidelines during operation and maintenance of the project.

⁶⁶ See *U.S. Fish and Wildlife Service's National Bald Eagle Management Guidelines May 2007* (<http://www.fws.gov/northeast/ecologicalservices/pdf/NationalBaldEagleManagementGuidelines.pdf>)

⁶⁷ See EA at 118-19.

H. Educational Materials

84. Seneca Generation proposes to update and maintain educational materials and displays with information about the project at the Corps' visitor center at the Big Bend Access Area. Seneca Nation recommends that Seneca Generation consult with the Director of the Seneca-Iroquois National Museum regarding historical information to be included in the displays at the visitor center.

85. Because the visitor center at the Big Bend Access Area is a Corps-managed facility and outside of the Commission's jurisdiction, Commission staff did not recommend in the EA that Seneca Generation prepare and maintain new educational materials and displays at the Corps' visitor center.⁶⁸ Therefore, this license does not include Seneca Generation's proposal to update and maintain educational materials in the Corps' visitor center. Nevertheless, Seneca Generation could pursue this measure in consultation with the Corps as part of an off-license agreement.

I. Project Boundary

86. The project boundary must enclose only those lands necessary for operation and maintenance of the project and for other project purposes, such as recreation, shoreline control, or protection of environmental resources.⁶⁹

87. Seneca Generation proposes to add 0.03 acre of Corps-managed federal land to the project boundary to encompass the proposed fishing access facility adjacent to the existing Corps' boat ramp at Big Bend Access Area. As noted above, the fishing access facility would be located in the Wild and Scenic River corridor. As a result, the Commission cannot authorize construction of the proposed facility. Therefore, the 0.03 acre of land will not be brought into the project boundary.

88. Seneca Generation proposes to remove from the project two parcels of land, totaling 6.6 acres,⁷⁰ that it states do not serve project purposes. One parcel includes the public road that passes through the Big Bend Access Area and connects to the powerhouse access road. Because this road primarily provides public access to the Corps' recreation facilities at the Big Bend Access Area, it is appropriate to exclude it from the project boundary.⁷¹ Seneca Generation will however retain in the project

⁶⁸ See EA at 120-21.

⁶⁹ See section 4.41(h)(2) of the regulations, 18 C.F.R. § 4.41(h)(2) (2014).

⁷⁰ The parcels are federal lands managed by the Corps and the Forest Service.

⁷¹ See EA at 123-24.

boundary the portion of the access road that only provides access to the powerhouse. The second parcel proposed for removal from the project is a small parcel of land underlying State Route 59 in the vicinity of Kinzua Dam. No project facilities are accessed from this location, and the lands are not necessary to operate and maintain the project. This order approves the removal from the project boundary of the two land parcels.

89. Seneca Generation also proposes to remove two roads near the upper reservoir. One of the roads is located to the south of the upper reservoir and in the past was used to access one or more weirs used by the project to measure leakage. Seneca Generation states that the road and weirs are no longer used by the project.⁷² The other road provides access to a communication tower on the northeast side of the upper reservoir that was never used for a project purpose. Because the roads and weir or weirs serve no project purpose, this order authorizes their removal from the project boundary.

90. With respect to the weir(s), which according to the Forest Service impound natural springs, and the road leading to the weir(s), the Forest Service asks that, prior to removing them from the project boundary, Seneca Generation remove the weir structure(s) and scarify or restore the road bed to allow tree species to regenerate on this land. To improve wetland habitat associated with the springs, reduce potential erosion problems, and restore the lands to a condition that is more compatible with the surrounding woodlands, Article 407 requires Seneca Generation to prepare and implement a Forest Service-approved weir removal and site restoration plan prior to removing these lands from the project boundary.

91. The Exhibit G drawing filed on January 24, 2014, does not include all lands necessary for project purposes. Specifically, at the upper reservoir, two short roads, one located to the southeast of the upper reservoir and one located to the northwest of the upper reservoir, connecting to Forest Road 160 (Jakes Rocks Road) and the entirety of the road encircling the reservoir are considered project roads because they are primarily used by Seneca Generation to access project facilities and, as such, must be included in the project boundary. Article 204 thus requires Seneca Generation to file a revised Exhibit G drawing that includes these roads in the project boundary.

ADMINISTRATIVE PROVISIONS

⁷² Seneca Generation states that the weirs no longer exist, but the Forest Service in its comments on the EA states that as recently as November 2014 there were two weirs at the site, which is on Forest Service lands.

A. Annual Charges

92. 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; the use, occupancy, and enjoyment of federal land; and use of a government dam. As noted, the Kinzua Project as licensed would occupy federal land administered by the Corps and the Forest Service. Final acreage calculations will be completed as part of the project boundary revisions under Article 204. Charges for the use of federal lands will not include those federal lands that adjoin or pertain to the federal dams or other federal structures used by the Kinzua Project.⁷³ Rather, the licensee will be assessed an annual charge for the use of the government dam.⁷⁴

B. Exhibit F and G Drawings

93. The Commission requires licensees to file sets of approved project drawings in electronic file format. Exhibit F sheets 1, 3, 4, 5, and 6 filed on March 28, 2014, are approved. Article 202 requires the filing of these drawings.

94. Exhibit F sheet 2 filed on March 28, 2014, is not approved. Exhibit F sheet 2 shows both the current and proposed normal maximum operating pool elevations in the upper reservoir. Sheet 2 must be revised to show only the normal maximum operating pool elevation of 2,072 feet. Therefore, Article 203 requires Seneca Generation to file a revised Exhibit F sheet 2 with this correction.

95. As explained above, the proposed Exhibit G drawing filed on January 24, 2014, does not include all lands necessary for project purposes and thus is not approved. Article 204 of the license requires Seneca Generation to file for Commission approval a revised Exhibit G drawing that includes in the project boundary the roads that encircle the upper reservoir and the roads that connect them to Forest Road 160 and excludes the 0.03 acre of land for the proposed fishing access, along with a final statement of the amount of federal land occupied by the project. In addition, the road corridor to the south of the upper reservoir that leads to the weir(s) must remain in the project boundary until such time that the licensee provides documentation from the Forest Service that the weir(s) and road have been removed and the lands have been satisfactorily restored pursuant to Article 407 and the Commission has approved a revised Exhibit G.

⁷³ See 18 C.F.R. § 11.2(a) (2014).

⁷⁴ See 18 C.F.R. § 11.3 (2014).

C. Amortization Reserve

96. The Commission requires that, for new major licenses, non-municipal licensees must set up and maintain an amortization reserve account upon license issuance. Article 205 requires the establishment of the account.

D. Headwater Benefits

97. Some projects directly benefit from headwater improvements that were constructed by other licensees, the United States, or permittees. Article 206 requires the licensee to reimburse such entities for these benefits if they were not previously assessed and reimbursed.

E. Use and Occupancy of Project Lands and Waters

98. Requiring a licensee to obtain prior Commission approval for every use or occupancy of project land would be unduly burdensome. Therefore, Article 409 allows the licensee to grant permission, without prior Commission approval, for the use and occupancy of project lands for such minor activities as landscape planting. Such uses must be consistent with the purposes of protecting and enhancing the scenic, recreational, and environmental values of the project.

F. Project Modifications

99. Article 301 requires the licensee to coordinate with the Commission's Division of Dam Safety and Inspections-New York Regional Engineer regarding any modifications resulting from environmental requirements, if such modifications would affect project works or operation.

G. Conditions for Projects at Corps' Dams

100. Pursuant to a 2011 Memorandum of Understanding between the Commission and the Department of the Army,⁷⁵ special articles are included in licenses for hydroelectric projects to be developed at Corps' facilities. The articles are incorporated in this license as Articles 302 through 304. Article 303 requires that Seneca Generation submit an operating plan to the Corps for approval and that Seneca Generation enter into a MOA with the Corps within six months of the effective date of the license. However, because the Kinzua Project is an existing operating project, this license includes Article 402 to

⁷⁵ Memorandum of Understanding between the United States Army Corps of Engineers and Federal Energy Regulatory Commission on Non-federal Hydropower Projects, March 30, 2011. <http://www.ferc.gov/legal/mou/mou-usace.pdf>.

specify that the project must be operated in accordance with the 1976 MOA (filed on December 14, 2010) until such time as a revised MOA has been approved by the Corps and filed with the Commission.

H. Reports and Filing of Amendments

101. In Appendix A, there are certain 4(e) conditions that do not require Seneca Generation to file reports or amendment applications with the Commission. Article 401, therefore, requires Seneca Generation to file reports and amendment applications, as appropriate.

STATE AND FEDERAL COMPREHENSIVE PLANS

102. Section 10(a)(2)(A) of the FPA⁷⁶ 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.⁷⁷ Under section 10(a)(2)(A), Commission staff identified and reviewed 10 comprehensive plans that are relevant to the Kinzua Project.⁷⁸ No conflicts were found.

APPLICANT'S PLANS AND CAPABILITIES

103. In accordance with sections 10(a)(2)(C) and 15(a) of the FPA,⁷⁹ Commission staff evaluated Seneca Generation's record as a licensee 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) transmission services; (G) cost effectiveness of plans; and (H) actions affecting the public. This order accepts the staff's finding in each of the following areas.

A. Conservation Efforts

104. Section 10(a)(2)(C)⁸⁰ of the FPA requires the Commission to consider the electricity consumption improvement program of the applicant, including its plans,

⁷⁶ 16 U.S.C. § 803(a)(2)(A) (2012).

⁷⁷ Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19 (2014).

⁷⁸ The list of applicable plans can be found in section 5.4 of the EA for the project.

⁷⁹ 16 U.S.C. §§ 803(a)(2)(C) and 808(a) (2012).

⁸⁰ 16 U.S.C. § 803(a)(2)(C) (2012).

(continued ...)

performance, and capabilities for encouraging or assisting its customers to conserve electricity cost-effectively, taking into account the published policies, restrictions, and requirements of state regulatory authorities. Because Seneca Generation primarily supplies peaking capacity and energy to the PJM Interconnection, a regional transmission organization that coordinates the movement of wholesale electricity throughout Delaware, Illinois, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and the District of Columbia, its ability to influence end-users is limited. The energy storage provided by the project conserves energy by allowing a greater proportion of the region's energy needs to be met by power generation facilities that are the most efficient and economical to operate.

105. Staff concludes that, given the limits of its ability to influence users of the electricity generated by the project, Seneca Generation complies with section 10(a)(2)(C) of the FPA.

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

106. Because the project was only recently transferred to Seneca Generation, the licensee's compliance history at the project is limited. However, Seneca Generation, on June 6, 2014, designated LS Power as its authorized agent and authorized representative for day-to-day project activities including operation, maintenance, and compliance with its license. LS Power is an employee-owned, independent power company. It is a developer, owner, operator, and investor in power generation and electric transmission infrastructure throughout the United States. LS Power has developed, constructed, managed, or acquired more than 31,000 MW of power generation and 470 miles of transmission infrastructure, and Commission staff is not aware of any compliance issues at its other projects.

107. Furthermore, since becoming the licensee of the Kinzua Project, Seneca Generation's record of making timely filings and compliance with its license is satisfactory. Therefore, staff believes that Seneca Generation can satisfy the conditions of a new license.

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

108. Staff has reviewed the management, operation, and maintenance of the Kinzua Project pursuant to the requirements of 18 C.F.R. Part 12 and the Commission's Engineering Guidelines and periodic Independent Consultant's Safety Inspection Reports. Staff concludes that the dams and other project works are safe, and that there is

no reason to believe that Seneca Generation cannot safely manage, operate, and maintain these facilities under a new license.

D. Ability to Provide Efficient and Reliable Electric Service

109. Staff has reviewed Seneca Generation's plans and its ability to operate and maintain the project in a manner most likely to provide efficient and reliable electric service. Because the project was only recently transferred to Seneca Generation, the licensee's maintenance history at the project is limited. Because the project is a pumped storage project in the PJM service territory, the licensee is able to provide several benefits to PJM to ensure efficient and reliable electric service, such as peak power during periods of high energy demand, grid stabilization, and base load project capacity factor increases during periods of low electricity demand, and increased system reliability with its black-start service capabilities. Staff concludes that Seneca Generation is capable of operating the project to provide efficient and reliable electric service in the future.

E. Need for Power

110. The Kinzua Project serves a significant role in the PJM regional transmission grid by using its 452.35-MW capacity for peak load demand, spinning reserve, base load energy use, substantial annual energy generation, and black-start capability. To assess the need for power, staff looked at the needs in the operating region in which the project is located, which is the PJM region of the North American Electric Reliability Corporation (NERC). NERC annually forecasts electrical supply and demand in the nation and the region for a 10-year period. NERC's most recent report on annual supply and demand projections for the PJM region indicates that total summer demand is projected to grow at an annual average compound rate of 1.25 percent over the 10-year planning period from 2014 through 2023. Independent power producers such as Seneca Generation are projected to supply part of this demand. Staff concludes that the project's power and contribution to the region's diversified generation mix will help meet a need for power in the region.

F. Transmission Services

111. Seneca Generation is not a utility and does not maintain a transmission system. Power generated at the project is transmitted via a 3,100-foot-long transmission line that ties into a substation owned and operated by Penelec. From the substation, project power is directed into a regional system that provides power and system support to northeast Ohio and northwest Pennsylvania and the rest of the PJM region. Seneca Generation is not proposing changes that would affect its own or other transmission services in the region.

G. Cost Effectiveness of Plans

112. Seneca Generation plans to make facility and operational modifications to improve project generating capability. Seneca Generation is a member of the LS Power Group, which is a well-capitalized group of companies that develops, owns, manages, and invests in power generation and electric transmission infrastructure throughout the United States. LS Power currently owns and manages a diverse portfolio including its 33.3 percent ownership interest and 50 percent voting interest in the Safe Harbor Water Power Corporation, the owner and licensee of the 420-MW Safe Harbor Hydroelectric Project No. 1025 (Safe Harbor Project). Since acquiring its interest in the Safe Harbor Project in 2011, LS Power has actively participated in the management and direction of Safe Harbor, including reviewing and approving annual budgets for operation, maintenance, and capital expenditures. Based on LS Power's record at its other hydroelectric projects and other energy projects, staff concludes that these plans are likely to be carried out in a cost-effective manner.

H. Actions Affecting the Public

113. Seneca Generation anticipates using the project to help meet local power needs and pays taxes that help cover the cost of public services provided by the local government.

PROJECT ECONOMICS

114. 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 Corporation*,⁸¹ 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.

115. In applying this analysis to the Kinzua Project, Commission staff has considered three options: the no-action alternative, Seneca Generation's proposal, and the project as licensed herein. Under the no-action alternative, the project would continue to operate as it does now. The project has an installed capacity of 452.35 MW, has a dependable

⁸¹ *Mead Corp.*, 72 FERC ¶ 61,027 (1995).

capacity of 452.35 MW, and generates an average of 559,059 MWh of electricity annually. The levelized average annual project cost is about \$50,266,320, or \$89.91/MWh. When the estimate of average generation is multiplied by the alternative power cost of \$109.50/MWh,⁸² staff gets a total value of the project's power of \$61,216,960 in 2014 dollars. To determine whether the proposed project is currently economically beneficial, staff subtracts the project's cost from the value of the project's power.⁸³ Therefore, the project costs \$10,950,640, or \$19.59/MWh, less to produce power than the likely alternative cost of power.

116. As proposed by Seneca Generation, the levelized annual cost of operating the Kinzua Project is \$51,066,020, or \$89.69/MWh. Based on an estimated average generation of 569,359 MWh and alternative power cost of \$108.83/MWh, staff gets a total value of the project's power of \$61,963,339 in 2014 dollars. Therefore, in the first year of operation, the project would cost \$10,897,319, or \$19.14/MWh, less than the likely alternative cost of power

117. As licensed herein with the mandatory conditions and staff measures, the levelized annual cost of operating the project would be about \$50,858,660, or \$90.97/MWh. Based on the same amount of estimated average generation of 559,059 MWh as under the no-action alternative, the project would produce power valued at \$61,216,960 in 2014 when multiplied by the \$109.50/MWh value of the project's power. Therefore, in the first year of operation, project power would cost \$10,358,300, or \$18.53/MWh, less than the likely alternative cost of power.

118. In considering public interest factors, the Commission takes into account that hydroelectric projects offer unique operational benefits to the electric utility system (ancillary service benefits). These benefits include the ability to help maintain the stability of a power system by quickly adjusting power output to respond to rapid changes in system load, and to respond rapidly to a major utility system or regional blackout by

⁸² The alternative power cost is based on an energy rate of \$63.33/MWh, a capacity rate of \$46.14/kW-year, and an estimated annual ancillary service value of \$4,942,100/year. While these rates apply to each alternative, because the annual energy varies somewhat from alternative to alternative, the alternative power cost varies between alternatives.

⁸³ Details of staff's economic analysis for the project as licensed herein and for various alternatives are included in the EA issued October 24, 2014. All costs in the EA were in 2014 dollars. This license order has updated the costs to reflect changes in cost escalators and energy, capacity, and ancillary services rates since the EA was issued.

providing a source of power to help restart fossil-fuel based generating stations and put them back on line.

COMPREHENSIVE DEVELOPMENT

119. Sections 4(e) and 10(a)(1) of the FPA⁸⁴ 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; and the preservation of other aspects of environmental quality. Any license issued must 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.

120. The EA for the project contains background information, analysis of effects, and support for related license articles. Based on the record of this proceeding, including the EA and the comments thereon, licensing the Kinzua Project as described in this order would not constitute a major federal action significantly affecting the quality of the human environment. The project will be safe if operated and maintained in accordance with the requirements of this license.

121. Based on Commission staff's independent review and evaluation of the Kinzua Project, recommendations from the resource agencies and other stakeholders, and the no-action alternative, as documented in the EA, the proposed Kinzua Project, with the staff-recommended modifications and measures, is best adapted to a comprehensive plan for improving or developing the Allegheny River.

122. This alternative was selected because: (1) issuance of a new license will serve to maintain a beneficial and dependable source of electric energy; and (2) the required environmental measures will protect and enhance fish and wildlife resources, water quality, and historic properties.

LICENSE TERM

123. Section 15(e) of the FPA⁸⁵ 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. It is Commission policy to issue a 50-year license for a project located at a federal dam. Accordingly, this license will be issued for a term of 50 years.

⁸⁴ 16 U.S.C. §§ 797(e) and 803(a)(1) (2012).

⁸⁵ 16 U.S.C. § 808(e) (2012).

The Director orders:

(A) This license is issued to Seneca Generation, LLC (licensee), for a period of 50 years, effective December 1, 2015, to operate and maintain the Kinzua 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 licensee's interests in these lands described in the project description and the project boundary discussion of this order.

(2) Project works consisting of: (a) a lower intake structure in the Allegheny Reservoir near the south side of the U.S. Army Corps of Engineers' Kinzua Dam; (b) a circular upper reservoir,⁸⁶ located off-stream, created by an earth and rockfill dike with a crest elevation of 2,078.1 feet⁸⁷ and a maximum height of 115 feet, completely encircling the reservoir with an emergency spillway consisting of a 100-foot-wide, broad-crested weir spillway with a crest elevation of 2,067.6 feet to protect against overfilling and a fuse plug constructed across a portion of the broad-crested weir; (c) a concrete and steel powerhouse 230 feet long by 75 feet wide, located about 300 feet downstream of the southern (left-facing downstream) abutment of Kinzua Dam, that houses two reversible pump-turbines with an authorized capacity of 181.5 megawatts (MW) for unit 1, 244.75 MW for unit 2, and one conventional unit with an authorized capacity of 26.1 MW (unit 3), for a total authorized capacity of 452.35 MW; (d) a 418-foot-long, 15-foot-diameter steel conduit leading from the lower intake to unit 1, to pump water from Allegheny Reservoir or release water back to Allegheny Reservoir during generation; (e) a 480-foot-long, 15-foot-diameter steel conduit leading from the lower intake to unit 2 that can pump water from Allegheny Reservoir or release water to Allegheny Reservoir or the Allegheny River after receiving flow from unit 3; (f) an upper intake, located in the floor of the upper reservoir, leading to a 2,500-foot-long tunnel, transitioning from a 22.25-foot-diameter concrete-lined tunnel to a steel-lined tunnel with an interior diameter of 21.5 feet, for approximately 2,500 feet, which connects to a bifurcated steel penstock (below the bifurcation, one penstock continues 325.35 feet to unit 1; the second penstock bifurcates again after 245.95 feet, to a 98.29-foot-long penstock that continues to unit 2, and a 100.30-foot-long penstock that continues to unit 3); (g) three spherical valves located in the penstocks near the entrance to each unit; (h) a discharge passage leading

⁸⁶ The total useable storage of the upper reservoir is 5,697 acre-feet.

⁸⁷ All elevations are referenced to the National Geodetic Vertical Datum of 1929.

from units 2 and 3 to the Allegheny River, with a 15-foot-diameter butterfly valve located between units 2 and 3 (the valve is used to direct generation flows from unit 2 either to the Allegheny Reservoir or to the Allegheny River downstream of Kinzua Dam); (i) a tailrace returning flow to the Allegheny River; (j) a switchyard located on the upper roof level of the powerhouse; (k) a 3,100-foot-long, 230-kilovolt primary transmission line that transmits power produced at the project from the powerhouse to the Glade substation (a non-project structure) located west of the upper reservoir; and (l) appurtenant facilities.

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

Exhibit A: Section 2, pages A-2 through A-10 entitled “*Project Structures*” except table 1 where it describes the proposed changes to the normal maximum operating level of the upper reservoir and section 4, pages A-12 through A-14 entitled “*Proposed Project Modifications*” except for sections 4.1 and 4.3 where it describes the proposed changes to the operating level of the upper reservoir and proposed changes to the project boundary, respectively, of the license application filed December 2, 2013.

Exhibit F: The following revised Exhibit F drawings filed on March 28, 2014:

Exhibit F Drawings	FERC No. 2280-	Description
Sheet 1 of 7	1001	Kinzua Site Plan
Sheet 3 of 7	1002	Kinzua Powerhouse Plan
Sheet 4 of 7	1003	Kinzua Longitudinal Section Thru Powerhouse
Sheet 5 of 7	1004	Kinzua Transverse Section Thru Powerhouse
Sheet 6 of 7	1005	Kinzua Lower Reservoir Intake/Outlet Structure
Sheet 7 of 7	1006	Upper Reservoir Intake/Outlet Structure

(3) All of the structures, fixtures, equipment, or facilities used to operate or maintain the project and located within the project boundary, 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.

(C) The Exhibits A, F-1, and F-3 through F-7 described above are approved and made part of the license. Revised Exhibit F-2 filed on March 28, 2014, and the revised Exhibit G filed on January 24, 2014, do not conform to the Commission's regulations, and therefore, are not approved.

(D) This license is subject to the conditions submitted by the U.S. Department of Agriculture, 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 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), as reproduced at the end of this order, and the following additional articles:

Article 201. Administrative Annual Charges. The licensee must pay the United States annual charges, beginning on the effective date of the license, 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 452.35 megawatts;
- (b) recompensing the United States for the use, occupancy, and enjoyment of its lands (other than for transmission line right-of-way) based on the final statement of federal land occupied by the project as required by Article 204;
- (c) recompensing the United States for the use, occupancy, and enjoyment of its lands for transmission line right-of-way based on the final statement of federal land occupied by the project as required by Article 204; and
- (d) recompensing the United States for the use of a government dam.

Article 202. Exhibit F Drawings. Within 45 days of the effective date of this license, as directed below, the licensee must file two sets of the approved exhibit drawings (Exhibit F-1 and F-3 through F-7) in electronic file format on compact disks with the Secretary of the Commission, ATTN: OEP/DHAC.

Digital images of the approved exhibit drawings must be prepared in electronic format. Prior to preparing each digital image, the FERC Project-Drawing Number (i.e., P-2280-1001 through P-2280-1005) must 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 C.F.R. § 388.113(c). Each drawing

must be a separate electronic file, and the file name must include: FERC Project-Drawing Number, FERC Exhibit, Drawing Title, date of this license, and file extension in the following format [P-2280-1001, F-1, Site Plan, MM-DD-YYYY.TIF].

All digital images of the exhibit drawings must 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 dots per inch (dpi) desired, (200 dpi minimum)

DRAWING SIZE FORMAT – 22” x 34” (minimum), 24” x 36” (maximum)

FILE SIZE – less than 1 megabyte desired

Article 203. Exhibit F-2 Drawing. Within 90 days of the effective date of the license, the licensee must file, for Commission approval, a revised Exhibit F-2 drawing that only shows the current normal maximum operating pool elevation of 2,072 feet. The Exhibit F drawings must comply with sections 4.39 and 4.41 of the Commission’s regulations.

Article 204. Exhibit G Drawings. Within 90 days of the effective date of the license, the licensee must file, for Commission approval, revised Exhibit G drawings enclosing within the project boundary all principal project works necessary for operation and maintenance of the project, and reflecting the addition of acreage needed for the lands associated with the roads that encircle the upper reservoir and connect to Forest Road 160 and excludes the 0.03 acre of land for the proposed fishing access. The Exhibit G drawings must comply with sections 4.39 and 4.41 of the Commission’s regulations.

The lands associated with the weir or weirs and road to the south of the upper reservoir that provides access to them must remain in the project boundary until such time that the licensee provides documentation from the Forest Service that these lands have been satisfactorily restored pursuant to Article 407, and the Commission has approved a request to revise the project boundary.

Article 205. Amortization Reserve. Pursuant to section 10(d) of the Federal Power Act, a specified reasonable rate of return upon the net investment in the project must be used for determining surplus earnings of the project for the establishment and maintenance of amortization reserves. The licensee must set aside in a project amortization reserve account at the end of each fiscal year one half of the project surplus earnings, if any, in excess of the specified rate of return per annum on the net investment. To the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year, the licensee must deduct the amount of that deficiency from the amount of any surplus earnings subsequently accumulated, until

absorbed. The licensee must set aside one-half of the remaining surplus earnings, if any, cumulatively computed, in the project amortization reserve account. The licensee must maintain the amounts established in the project amortization reserve account until further order of the Commission.

The specified reasonable rate of return used in computing amortization reserves must be calculated annually based on current capital ratios developed from an average of 13 monthly balances of amounts properly included in the licensee's long-term debt and proprietary capital accounts as listed in the Commission's Uniform System of Accounts. The cost rate for such ratios must be the weighted average cost of long-term debt and preferred stock for the year, and the cost of common equity must be the interest rate on 10-year government bonds (reported as the Treasury Department's 10-year constant maturity series) computed on the monthly average for the year in question plus four percentage points (400 basis points).

Article 206. *Headwater Benefits.* If the licensee's 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 licensee 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 301. *Project Modification Resulting from Environmental Requirements.* If environmental requirements under this license require modification that may affect the project works or operations, the licensee must consult with the Commission's Division of Dam Safety and Inspections-New York Regional Engineer. Consultation must allow sufficient review time for the Commission to ensure that the proposed work does not adversely affect the project works, dam safety, or project operation.

Article 302. *Periodic and Continuous Inspections by the U.S. Army Corps of Engineers (Corps).* The construction, operation, and maintenance of the project works that, in the judgment of the Corps, may affect the structural integrity or operation of the Corps' project must be subject to periodic or continuous inspections by the Corps. Any construction, operation, and maintenance deficiencies or difficulties detected by the Corps' inspection must be immediately reported to the Division of Dam Safety and Inspections (D2SI)-New York Regional Engineer. Upon review, the D2SI-New York Regional Engineer must refer the matter to the licensee for appropriate action. In cases when construction, operation, or maintenance practices or deficiencies may create a situation posing imminent danger to the structural integrity and safety of the Corps' project, the Corps' inspector has the authority to stop construction or maintenance while

awaiting the resolution of the problem. The licensee must immediately inform the D2SI-New York Regional Engineer of the circumstances surrounding the cessation of construction, operation, or maintenance activities. The licensee must not resume construction, operation, or maintenance activities until notified by the D2SI-New York Regional Engineer that the problem or situation has been resolved.

Article 303. Operating Plan. Within six months of the effective date of the license, the licensee must file, for Commission approval, an operating plan that has been approved by the U.S. Army Corps of Engineers (Corps), describing: (a) the designed mode of hydropower operation, (b) reservoir flow diversion and regulation requirements for operation of the Corps’ project as established by the Corps, and (c) integration of the operation of the hydroelectric facility into the Corps' emergency action plan.

In addition, the licensee, within six months of the effective date of the license, must enter into an operating Memorandum of Agreement (MOA) with the Corps describing the detailed operation of the powerhouse and of the upper reservoir acceptable to the Corps. The MOA must specify any restrictions needed to protect the primary purposes of the Corps’ project. The Division of Dam Safety and Inspections-New York Regional Engineer must be invited to attend meetings regarding the agreement. The MOA must be subject to revision by mutual consent of the Corps and licensee as experience is gained by actual project operation. Should the licensee and the Corps fail to reach an agreement, the matter will be referred to the Director, Office of Energy Projects, for resolution. Copies of the regulating plan and signed MOA between the Corps and the licensee and any revision thereof must be filed with the Commission.

Article 304. No Claim. The licensee shall have no claim under this license against the United States arising from the effect of any changes made in the operation or reservoir levels of the U.S. Army Corps of Engineers project.

Article 401. Reporting and Amendments.

(a) *Requirement to File Reports.*

Certain conditions of the Forest Service’s section 4(e) conditions require the licensee to file reports with, or notify, the Forest Service or other entities. Because these reports relate to compliance with the requirements of this license, each such report must also be submitted to the Commission, and each notification also must be made to the Commission. The reports and notifications are listed in the following table:

Forest Service Condition No.	Description	Due Date
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Forest Service Condition No.	Description	Due Date
13	Report of actions undertaken to abate known or observed hazardous conditions on or affecting National Forest System lands within or immediately adjacent to the project boundary	Within 48 hours of actions undertaken
21	Notification of emergency repairs and use of areas other than project access roads Restoration plan to address emergency repairs	Within 48 hours of emergency actions undertaken At least 60 days prior to any restoration activities

(b) *Requirement to File Amendment Applications.*

Some Forest Service conditions in Appendix A contemplate unspecified long-term changes to project operations or facilities (e.g., reservation of Forest Service authority to revise section 4(e) conditions, adaptive management strategies to meet water quality objectives). Such changes may not be implemented without prior Commission authorization granted after the filing of an application to amend the license.

Article 402. Interim Operating Requirements. The licensee shall operate the project in accordance with the April 30, 1976 Memorandum of Agreement between the United States of America and the licensee filed on December 14, 2010, until such time as a new operating Memorandum of Agreement has been approved by the Corps and filed with the Commission as required by Article 303.

Article 403. Operation Compliance Monitoring Plan. Within six months of the effective date of the license, the licensee must file, for Commission approval, an operation compliance monitoring plan that describes how the licensee will comply with the operational requirements of this license. The plan must include, but not be limited to, the following:

(a) a provision for monitoring flows and water levels, including a description of monitoring locations, equipment or measuring devices, methods, frequency of recording, quality assurance and quality control, and calibration procedures;

(b) a provision for coordinating with the U.S. Army Corps of Engineers (Corps) in the event of an emergency, project shutdown, high-flow events, low-flow periods, or during nonattainment of water quality standards, and specifying what actions would be taken in such events;

(c) a protocol for documenting compliance with the Corps' operational provisions developed under the Memorandum of Agreement in Article 303;

(d) a schedule of reporting project compliance/non-compliance during normal operation and in the event of an emergency; and

(e) a provision to file copies with the Director, Office of Energy Projects, of the approved regulating plan required by Article 303 and a copy of the signed MOA between the Corps and the licensee and any subsequent revisions.

The operation compliance monitoring plan must be developed after consultation with the Pennsylvania Fish and Boat Commission, Pennsylvania Department of Environmental Protection, and the Corps. The licensee 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 licensee 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 licensee does not adopt a recommendation, the filing must include the licensee's reasons, based on project-specific information.

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

Article 404. *Reservation of Authority to Prescribe Fishways.* Authority is reserved to the Commission to require the licensee to construct, operate, and maintain, or to provide for the construction, operation, or maintenance of such fishways as may be prescribed by the Secretary of the Interior pursuant to section 18 of the Federal Power Act.

Article 405. *Vegetation Management Plan.* Within one year of the effective date of the license, the licensee must file with the Commission a U.S. Department of Agriculture, Forest Service (Forest Service)-approved vegetation management plan as specified in Forest Service condition 23. The goal of the vegetation management plan is to specify guidelines for vegetation (including invasive plant species) management activities that would encourage the establishment of native plant and wildlife habitats,

while reducing the establishment of non-native terrestrial plant species within the project boundary.

The plan must include the following provisions from Seneca Generation's draft invasive species management plan: (1) a provision to train staff and contractors in identification of invasive plants, approved vegetation management procedures and equipment operation, and infestation prevention measures; (2) identification of specific locations where annual visual inspection for invasive species will occur on project lands, including photographic documentation to allow year to year comparison of conditions; (3) a vegetation monitoring program that includes sampling and analysis of baseline plots for new invasive species infestations every 5 years; (4) definition of the methods (manual, mechanical, and chemical) that would be used to control the spread or suppress widespread populations of invasive plants in identified areas; (5) identification of adaptive management strategies that will be used to maximize the success of control and treatment activities; and (6) filing of an annual findings report with the Commission by December 31 of the year documenting the monitoring efforts.

The licensee must include with the plan an implementation schedule, documentation of consultation with the Forest Service and the U.S. Army Corps of Engineers, copies of recommendations on the completed plan after it has been prepared and provided to them, and specific descriptions of how their comments are accommodated by the plan. The licensee must provide a minimum of 30 days for the entities to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing must include the licensee's reasons, based on project-specific information.

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

Article 406. Bald Eagle Management Guidelines. The licensee must follow the U.S. Fish and Wildlife Service's National Bald Eagle Management Guidelines May 2007(<http://www.fws.gov/northeast/ecologicalservices/pdf/NationalBaldEagleManagementGuidelines.pdf>), or the most current edition of this document, for the protection of bald eagles and their habitat during operation and maintenance of the project.

Article 407. Weir Removal and Site Restoration Plan. Within 60 days of the effective date of the license, the licensee must file a weir removal and site restoration plan for the two weirs and the associated road located to the southeast of the upper reservoir. The licensee must consult with the U.S. Department of Agriculture, Forest Service (Forest Service), to develop the plan, which must include, but not necessarily be limited to, the following: (1) a description of the planned restoration activities including

drawings of any proposed treatments to the road, weirs, or springs, (2) a schedule for removing the weirs and restoring the associated road, and (4) documentation of Forest Service consultation and plan approval.

The Commission reserves the right to require changes to the 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 licensee must implement the plan according to the approved schedule, including any changes required by the Commission. The licensee may submit an application to remove these lands from the project boundary after weir removal and site restoration is complete, and the licensee provides documentation from the Forest Service that the lands have been satisfactorily restored.

Article 408. Programmatic Agreement and Historic Properties Management Plan. The licensee must implement the “Final Programmatic Agreement Between the Federal Energy Regulatory Commission and the Pennsylvania Historic Preservation Office for Managing Historic Properties That May Be Affected by Issuing a New License to Seneca Generation, LLC for the Continued Operation of the Kinzua Pumped Storage Project in Warren County, Pennsylvania (FERC No. 2280-018),” executed on January 27, 2015, and including, but not limited to, the historic properties management plan (HPMP) for the project. Pursuant to the requirements of this Programmatic Agreement (PA), the licensee must file, for Commission approval, a final HPMP within one year of the effective date of the license. The Commission reserves the authority to require changes to the HPMP at any time during the term of the license. If the PA is terminated prior to Commission approval of the HPMP, the licensee must obtain approval from the Commission and the Pennsylvania State Historic Preservation Officer before engaging in any ground-disturbing activities or taking any other action that may affect any historic properties within the project's area of potential effects.

Article 409. Use and Occupancy. (a) In accordance with the provisions of this article, the licensee 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 licensee 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 licensee 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 licensee 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 licensee 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 licensee 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 licensee must require multiple use and occupancy of facilities for access to project lands or waters. The licensee must also ensure, to the satisfaction of the Commission's authorized representative, that 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 licensee 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 licensee 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 licensee's costs of administering the permit program. The Commission reserves the right to require the licensee 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 licensee 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-kV 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 licensee 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 licensee 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 licensee must file a letter with the Commission, 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 Commission's authorized representative, within 45 days from the filing date, requires the licensee to file an application for prior approval, the licensee 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 licensee 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 licensee 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 licensee 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 licensee under this article must not apply to any part of the public lands and reservations of the United States included within the project boundary.

(F) The licensee 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.

(G) 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. § 8251 (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 licensee's failure to file a request for rehearing shall constitute acceptance of this order.

Ann F. Miles
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 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 may 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

Conditions filed by the U.S. Forest Service on January 22, 2015, pursuant to section 4(e) of the Federal Power Act, for the new license for Project No. 2280, as modified by this order⁸⁸

I. STANDARD US FOREST SERVICE CONDITIONS

Condition No. 1 – Requirement to Obtain a US Forest Service Special Use Authorization

If during the term of the License the Commission determines that the Project involves the use of any additional NFS lands, outside the Project boundary at the effective date of the new license, the Licensee shall obtain the appropriate authorization from the US Forest Service for the occupancy and use of such additional NFS lands. The Licensee shall obtain the executed authorization before beginning any ground disturbing activities, including mitigation or improvement projects within the wild and scenic river corridor on NFS lands to be covered by the appropriate authorization, and shall file that special use authorization with the Commission.

Condition No. 2 – US Forest Service Approval of Final Design

Before any construction of the Project occurs on NFS lands, the Licensee shall obtain the prior written approval of the US Forest Service for all final design plans for Project components that the US Forest Service deems as affecting or potentially affecting NFS resources. The Licensee shall follow the schedules and procedures for design review and approval specified in the US Forest Service construction temporary special use authorization. As part of such prior written approval, the US Forest Service may require adjustments in final plans and facility locations to preclude or mitigate impacts and to assure that the Project is compatible with on-the-ground conditions. Should such necessary adjustments be deemed by the US Forest Service, the Commission, or the Licensee to be a substantial change, the Licensee shall follow the procedures of Article 2 of the License. Any changes to the License made for any reason, pursuant to Article 2 or Article 3, shall be made subject to any new terms and conditions of the Secretary of Agriculture made pursuant to section 4(e) of the FPA.

Condition No. 3 – Approval of Changes after Initial Construction

⁸⁸ Forest Service section 4(e) condition 14 is modified by deleting references to incorrect standard L-form articles and inserting the correct references. Condition 23 is modified to clarify the filing deadline. The modification is shown in brackets.

Notwithstanding any License authorization to make changes to the Project, when such changes directly affect NFS lands, the Licensee shall get written approval from the US Forest Service prior to making any changes in the location of any constructed Project features or facilities, or in the uses of Project lands and waters, or any departure from the requirements of any approved exhibits filed with the Commission. Following receipt of such approval from the US Forest Service, and at least 60 days prior to initiating any such changes or departure, the Licensee shall file a report with the Commission describing the changes, the reasons for the changes, and showing the approval of the US Forest Service for such changes. The Licensee shall file an exact copy of this report with the US Forest Service at the same time it is filed with the Commission. This article does not relieve the Licensee from the amendment or other requirements of Article 2 or Article 3 of this License.

Condition No. 4 – Consultation

Licensee shall consult annually with the US Forest Service. Each year during the first 60 days of the calendar year or as otherwise agreed upon, the Licensee shall convene an annual coordination meeting with the US Forest Service to discuss proposed annual operations and maintenance activities associated with the upper reservoir or river discharge, including any ground disturbing activities. At least 30 days in advance of the meeting, Licensee shall notify other interested stakeholders, confirming the meeting location, time and agenda. The scope of the meeting shall address measures needed to ensure protection and development of the natural resource values of the Project area that could be affected by proposed operation and maintenance activities.

Licensee shall make the following information available to the US Forest Service and other meeting participants at least 30 days prior to the meeting:

- An operations plan for the year in which the meeting occurs, including planned outages of the upper reservoir.
- A description of planned maintenance projects at the upper reservoir or the river discharge for the year in which the meeting occurs.
- Any records of non-compliance with the License associated with 4(e) conditions.
- The hydrology record for the previous year, if available, including any variances.
- Results of any water quality, groundwater, or reservoir level monitoring conducted the previous year.
- A document that tracks the status of the Section 4(e) Conditions that require action in the year in which the meeting occurs.

Consultation shall include, but not be limited to:

- A status report regarding implementation of 4(e) license conditions.

- Results of any water quality or aquatic monitoring studies performed over the previous year in formats agreed to by FS and Licensee during development of implementation plans.
- Review of any planned maintenance associated with the upper reservoir or river discharges.
- Discussion of any foreseeable changes to Project facilities or features associated with the upper reservoir or river discharge.
- Discussion of any necessary revisions or modifications to implementation plans approved as part of this license.
- Discussion of needed protection measures for species newly listed as threatened, endangered, or Forest Service Special status species, or changes to existing management plans that may no longer be warranted due to delisting of species or, to incorporate new knowledge about a species requiring protection. Discussion of needed protection measures for newly discovered cultural resource sites.
- Discussion of elements of current year maintenance plans, e.g. road and trail maintenance.
- Discussion of any planned pesticide use and/or vegetation management planned at the upper reservoir project lands or in the river discharge.
- Discussion of Aquatic Habitat Improvement Plan.
- Discussion of Water Quality Management and Monitoring Plan.

Within 60 days following such consultation, the Licensee shall file with the Commission evidence of the consultation with any recommendations made by the US Forest Service. The Commission reserves the right, after notice and opportunity for hearing, to require changes in the Project and its operation that may be necessary to accomplish natural resource protection.

II. ADDITIONAL US FOREST SERVICE CONDITIONS

Condition No. 5 – Surrender of License or Transfer of Ownership

Prior to any surrender of this license, Licensee shall provide assurance acceptable to the US Forest Service that Licensee shall restore any project area directly affecting NFS lands to a condition satisfactory to the US Forest Service upon or after surrender of the license, as appropriate. To the extent restoration is required; Licensee shall prepare and file with the Commission a restoration plan which shall identify the measures to be taken to restore such NFS lands and shall include adequate financial mechanisms to ensure performance of the restoration measures.

In the event of any transfer of the license or sale of the project, Licensee shall assure that, in a manner satisfactory to the US Forest Service, Licensee or transferee will provide for the costs of surrender and restoration. If deemed necessary by the US Forest Service to assist it in evaluating Licensee's proposal, Licensee shall conduct an analysis, using

experts approved by the US Forest Service, to estimate the potential costs associated with surrender and restoration of any project area directly affecting NFS lands to US Forest Service specifications. In addition, the US Forest Service may require Licensee to pay for an independent audit of the transferee to assist the US Forest Service in determining whether the transferee has the financial ability to fund the surrender and restoration work specified in the analysis.

Condition No. 6 – Modification of US Forest Service Conditions

The US Forest Service reserves the right to modify these conditions, if necessary, to incorporate changes necessitated by new laws and regulations directing changes in management of the area, additional information provided by studies which have not been completed to date, by findings in the Project of new noxious terrestrial or aquatic biota, and to address new listings of threatened, endangered, and other special status species in the Project.

Condition No. 7 – Maintenance of Improvements

The Licensee shall maintain all its improvements and premises on NFS lands to standards of repair, orderliness, neatness, sanitation, and safety acceptable to the US Forest Service.

Condition No. 8 – Compliance with Regulations

Licensee shall comply with the regulations and policies of the Department of Agriculture for activities on NFS lands, and all applicable Federal, State, county, and municipal laws, ordinances, or regulations in regards to the area or operations on or directly affecting NFS lands, to the extent those laws, ordinances, regulations or policies are not preempted by federal law.

Condition No. 9 – Existing Claims

License shall be subject to all valid claims and existing rights of third parties. The United States is not liable to Licensee for the exercise of any such right or claim.

Condition No. 10 – Signs

Except in emergency situations, the Licensee shall consult with the US Forest Service prior to erecting signs related to safety issues on NFS lands covered by the License. Prior to the Licensee erecting any other signs or advertising devices on NFS lands covered by the License, the Licensee must obtain the approval of the US Forest Service as to location, design, size, color, and message. The Licensee shall be responsible for maintaining all Licensee-erected signs to neat and presentable standards.

Condition No. 11 – Protection of United States Property

Licensee, including any agents or employees of Licensee acting within the scope of their employment, shall exercise diligence in protecting from damage the land and property of the United States covered by and used in connection with this license.

Condition No. 12 – Indemnification

The Licensee 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 Licensee in connection with the use and/or occupancy authorized by this License. This indemnification and hold harmless provision includes but is not limited to any negligent acts and omissions of the Licensee or the Licensee's heirs, assigns, agents, employees, affiliates, subsidiaries, fiduciaries, contractors, or lessees in connection with the use and/or occupancy 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, 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; or (4) the release or threatened 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. The Licensee's liability hereunder shall be limited to reasonable damages, costs, claims, and judgments.

Condition No. 13 – Risks and Hazards on National Forest System Lands

As part of the occupancy and use of the project area, Licensee has a continuing responsibility to reasonably identify and report all known or observed hazardous conditions on or directly affecting NFS lands within the project boundary or immediately adjacent thereto that would affect the improvements, resources, or pose a risk of injury to individuals. Licensee will abate those conditions, except those caused by third parties or not related to the occupancy and use authorized by the License. Any non-emergency actions to abate such hazards on NFS lands shall be performed after consultation with the US Forest Service. In emergency situations, Licensee shall notify the US Forest Service of its actions as soon as possible, but not more than 48 hours, after such actions have been taken. Whether or not the US Forest Service is notified or provides consultation; Licensee shall remain solely responsible for all abatement measures performed. Other hazards should be reported to the appropriate agency as soon as possible.

Condition No. 14 – Damage to Land, Property, and Interests of the United States

Licensee has an affirmative duty to protect the land, property, and interests of the United States from damage arising from Licensee's construction, maintenance, or operation of the project works or the works appurtenant or accessory thereto under the license. The extent of the Licensee's liability for fire and other damages to NFS lands shall be determined in accordance with standard L-Form Articles 27 and 29~~22 and 24~~ of this License and the liability standard shall be determined in Federal Court by using applicable federal or state law.

Condition No. 15 – Road Use by Government

The United States shall have unrestricted use of any road controlled by the Licensee within the Project area for all purposes deemed necessary and desirable in connection with the protection, administration, management, and utilization of NFS lands or resources and shall have the right to extend rights and privileges of use of such road to states and local subdivisions thereof, provided that the United States shall control such use as to not unreasonably interfere with the safety or security uses, or cause the Licensee to bear a share of the costs of maintenance greater than the Licensee's use of the road.

Condition No. 16 – Access

The US Forest Service reserves the right to use or permit others to use any part of the licensed area on NFS lands for any purpose, provided the United States shall control such use as to not unreasonably interfere with safety or security uses, or cause the Licensee to bear a share of the costs of maintenance greater than the Licensee's use of the area, and provided such use does not interfere with the rights and privileges authorized by this License or the FPA.

Condition No. 17 – Surveys, Land Corners

Licensee shall avoid disturbance to all public land survey monuments, private property corners, 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 Licensee, in connection with the use and/or occupancy authorized by this license, depending on the type of monument destroyed, Licensee 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 US Forest Service. Further, Licensee shall ensure that any such official survey records affected are amended as provided by law.

Condition No. 18 – Protection of US Forest Service Special Status Species

Prior to taking actions to construct new project features, maintenance of or removal of existing project features on NFS lands that may affect US Forest Service special status species or their habitat (as defined in Forest Service Manual 2600), the Licensee shall notify the US Forest Service describing those activities to determine which special status species may be impacted, whether there is a need to conduct surveys prior to implementation and whether there is a need for the Licensee to complete and submit a biological evaluation (BE) for US Forest Service approval. The BE shall evaluate the potential impact of the action on the species or its habitat. In coordination with the Commission, the US Forest Service may require mitigation measures for the protection of the affected species.

The biological evaluation shall:

- Include procedures to minimize adverse effects to special status species.
- Ensure project-related activities shall meet restrictions included in site management plans for special status species.
- Develop implementation and effectiveness monitoring of measures taken or employed to reduce effects to special status species.

Condition No. 19 – Protection of Threatened, Endangered, and Proposed for Listing Species

Prior to taking actions to construct new project features, maintenance of existing project features or removal of project features such as but not limited to, buildings, on NFS lands that may affect federally-listed Threatened, Endangered, or Proposed for Listing species or their habitat, the Licensee shall notify the US Forest Service describing those activities to determine in consultation with the U.S. Fish and Wildlife Service, which species may be impacted, whether there is a need to conduct surveys prior to project implementation and whether there is a need for the Licensee to complete and submit a biological assessment.

Condition No. 20 – Hazardous Substances Plan

Prior to undertaking activities on NFS lands, Licensee shall file with the Commission a plan approved by the US Forest Service for oil and hazardous substances storage and spill prevention and cleanup. The plan shall show evidence of consultation with the Pennsylvania Department of Environmental Protection (PADEP). In addition, during planning and prior to any new construction or maintenance not addressed in an existing plan, Licensee shall notify the US Forest Service, and in consultation with the PADEP, the US Forest Service shall make a determination whether a plan approved by the US Forest Service for oil and hazardous substances storage and spill prevention and cleanup is needed. The Licensee shall file any such plan with the Commission.

Condition No. 21 – Ground Disturbing Activities or Non-Routine Maintenance

If Licensee proposes ground-disturbing activities on or directly affecting NFS lands that were not specifically addressed in the Commission's NEPA processes, the Licensee, in consultation with the US Forest Service, shall determine the scope of work and potential for Project-related effects, and whether additional information is required to proceed with the planned activity.

At least 60 days prior to any non-routine maintenance, the Licensee shall file with the Commission a site-specific Plan that is approved by the US Forest Service. This plan will address public safety and ensure adequate protection of the environmental, scenic, and cultural values of the Project area. This plan must identify requirements for safety, operation, and maintenance measures to meet US Forest Service objectives and standards. Upon approval, the Licensee shall implement the Plan.

In the event of the need for emergency repairs and use of areas other than licensed access roads arises, the Licensee shall notify the US Forest Service of its actions as soon as possible, but not more than 48 hours, after such actions have been taken. The Licensee shall develop a restoration plan in consultation with the US Forest Service to address any emergency repairs, and shall implement the plan according to a schedule agreed to with the US Forest Service. Whether or not the US Forest Service is notified or provides consultation, the Licensee shall remain solely responsible for all abatement measures performed.

Condition No. 22 – Pesticide Use on National Forest System Land

Pesticides may not be used to control undesirable woody and herbaceous vegetation, aquatic plants, insects, and rodents on National Forest System lands without the prior written approval of the US Forest Service. The Licensee shall submit a request for approval of planned uses of pesticides in advance of proposed. The request must cover annual planned use and be updated as required by the US Forest Service. The Licensee shall provide information essential for review and report pesticide use in the form specified by the US Forest Service. Exceptions to this schedule 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 must be made.

The Licensee shall use on National Forest System lands only those materials registered by the U. S. Environmental Protection Agency for the specific purpose planned and be assessed in the ANF Land and Resource Management plan or in the 1997 Vegetation management on Electric Utility Rights-of-Way Final Environmental Impact Statement. The Licensee must strictly follow label instructions in the preparation and application of

pesticides and disposal of excess materials and containers. Pesticide applications must be coordinated with US Forest Service staff prior to and during application. The licensee must also report all pesticide and adjuvant use to the US Forest Service Pesticide Use Coordinator in the form specified within one month of treatment.

Condition No. 23 – Vegetation Management Plan

The Licensee shall file within 12 months of license [effective date] with the Commission a Vegetation Management Plan developed and approved in consultation with the US Forest Service and other affected parties. This plan would incorporate scenery and invasive species management objectives and activities. The Commission reserves the authority to require changes to the plan at any time during the term of the license.

Condition No. 24 – Transportation System Management Plan

Beginning on the effective date of this license, the Licensee shall file with the Commission a Transportation System Management Plan developed in consultation with and approved by the US Forest Service for management of all National Forest System and unclassified roads required by the Licensee to access the Project area. The plan shall require road maintenance and cost sharing commensurate with Licensee's use. The plan shall specify road maintenance and management standards that provide for traffic safety, minimize erosion, protect natural resources, and that are acceptable to the US Forest Service. The Commission reserves the authority to require changes to the plan at any time during the term of the license.

The Licensee shall confine all Project vehicles, including but not limited to, administrative and transportation vehicles, and construction and inspection equipment, to roads or specifically designed access routes. The US Forest Service reserves the right to close any and all such routes where damage is occurring to the soil or vegetation, or, if requested by Licensee, to require reconstruction/construction by the Licensee to the extent needed to accommodate the Licensee's use. The US Forest Service agrees to provide notice to the Licensee and FERC prior to road closures, except in an emergency, in which case notice will be provided as soon as practicable.

The Transportation System Management Plan shall include:

1. Identification of all Forest Service roads and unclassified roads on National Forest System lands needed for project access, including road numbers.
2. A map of all Forest Service roads and unclassified roads on National Forest System land used for Project Access.

3. A description of each Forest Service road segment and unclassified roads on National Forest System land needed for project access including:
 - a. Termini
 - b. Length
 - c. Purpose and use
 - d. Party responsible for maintenance
 - e. Level of maintenance
 - f. Structures accessed
 - g. Location and status of gates and barricades, if any
 - h. Ownership of road segment and underlying property
 - i. Instrument of authorization for road use
 - j. Existing road conditions (condition assessment)

4. Provisions for the Licensee to consult with the Forest Service in advance of performing any road construction, realignment, or closure involving Forest Service roads or lands. The Licensee shall obtain appropriate authorization (e.g. special use permit, road use permit, maintenance agreement) for all project access roads outside the project boundary including unclassified roads and Forest Service System roads needed for project access. The authorization shall require road maintenance and cost-sharing in reconstruction commensurate with the Licensee's use and project-induced use. The authorization shall specify road maintenance and management standards that provide for traffic safety, minimize erosion, protect natural resources, and that are acceptable to the US Forest Service.

Condition No. 25 – Historic Properties Management Plan

The Licensee shall implement the Programmatic Agreement to be executed between the Commission and the Pennsylvania State Historic Preservation Officer (“SHPO”) pertaining to the licensing of the Kinzua Pumped-Storage Project. The Programmatic Agreement will include but not be limited to the Historic Properties Management Plan (“HPMP”) for the Project. Licensee shall consult with the SHPO, applicable Native American tribes, US Forest Service, and other applicable agencies during the finalization of the HPMP. Licensee shall consult with the US Forest Service on any matters that may affect cultural resources on Allegheny NFS lands. In the event that the Programmatic Agreement is terminated, the Licensee shall continue to implement the provisions of the HPMP. The Commission reserves the right to require changes to the HPMP at any time during the term of the license. If the Programmatic Agreement is terminated, the Licensee shall obtain approvals from or notify the Commission, the SHPO, and US Forest Service where the HPMP requires the Licensee to do so.

Condition No. 26 – Aquatic Habitat Improvement Plan

In order to mitigate for project induced effects to aquatic biota and their habitat, the Licensee shall prepare an Aquatic Habitat Improvement Plan within 12 months of the date of license issuance and implement Habitat Improvement Projects (HIPs). The purpose of the Aquatic Habitat Improvement Plan is to improve aquatic habitat to restore aquatic species diversity and abundance, and compensate for the loss of sport fish and resulting angling opportunity due to entrainment losses. These projects will also help mitigate the ongoing negative effect to water quality in the Allegheny River below Kinzua Dam. Habitat improvement efforts will take place on the shoreline of the Allegheny Reservoir, in the Allegheny Reservoir, and the Allegheny River. This plan must identify requirements for construction and mitigation measures to meet Forest Service fish and wildlife habitat objectives and standards. The plan also must include dates for accomplishing these objectives and standards and must identify needs for and timing of any additional studies necessary. The plan shall be subject to Forest Service approval. Upon approval, the Licensee shall implement the Plan.

The Plan shall be developed in consultation with the US Army Corps of Engineers, Forest Service, US Fish and Wildlife Service, Pennsylvania Fish and Boat Commission, Seneca Nation of Indians, and NY Department of Environmental Conservation. The Plan shall include provisions to review improvement efforts with the agencies noted above, document initial and ongoing improvement efforts, and update the Plan every 5 years.

Condition No. 27 – Water Quality Management and Monitoring Plan

The licensee shall file within 12 months of license issuance a water quality management and monitoring plan. The plan will describe operational and/or structural measures to be taken to minimize project-induced variance from natural daily water temperature oscillations and to ensure compliance with State of Pennsylvania and EPA water quality standards. The plan will also describe monitoring and adaptive management strategies to meet the water quality objectives.

The Plan shall be developed in consultation with the Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, US Army Corps of Engineers, and US Forest Service.