

151 FERC ¶ 62,161
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Lock +™ Hydro Friends Fund XLII

Project No. 13739-002

ORDER ISSUING ORIGINAL LICENSE

(Issued June 4, 2015)

INTRODUCTION

1. On September 17, 2012, supplemented on November 4, 2013, and November 7, 2013, Lock +™ Hydro Friends Fund XLII (Hydro Friends) filed an application for an original license, pursuant to Part I of the Federal Power Act (FPA),¹ to construct, operate, and maintain the proposed Braddock Locks and Dam Hydroelectric Project No. 13739 (Braddock Project). The 5.25-megawatt (MW) project will be located on the Monongahela River, in the Borough of West Mifflin and the City of Duquesne, Pennsylvania, at the United States Army Corps of Engineers' (Corps) Braddock Locks and Dam. The project will occupy 0.28 acre of federal land under the jurisdiction of the Corps.²
2. As discussed below, this order issues an original major license for the Braddock Project.

BACKGROUND

3. On November 2, 2012, the Commission issued a public notice that was published in the *Federal Register*, accepting the application for filing and soliciting motions to intervene and protests.³ The notice set January 1, 2013, as the deadline for filing motions to intervene and protests. No motions to intervene or protests were filed.

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

² The project will utilize the power potential of the Corps' existing Braddock Locks and Dam and will occupy lands of the United States. Further, the Monongahela River is a navigable waterway of the United States. See *Noah Corporation*, 48 FERC ¶ 61366 (1989) (stating that the Monongahela River is a navigable waterway). For any of these reasons, section 23(b)(1) of the FPA, 16 U.S.C. § 817(1) (2012), requires that the project be licensed.

³ 77 *Fed. Reg.* 218, 67352-67353 (2012).

4. On February 15, 2013, the Commission issued a public notice that was published in the *Federal Register* indicating the application was ready for environmental analysis and soliciting comments, recommendations, terms and conditions, and prescriptions.⁴ The notice set April 16, 2013, as the deadline for filing comments, recommendations, terms and conditions, and prescriptions. The Corps and the U.S. Department of the Interior (Interior) filed comments and recommendations.

5. On November 4, 2013, Hydro Friends amended the application to increase the number of proposed turbines from five to seven units, and increase the installed capacity of the proposed project from 3.75 MW to 5.25 MW. On November 7, 2013, Hydro Friends filed an amended Exhibit G clarifying the project boundary and transmission line route. On November 15, 2013, Hydro Friends filed a clarification on its transmission line length, right-of-way width, and switchyard footprint. Additional clarification regarding the transmission line was obtained via e-mail on November 18, 2013.⁵

6. A draft Environmental Assessment (EA) was prepared by Commission staff and issued on January 17, 2014, analyzing the impacts of the proposed project and alternatives to it. The Corps filed comments on the draft EA. On June 13, 2014, Commission staff issued a final EA.

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

PROJECT DESCRIPTION

A. Existing Corps Facilities

8. The Corps' Braddock Locks and Dam is one of nine Corps navigation structures that comprise the Monongahela River Navigation System, authorized by Congress to provide year-round navigation on the Monongahela River between Pittsburgh, Pennsylvania, and Fairmont, West Virginia.⁶ The proposed project site was originally named Monongahela Dam 2, and was constructed in 1906. It was demolished and replaced in 2004 and renamed Braddock Locks and Dam.

⁴ 78 *Fed. Reg.* 52, 12304-12305 (2013).

⁵ See e-mail communication between Andy Bernick, FERC and Mark Stover, Hydro Green Energy, filed on November 21, 2013.

⁶ Braddock Locks and Dam is located at river mile 11.2 on the Monongahela River.

9. The 1,007-foot-long Braddock Locks and Dam consists of: (1) a 504-foot-long, gated section (four 110-foot-long gated bays); (2) an 84-foot-long fixed crest weir; (3) a land-side lock 110 feet wide by 720 feet long, and a river-side lock 56 feet wide by 360 feet long; (4) a 55-foot-long right abutment; and (5) a 133-foot-long, 52-foot-wide left weir founded on rock and having a crest elevation of 725.0 feet.⁷

B. Existing Corps Operation

10. The Corps currently operates Braddock Locks and Dam in a run-of-river mode to maintain water levels within Braddock pool at a pool elevation of 721.8 feet.⁸ Four gated bays in the dam control water levels and releases. One of the gated bays (Gate Number 1) serves as a water quality gate, by which the Corps releases flows to manage dissolved oxygen (DO) levels downstream of Braddock Locks and Dam.

C. Proposed Project Facilities

11. The Braddock Project will consist of the following new facilities: (1) a 105-foot-wide, 22-foot-deep, and 40-foot-high steel powerhouse anchored to the Corps' left closure weir; (2) a trash rack at the powerhouse intakes, to be constructed approximately 17 feet below the river surface, with 6-inch spacing;⁹ (3) seven low-head, horizontal modular bulb turbine/generator units, each with an installed capacity of 0.75 MW, for a total capacity of 5.25 MW;¹⁰ (4) an approach channel to the powerhouse; (5) a tailrace channel returning flow to the Monongahela River; (6) a 0.45-mile-long, 23-kilovolt (kV) transmission line

⁷ All elevations in this order are referenced to the National Geodetic Vertical Datum of 1929.

⁸ The Braddock Locks and Dam was constructed to maintain a pool elevation of 723.7 feet upon the removal of Locks and Dam 3 as part of the Corps' Lower Monongahela Locks and Dams 2, 3, & 4 Project (Lower Mon Project). The Lower Mon Project was authorized by Congress in 1992 to address conditions at the Corps' three navigation facilities on the Lower Monongahela River. The remaining work, scheduled by the Corps for completion by 2030, includes: (1) removal of Locks and Dam 3; (2) replacement of Locks and Dam 4; (3) pool level changes at the Lower Mon Projects; (4) substantial dredging; and (5) relocation of multiple shore-side facilities.

⁹ The trash rack would be approximately 95 feet wide and 15 feet deep. Dimensions are estimated by staff, based on Hydro Friends' Exhibit F, filed on November 4, 2013.

¹⁰ The seven turbine/generator units will be deployed on a large frame on the upstream face of the left weir. The frame will contain all generating and control systems, and can be removed during maintenance or high water events.

constructed between the powerhouse and an existing Union Railroad substation; (7) an approximately 460-square-foot switchyard; (8) a waterway barrier installed upstream of the project to prevent debris and boats from entering the project; and (9) appurtenant facilities.

D. Project Boundary

12. The Corps' dam and reservoir (Braddock Pool) are federal facilities and therefore cannot be licensed by the Commission.

13. The proposed project boundary encloses the new headrace channel, the powerhouse, the new tailrace channel, transmission line, and switching station. Of the 1.38 acres within the project boundary, 0.28 acre is federal land administered by the Corps and 1.1 acres are land owned by Union Railroad Company that will be used to connect the project transmission line to the existing Union Railroad Company substation.¹¹

E. Proposed Project Operation

14. Hydro Friends proposes to operate the project in a run-of-release mode using flows made available by the Corps. The proposed project will not have the capability to store water, and its operation will not change reservoir elevations or the amount or timing of flows released from the dam. Although Exhibit A of the license application demonstrates that the powerhouse will be designed to have a maximum hydraulic capacity of 10,150 cubic feet per second (cfs), Hydro Friends proposes to operate the project at a maximum hydraulic capacity of 7,700 cfs. The minimum hydraulic capacity of the powerhouse will be 440 cfs.

F. Proposed Environmental Measures

15. To enhance recreational activities in the vicinity of the project, Hydro Friends proposes to install and maintain a rest area along the Great Allegheny Passage's Steel Valley Trail,¹² adjacent to the Braddock Project site, which includes benches (possibly with cover), bike racks, and interpretive signs.¹³

¹¹ Acreage of Union Railroad Company land is estimated by staff, based on the length (0.45 mile) and width (20 feet) of the proposed transmission line corridor and associated rights-of-way described in a letter filed by Hydro Friends on November 15, 2013, and the dimensions of the proposed switchyard (464 square feet) described in the license application.

¹² The Great Allegheny Passage is a rail-trail that offers 135 miles of hiking and biking between Cumberland, Maryland, and Munhall, Pennsylvania. It is the central trail of a network of long-distance hiker-biker trails covering hundreds of miles through the Allegheny region of the Appalachian Mountains, ultimately connecting Washington, D.C. to
(continued ...)

SUMMARY OF LICENSE REQUIREMENTS

16. This license, which authorizes 5.25 MW of renewable energy, requires Hydro Friends' proposed mode of operation and the recreation measure noted above. The license also requires the following additional staff-recommended measures to protect and enhance geological and soil resources, water quality, fish, and recreation resources.
17. To minimize soil erosion and sedimentation into the Monongahela River during project construction, the license requires Hydro Friends to develop a soil erosion and sediment control plan.
18. To monitor and document compliance with the required mode of operation, the license requires an operation and compliance monitoring plan.
19. To protect water quality, the license requires Hydro Friends to develop a water quality monitoring plan upstream and downstream of the Braddock Locks and Dam to include: (1) monitoring summer (i.e., June through September) water temperature and DO concentration prior to construction; (2) continuous, real-time monitoring of water temperature, DO concentration, and turbidity during project construction; and (3) continuous, real-time monitoring of summer water temperature and DO concentration for 5 years following project construction, and for an additional 5 years if the normal elevation of the Braddock pool is increased during the term of the license as a result of the Corps' Lower Mon Project.
20. If a previously unidentified archaeological resource is discovered during project construction, operation, or maintenance, or other project-related activities, the license

Pittsburgh, Pennsylvania, and beyond. The Steel Valley Trail is a 19-mile-long section of the Great Allegheny Passage. The Regional Trail Corporation owns portions of the Great Allegheny Passage, including the Steel Valley Trail segment.

¹³ At the scoping meeting, Hydro Friends indicated that the Corps already installed a new rest bench and interpretive sign along the Steel Valley Trail adjacent to the project area. As such, Hydro Friends was considering other recreational improvement options along the trail, including the installation of a bicycle tune-up station near the Historic Pump House located at 880 East Waterfront Drive, Munhall, Pennsylvania. This Pump House location, which is approximately 2 miles from the project, serves as the Great Allegheny Passage trailhead and includes parking, restrooms, a beverage vending machine, bike racks, benches, and a picnic table. Hydro Friends never filed an update to its recreation proposal, so in the final EA, staff considered the proposal described in the final license application to be the current proposal.

requires Hydro Friends to stop all land-clearing and land-disturbing activities and consult with the Pennsylvania State Historic Preservation Officer (Pennsylvania SHPO).

WATER QUALITY CERTIFICATION

21. Under section 401(a)(1) of the Clean Water Act (CWA),¹⁴ the Commission may not issue a license authorizing the construction or operation of a hydroelectric project unless the state water quality certifying agency either has issued water quality certification for the project or has waived certification by failing to act on a request for certification within a reasonable period of time, not to exceed one year. Section 401(d) of the CWA provides that the certification shall become a condition of any federal license that authorizes construction or operation of the project.¹⁵

22. On April 26, 2014, Hydro Friends sent an application for water quality certification for the Braddock Project to the Pennsylvania Department of Environmental Protection (Pennsylvania DEP), which the Pennsylvania DEP received on April 30, 2014. On February 10, 2015, Pennsylvania DEP issued the water quality certification for the Braddock Project.¹⁶ The certification contains 12 conditions, 6 of which are general or administrative and are not discussed further.¹⁷

23. Condition 1 requires Hydro Friends to notify, prior to construction, water users that may be affected by increased turbidity or other water quality changes.

24. Condition 4 requires Hydro Friends to “comply with the Operational Compliance Plan that has been provided in the application to insure that operation of this facility does not interfere with the operation and maintenance of the existing Braddock Locks and Dam which are owned, operated and maintained by the U.S. Army Corps of Engineers.” Condition 7 requires, among other things, that the licensee monitor water quality and “identify any deviations from the water quality requirements that are outlined in the Operational Compliance Plan.” Condition 8 requires Hydro Friends to operate its project “in accordance with the submitted Operational Compliance Plan (dated December 2014), to insure that water quality is maintained within the Monongahela River.”

¹⁴ 33 U.S.C. § 1341(a)(1) (2012).

¹⁵ 33 U.S.C. § 1341(d) (2012).

¹⁶ Hydro Friends filed the certification with the Commission on February 17, 2015.

¹⁷ The general or administrative conditions are numbered conditions 2, 3, 5, 10, 11, and 12.

25. Hydro Friends did not provide an Operational Compliance Monitoring Plan with its license application. Apparently, on December 14, 2014, Hydro Friends sent an email to Pennsylvania DEP with a table describing specific flows to be passed through the turbines and the Corps' gates at the Braddock Locks and Dam facility during low- and high-flow periods that Hydro Friends stated it intended to formalize with the Corps in its MOA for the project.¹⁸ However, the email and accompanying table do not reflect Hydro Friends' current proposed seven-turbine operation,¹⁹ but rather describe Hydro Friends' proposed operational scenario for its superseded five-turbine configuration.²⁰

26. This license requires: (1) an operating plan and MOA to be designed with the agreement of the Corps (Article 313); (2) run-of-release operation (Article 401); and (3) plans to monitor water quality (Article 403) and compliance with the operational requirements of the license (Article 402), both to be developed in consultation with specified entities including the Corps and Pennsylvania DEP. These requirements will allow the project to operate consistent with the intent of certification conditions 4, 7, and 8 to protect the Corps' operation of Braddock Locks and Dam and to protect water quality in the Monongahela River. Therefore, this order revises certification conditions 4, 7, and 8 to require the licensee to operate its project in compliance with the operating plan and MOA required by Article 313 of the license.

27. Condition 6 requires Hydro Friends to monitor water quality upstream and downstream of the Braddock Locks and Dam: (1) prior to and during project construction; (2) for 5 years following project construction; and (3) for an additional 5 years if the normal elevation of the Braddock pool increases during the term of the license as a result of completion of the Corps Lower Mon Project.²¹

¹⁸ See telephone and e-mail communication between John Mudre, FERC and Michael Engelhardt, Pennsylvania DEP, filed on March 27, 2015. This memo includes the Operational Compliance Monitoring Plan that Hydro Friends submitted with its water quality certification application.

¹⁹ See final EA at page 16.

²⁰ See Exhibit E, page 15 (Table E.3.1.1-4) in Hydro Friends' initial license application filed September 17, 2012.

²¹ Condition 6 requires compliance with "the water quality monitoring plan," implying that Hydro Friends submitted one with its license application. However, it actually refers to the water quality monitoring measures proposed by Commission staff in the EA. See telephone and e-mail communication between John Mudre, FERC and Michael Engelhardt, Pennsylvania DEP, filed on March 27, 2015.

28. Condition 7 requires Hydro Friends to submit, to the Pennsylvania DEP, monthly water quality reports and an annual summary report, containing water quality measurements recorded in a manner consistent with the Water Quality Monitoring Plan. It further requires that the reports document any deviations from specific water quality criteria listed in Pennsylvania DEP's Chapter 93 rules and regulations, and to document corrective actions that were taken, or will be taken.

29. Condition 9 requires Hydro Friends to consult with the Pennsylvania DEP to examine ways to achieve compliance with the Pennsylvania DEP's specific water quality criteria if the water quality monitoring shows that the criteria are not being met and Hydro Friends' corrective actions do not adequately address the issue.

COASTAL ZONE MANAGEMENT ACT

30. Under section 307(c)(3)(A) of the Coastal Zone Management Act (CZMA),²² 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 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 six months of receipt of the applicant's certification.

31. The Pennsylvania DEP stated that because the project is located outside of Pennsylvania's Coastal Zones, it will not impact upon them and thus the project is consistent with Pennsylvania's Coastal Resources Management Program.²³ Therefore, no consistency certification is required.

SECTION 18 FISHWAY PRESCRIPTIONS

32. Section 18 of the FPA²⁴ provides that the Commission 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. Neither Interior nor Commerce filed fishway prescriptions for the project.

THREATENED AND ENDANGERED SPECIES

33. Section 7(a)(2) of the Endangered Species Act of 1973²⁵ requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally

²² 16 U.S.C. § 1456(c)(3)(A) (2012).

²³ See Pennsylvania DEP's filing of December 16, 2011.

²⁴ 16 U.S.C. § 811 (2012).

²⁵ 16 U.S.C. § 1536(a) (2012).

listed threatened and endangered species, or result in the destruction or adverse modification of their designated critical habitat.

34. The U.S. Fish and Wildlife Service's (FWS') September 8, 2012 e-mail correspondence with Hydro Friends stated that the FWS had no significant concerns regarding the Braddock Project, given its location and small footprint.²⁶

35. As of April 15, 2015, the FWS' Information, Planning, and Conservation System (IPaC) website (<http://ecos.fws.gov/ipac/>) indicates that the threatened rabbitsfoot mussel (*Quadrula cylindrica cylindrica*), the endangered Indiana bat (*Myotis sodalis*), and the threatened northern long-eared bat (*Myotis septentrionalis*) occur within Allegheny County, Pennsylvania. The FWS listed the rabbitsfoot as threatened under the ESA on September 17, 2013,²⁷ and the northern long-eared bat as threatened under the ESA on April 2, 2015, becoming effective on May 4, 2015.²⁸

36. In the final EA, staff noted that five mussel species listed as endangered under the ESA may occur within Allegheny County, Pennsylvania: the fanshell (*Cyprogenia stegaria*), the snuffbox (*Epioblasma triquetra*), pink mucket (*Lampsilis abrupta*), orange-foot pimpleback (*Plethobasus cooperianus*), and sheepsnose (*Plethobasus cyphyus*).²⁹ Staff concluded that the Braddock Project would have no effect on these five federally listed mussel species because no listed mussel species were identified through surveys conducted in the vicinity of the proposed project, and consultation with FWS indicated a lack of potential effects on listed mussel species.³⁰ Given these facts, I conclude that the proposed project would also have no effect on the threatened rabbitsfoot.

37. In the final EA, staff noted that a small area (about 460 square feet) of previously disturbed land would be removed during construction of the proposed switchyard and a single transmission line pole, that no clearing would be required to develop the storage or lay-down areas, and that the proposed transmission line would be placed under an existing elevated railway or on existing poles located below or alongside the elevated tracks.³¹

²⁶ Hydro Friends included a copy of this correspondence in the license application.

²⁷ 78 *Fed. Reg.* 57,076-097 (September 17, 2013).

²⁸ 80 *Fed. Reg.* 17,974-18,033 (April 2, 2015).

²⁹ See final EA at 43.

³⁰ See final EA at 44.

³¹ See final EA at 42 to 43.

Given these facts, there would be no habitat suitable for listed bats on these parcels of land that would be disturbed by the proposed project, and I conclude that the proposed project would have no effect on the endangered Indiana bat or the threatened northern long-eared bat.

38. Therefore, no further action under the Endangered Species Act is required for any of the listed species described above.

NATIONAL HISTORIC PRESERVATION ACT

39. Under section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations,³² federal agencies must take into account the effect of any proposed undertaking on properties listed or eligible for listing in the National Register 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.

40. In a letter dated April 17, 2012, the Pennsylvania SHPO determined that although a high probability exists that archeological resources are located in the project area, the proposed project would have no effect on any archeological sites.³³ In the final EA, staff concluded that the project would have no adverse effect on historic properties because no historic properties have been identified; however, while there are no known surface or sub-surface archaeological resources at the project site, such resources could be discovered as a result of project construction, operation, or maintenance.³⁴ Therefore, if archaeological resources are discovered during the term of the license, Article 405 of this license requires Hydro Friends to stop all land-clearing and land-disturbing activities (if any) and consult with the Pennsylvania SHPO. If a discovered resource is eligible for the National Register of Historic Places, Article 405 of this license also requires Hydro Friends to develop a Historic Properties Management Plan for Commission approval.

³² 54 U.S.C. § 306108. Pub. L.113-287, 128 Stat. 3188 (2014); 36 C.F.R. Part 800 (2014).

³³ Hydro Friends included a copy of the correspondence in the license application.

³⁴ See final EA at 60.

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

41. Section 10(j)(1) of the FPA³⁵ 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,³⁶ to “adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)” affected by the project.

42. The FWS, the Pennsylvania Fish and Boat Commission, and the Pennsylvania Game Commission did not file section 10(j) recommendations for the Braddock Project.

SECTION 10(a)(1) OF THE FPA

43. Section 10(a)(1) of the FPA³⁷ requires that any project for which the Commission issues a license be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce; for the improvement and utilization of waterpower development; for the adequate protection, mitigation, and enhancement of fish and wildlife; and for other beneficial public uses, including irrigation, flood control, water supply, recreation, and other purposes.

A. Project Operation and Compliance Monitoring Plan

44. Hydro Friends proposes to operate the project in a run-of-release mode with flow releases controlled by the Corps. In the final EA,³⁸ staff concluded that run-of-release operation will protect aquatic resources and near-shore habitats. Article 401 requires the licensee to operate in a run-of-release mode.

45. In the final EA, staff recommended that Hydro Friends develop an operation and compliance monitoring plan in consultation with the Corps.³⁹ Article 402 requires Hydro Friends to develop an operation compliance monitoring plan to describe how it will comply with the operational requirements of the license.

³⁵ 16 U.S.C. § 803(j)(1) (2012).

³⁶ 16 U.S.C. §§ 661 *et seq.* (2012).

³⁷ 16 U.S.C. § 803(a)(1) (2012).

³⁸ *See* final EA at 34 to 37.

³⁹ *See* final EA at 76 to 77.

B. Water Quality Monitoring

46. In its comments on the draft EA, the Corps recommended continuous water quality monitoring for the length of the license to ensure that construction and operation of the project does not adversely affect water quality of the Monongahela River. The Corps expressed its concern that water quality effects may be greater following completion of the Lower Mon Project, when the higher elevation of the Braddock Pool could result in lower dissolved oxygen concentrations in water passed through the project's turbines. In its comments, the Corps does not agree that continuous, real-time monitoring for 5 years following construction, as recommended by staff in the draft EA,⁴⁰ is adequate to address long-term extremes in flow and water quality.

47. In the final EA, Commission staff recommended that Hydro Friends develop a water quality monitoring plan to include: (1) monitoring summer water quality parameters, including DO, prior to construction; (2) continuous, real-time monitoring of water quality parameters during project construction; and (3) continuous, real-time monitoring of summer water quality parameters for 5 years following project construction and for an additional 5 years if the Lower Mon Project is completed during the license term. Staff found that monitoring for 5 years would result in a high likelihood of capturing an extremely hot or dry year that could lead to dissolved oxygen stratification above Braddock dam, given the frequency of summer conditions that may cause stratification. Staff noted that the possibility of encountering an even hotter or dryer year outside of the recommended 5-year monitoring period did not alone justify the need for continuous monitoring for the length of the license. Nevertheless, we recognize that the Corps is ultimately responsible for any flows made available to the Braddock Project and how the project will be operated as specified in the MOA to be developed with Hydro Friends, and could require more extensive monitoring as part of any operating agreement.

48. Certification condition 6 requires Hydro Friends to comply with the water quality monitoring recommended by Commission staff in its final EA. Certification condition 7 requires Hydro Friends to, among other things, submit water quality reports to Pennsylvania DEP.

49. In order to ensure that project construction and operation does not adversely affect water quality and that state water quality standards are maintained, Article 403 requires Hydro Friends to develop a water quality monitoring plan and conduct water quality monitoring as recommended in the final EA. In addition, Article 403 also requires that the water quality monitoring plan contain provisions for reporting the results of the monitoring with the Commission and reporting any violations of state water quality standards.

⁴⁰ See draft EA at 74.

C. Recreation

50. The Braddock Project is located in an area that is industrial in nature and offers few recreational opportunities; however, the Great Allegheny Passage's Steel Valley Trail runs along the Monongahela River and allows visitors along the trail a view of the project facilities, which will be located approximately 300 feet north of the Steel Valley Trail. While the project would not adversely affect recreation resources over the long-term, short-term impacts from construction noise and equipment could adversely affect recreation opportunities near the Steel Valley Trail and downstream of the dam. In the final EA, staff recommended Hydro Friends' proposal for recreational improvements, including a rest area with benches and an interpretive sign or bike tune-up station along the Steel Valley Trail and adjacent to the project. The addition of this amenity would enhance an existing recreational opportunity located within an area that has limited local recreational resources. Therefore, Article 404 requires the installation of the rest area. In order to ensure Hydro Friends maintains the rest area for the term of the license, Article 203 requires revised Exhibit G drawings that include the rest area within the project boundary.

ADMINISTRATIVE PROVISIONS

A. Annual Charges

51. 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 and use of a government dam. In addition to using a government dam, the Braddock Project will occupy about 0.28 acre of federal land administered by the Corps. However, the Commission does not assess a land use charge for a licensee's use of federal lands adjoining or pertaining to federal dams or other structures.⁴¹ Rather, it assesses the charge for the use of a government dam.⁴²

B. Exhibit F and G Drawings

52. The Commission requires licensees to file sets of approved Exhibit F drawings in electronic file format. Article 202 requires the filing of these drawings.

53. At this time, the Exhibit G drawing filed on November 7, 2013, is not approved. This Exhibit G drawing shows a transmission line right-of-way width of 25 feet; however, Hydro

⁴¹ See 18 C.F.R. § 11.2 (a)(2014).

⁴² See 18 C.F.R. § 11.3 (a)(2014).

Friends' subsequently described the right-of-way width as 20 feet.⁴³ Also, the drawing does not include the switchyard located under the Union Railroad Company's elevated railroad tracks within the project boundary. Article 203 requires the filing of a revised Exhibit G drawing showing the transmission line right-of-way width as 20 feet and including the project switchyard within the project boundary. Article 203 also requires that the revised Exhibit G drawing includes the rest area along the Great Allegheny Passage's Steel Valley Trail within the project boundary.

C. Amortization Reserve

54. The Commission requires that for original licenses for major projects, non-municipal licensees must set up and maintain an amortization reserve account after the first 20 years of operation of the project under license. Article 204 requires the establishment of the account.

D. Project Land Rights Progress Report

55. The project will occupy about 1.38 acres of land. In the Exhibit G filed on November 7, 2013, Hydro Friends identified the land for which it intends to obtain all necessary easements and rights necessary to operate and maintain the project. Standard Article 5 set forth in Form L-6 requires the licensee to 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, within five years. In order to monitor compliance with Standard Article 5, Article 205 requires the licensee to file no later than four years after license issuance, a report detailing its progress on acquiring title in fee or the necessary rights to all lands within the project boundary. The report must include specific documentation on the status of the rights that have been acquired as of the filing date of the progress report, and a plan and schedule to acquire all remaining land prior to the five-year deadline.

E. Project Financing

56. To ensure that there are sufficient funds available for project construction, operation, and maintenance, Article 206 requires the licensee to file for Commission approval documentation of project financing for construction, operation, and maintenance of the project at least 90 days before starting any construction associated with the project.

⁴³ See Hydro Friends' additional information letter filed November 15, 2013, providing a revised description of the proposed transmission line.

F. Headwater Benefits

57. Some projects directly benefit from headwater improvements that were constructed by other licensees, the United States, or permittees. Article 207 requires the licensee to reimburse such entities for these benefits if they were not previously assessed and reimbursed.

G. Use and Occupancy of Project Lands and Waters

58. Requiring a licensee to obtain prior Commission approval for every use or occupancy of project land would be unduly burdensome. Therefore, Article 406 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.

H. Start of Construction

59. Article 301 requires the licensee to commence construction of the project works within two years from the issuance date of the license and complete construction of the project within five years from the issuance date of the license.

60. Section 13 of the FPA requires the licensee to commence construction within two years from the issuance date of the license, which deadline may be extended once but no longer than for two additional years.⁴⁴ Furthermore, the licensee must obtain all of the necessary approvals from the Corps and the Commission prior to the start of project construction.⁴⁵ Therefore, the burden is on the licensee to obtain these approvals and commence construction within the time frames required under section 13 and as specified in this license. The licensee is expected to work diligently with the Corps and other relevant entities to secure the necessary approvals to allow it to timely commence project construction and pursue it to completion.

⁴⁴ 16 U.S.C. § 806 (2012). Under section 13, failure to timely commence project construction will result in termination of the license.

⁴⁵ See, e.g., Article 206, documentation of project financing; Article 302, approval of contract plans and specifications; Article 308, Corps' approval of facility design and construction; Article 310, Corps' written approval of construction plans; and Article 313, Corps' approval of the project operation plan.

I. Review of Final Plans and Specifications

61. Article 302 requires the licensee to provide the Commission's Division of Dam Safety and Inspection (D2SI)-New York Regional Engineer with final contract drawings and specifications and a supporting design document, a quality control and inspection program, a temporary construction emergency action plan, and a soil erosion and sediment control plan.
62. Article 303 requires the licensee to provide the Commission's D2SI-New York Regional Engineer with cofferdam construction drawings.
63. Where new construction or modifications to the project are involved, the Commission requires licensees to file revised drawings of project features as-built. Article 304 provides for the filing of these drawings.
64. Article 305 requires the licensee to file the initial independent consultant inspection report no later than five years from the date of first commercial operation or the date on which the powerhouse is subject to normal water levels, whichever comes first.
65. To demonstrate awareness of the roles and responsibilities of project licensees and their staff for the safety of the project, Article 306 requires the licensee to submit a Project Owner's Dam Safety Program to the Commission's D2SI- New York Regional Engineer.
66. Article 307 requires the licensee to provide the Commission's D2SI- New York Regional Engineer with a public safety plan.
67. Article 308 requires the licensee to coordinate with the Commission's D2SI- New York Regional Engineer on any modifications that may affect project works or operation resulting from license environmental requirements.

J. Conditions for Projects at Corps Dams

68. Pursuant to a 2011 Memorandum of Understanding between the Commission and the Department of the Army, seven special articles are included in licenses for hydroelectric projects to be developed at Corps facilities. The articles are incorporated in this license as Articles 309 through 315.

STATE AND FEDERAL COMPREHENSIVE PLANS

69. Section 10(a)(2)(A) of the FPA⁴⁶ requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans for improving,

⁴⁶ 16 U.S.C. § 803(a)(2)(A) (2012).

developing, or conserving a waterway or waterways affected by the project.⁴⁷ Under section 10(a)(2)(A), federal and state agencies filed 33 comprehensive plans that address various resources in Pennsylvania. Of these, the staff identified and reviewed nine comprehensive plans that are relevant to the Braddock Project.⁴⁸ No inconsistencies were found.

SAFE MANAGEMENT, OPERATION, AND MAINTENANCE OF THE PROJECT

70. Staff reviewed Hydro Friends' preliminary plans to build the project as described in the license application. The project will be safe when constructed, operated, and maintained in accordance with the Commission's standards and provisions of this license.

NEED FOR POWER

71. To assess the need for power, staff looked at the needs in the operating region in which the project is located. The North American Electric Reliability Corporation (NERC) annually forecasts electrical supply and demand nationally and regionally for a 10-year period.⁴⁹ The NERC prepares seasonal and long-term assessments to examine the current and future reliability, adequacy, and security of the North American bulk power system. For these assessments, the bulk power system is divided into 20 assessment areas, both within and across eight regional entity boundaries. Hydro Friends proposes to sell project power to support demand in the Pennsylvania-New Jersey-Maryland (PJM) assessment area in the NERC's 2014 Reliability Assessment. According to NERC's 2014 long-term reliability assessment, the total internal demand for the PJM region is projected to grow at a compound annual growth rate of 0.90 percent for summer and 0.75 percent for winter during the period from 2015 through 2024. 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.

⁴⁷ Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19 (2014).

⁴⁸ The list of applicable plans can be found in section 5.5 of the EA for the project.

⁴⁹ The NERC is an international regulatory authority established to evaluate and improve reliability of the bulk power system in North America. NERC develops and enforces reliability standards; annually assesses seasonal and long-term (10-year) reliability; monitors the bulk power system through system awareness; and educates, trains, and certifies industry personnel. NERC is the Electric Reliability Organization for North America, subject to oversight by the U.S. Federal Energy Regulatory Commission (FERC) and governmental authorities in Canada.

PROJECT ECONOMICS

72. In determining whether to issue a license for a hydroelectric project, the Commission considers a number of public interest factors, including the economic benefits of project power. Under the Commission's approach to evaluating the economics of hydropower projects, as articulated in *Mead Corp.*,⁵⁰ 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.

73. In applying this analysis to the Braddock Project, we have considered two options: Hydro Friends' proposal, and the project as licensed herein. As proposed by Hydro Friends, the levelized annual cost of operating the Braddock Project is \$1,869,960 or \$57.96/megawatt hour (MWh). Based on the project having an estimated average generation of 32,263 MWh and alternative power cost of \$36.91/MWh,⁵¹ staff gets a total value of the project's power of \$1,190,827 in 2015 dollars. Therefore, in the first year of operation, the project would cost \$679,133, or \$21.05/MWh, more than the likely alternative cost of power.

74. As licensed herein with the mandatory conditions and staff measures, the levelized annual cost of operating the project would be about \$1,875,130, or \$58.12/MWh. Based on the same amount of estimated average generation of 32,263 MWh as licensed, the project would produce power valued at \$1,190,827 when multiplied by the \$36.91/MWh value of the project's power. Therefore, in the first year of operation, project power would cost \$684,303, or \$21.21/MWh, more than the likely cost of alternative power.

75. 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, such as 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

⁵⁰ 72 FERC ¶ 61,027 (1995).

⁵¹ The energy portion of the power value was based on the Annual Energy Outlook 2015 published by the Energy Information Administration, April 2015. The capacity portion of the power value was based on the annual cost of the hydro-equivalent combined-cycle capacity which staff estimated to be about \$165/kW-year.

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

76. Although our analysis shows that the project as licensed herein would cost more to operate than our estimated cost of alternative power, it is the applicant who must decide whether to accept this license and any financial risk that entails.

77. Although staff does not explicitly account for the effects inflation may have on the future cost of electricity, the fact that hydropower generation is relatively insensitive to inflation compared to fossil-fueled generators is an important economic consideration for power producers and the consumers they serve. This is one reason project economics is only one of the many public interest factors the Commission considers in determining whether or not, and under what conditions, to issue a license.

COMPREHENSIVE DEVELOPMENT

78. Sections 4(e) and 10(a)(1) of the FPA⁵² require the Commission to give equal consideration to the power development purposes and to the purposes of energy conservation; the protection, mitigation of damage to, and enhancement of fish and wildlife; the protection of recreational opportunities; and the preservation of other aspects of environmental quality. Any license issued 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.

79. The final 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 draft and final EAs and the comments thereon, licensing the Braddock 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.

80. Based on our independent review and evaluation of the Braddock Project, recommendations from the resource agencies and other stakeholders, and the no-action alternative, as documented in the final EA, I have selected the proposed Braddock Project, with the staff-recommended measures, and find that it is best adapted to a comprehensive plan for improving or developing the Monongahela River.

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

81. I selected this alternative because: (1) issuance of an original license will serve to provide a beneficial and dependable source of electric energy; (2) the required environmental measures will protect and enhance fish and wildlife resources, water quality, recreational resources, and historic properties; and (3) the 5.25 MW of electric capacity comes from a renewable resource that does not contribute to atmospheric pollution.

LICENSE TERM

82. Section 6 of the FPA,⁵³ provides that original licenses for hydropower projects shall be issued for a period not to exceed 50 years. It is Commission policy to issue a 50-year license for a project located at a federal dam.⁵⁴ Accordingly, this license is issued for a term of 50 years.

The Director orders:

(A) This license is issued to Lock+™ Hydro Friends Fund XLII (licensee), for a period of 50 years, effective the first day of the month in which this order is issued, to construct, operate, and maintain the Braddock 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 those lands, described in the project description and the project boundary discussion of this order.

(2) Project works consisting of: (1) a 105-foot-long, 22-foot-wide, and 40-foot-high structural grade steel powerhouse constructed on a concrete foundation on rock anchored to the U.S. Army Corps of Engineer's left weir for Braddock Dam; (2) a powerhouse with seven horizontal propeller bulb turbine generators each having an installed capacity of 0.75 megawatts (MW), for a total installed capacity of 5.25 MW; (3) a trash rack at the powerhouse intakes, to be constructed approximately 17 feet below the river surface, with 6-inch spacing; (4) a 0.45-mile-long, 23-kilovolt transmission line constructed between the powerhouse and the existing Union Railroad substation; (5) an approximately 460-square-foot switchyard; and (6) appurtenant facilities.

⁵³ 16 U.S.C. § 799 (2012).

⁵⁴ See *City of Danville, Virginia*, 58 FERC ¶ 61,318 at 62,020 (1992).

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

Exhibit A: The following sections of Exhibit A filed on November 4, 2013: Section A.2.3.1 titled Proposed Project Facilities; Section A.2.3.1.2 titled Number, Type, and Hydraulic Capacities of Turbines and Generators, and Installed (Rated) Capacity of Proposed Turbines or Generators; Section A.2.3.1.3 Number, Length, Voltage and Interconnections of Any Primary Transmission Lines Proposed to be Included as Part of the Project (clarified on November 15, 2013 and November 21, 2013); and Table A.2.3.1-1 Engineering Features of the Proposed Project.

Exhibit F: The following Exhibit F drawing filed on November 4, 2013:

<u>Exhibit F Drawing</u>	<u>FERC No.</u> 13739-	<u>Description</u>
F-1	001	General Plan and Intake

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

(C) The Exhibits A and F described above are approved and made part of this license. The Exhibit G drawing filed as part of the application for license does not conform to Commission regulations and is not approved.

(D) This license is subject to the conditions submitted by the Pennsylvania Department of Environmental Protection under section 401(a)(1) of the Clean Water Act, 33 U.S.C. § 1341(a)(1) (2012), 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-6 (Oct. 1975), entitled “Terms and Conditions of License for Unconstructed Major Project Affecting Navigable Waters and Lands of the United States” (*see* 54 F.P.C. 1799, *et seq.*), 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 the following annual charges, as determined in accordance with provisions of the Commission’s regulations in effect from time to time:

(a) effective as of the date of commencement of project construction, to reimburse the United States for the cost of administration of Part 1 of the Federal Power Act. The

authorized installed capacity for that purpose is 5.25 megawatts (MW).

(b) to recompense the United States for the use of a government dam.

Article 202. Exhibit F Drawings. Within 45 days of the date of issuance of this license, as directed below, the licensee must file two sets of the approved exhibit drawings 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-13739-001) 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 CFR §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-13739-001, F-1, Description, 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 G Drawings. Within 90 days of the issuance 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, including the powerhouse, switchyard, primary transmission line, and the land needed for the recreation amenity required by Article 404. The Exhibit G drawings must comply with sections 4.39 and 4.41 of the Commission’s regulations.

Article 204. Amortization Reserve. Pursuant to section 10(d) of the Federal Power Act, after the first 20 years of operation of the project under license, 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. One-half of the project surplus earnings, if any, accumulated after the first 20 years of operations under the license, in excess of the specified rate of return per annum on the net investment, must be set aside in a project amortization reserve account at the end of each fiscal year. To the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year after the first 20 years of operation under the license, the amount of that deficiency must be deducted from the amount of any surplus

earnings subsequently accumulated, until absorbed. One-half of the remaining surplus earnings, if any, cumulatively computed, must be set aside in the project amortization reserve account. The amounts established in the project amortization reserved account must be maintained until further order of the Commission.

The annual specified reasonable rate of return must be the sum of the annual weighted costs of long-term debt, preferred stock, and common equity, as defined below. The annual weighted cost for each component of the reasonable rate of return is the product of its capital ratio and cost rate. The annual capital ratio for each component of the rate of return must be calculated based on an average of 13 monthly balances of amounts properly includable in the licensee's long-term debt and proprietary capital accounts as listed in the Commission's Uniform System of Accounts. The cost rates for long-term debt and preferred stock must be their respective weighted average costs 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 205. Project Land Rights Progress Report. No later than four years after license issuance, the licensee must file a report with the Commission describing the status of acquiring title in fee or the rights for all the lands within the project boundary. The report must provide an overview map of each parcel and summary table identifying the licensee's rights over each parcel within the project boundary. The report must also include specific supporting documentation showing the status of the land rights on all parcels of land within the project boundary that: (1) have been acquired up to the date of filing of the report, including pertinent deeds, lease agreements, and/or bill of sale information that specifically verify the licensee's rights; and (2) the licensee's plan and schedule for acquiring all remaining project lands prior to the five-year deadline, including a history of actions taken, current owner information, the type of ownership to be acquired whether in fee or by easement, and the timeline for completing property acquisition.

Article 206. Documentation of Project Financing. At least 90 days before starting construction, the licensee must file with the Commission, for approval, the licensee's documentation for the project financing. The documentation must show that the licensee has acquired the funds, or commitment for funds, necessary to construct the project in accordance with this license. The documentation must include, at a minimum, financial statements, including a balance sheet, income statement, and a statement of actual or estimated cash flows over the license term which provide evidence that the licensee has sufficient assets, credit, and projected revenues to cover project construction, operation, and maintenance expenses, and any other estimated project liabilities and expenses.

The financial statements must be prepared in accordance with generally accepted accounting principles and signed by an independent certified public accountant. The

licensee must not commence project construction associated with the project before the filing is approved.

Article 207. *Headwater Benefits.* If the licensee's project is directly benefited by the construction work of another licensee, a permittee, or of the United States on a storage reservoir or other headwater improvement, the licensee must reimburse the owner of the headwater improvement for those benefits, at such time as they are assessed. The benefits will be assessed in accordance with Subpart B of the Commission's regulations.

Article 301. *Start of Construction.* The licensee must commence construction of the project works within two years from the issuance date of the license and must complete construction of the project within 5 years from the issuance date of the license.

Article 302. *Contract Plans and Specifications.* At least 60 days prior to the start of any construction, the licensee must submit one copy of its plans and specifications and supporting design document to the Commission's Division of Dam Safety and Inspections (D2SI)-New York Regional Engineer, and two copies to the Commission (one of these must be a courtesy copy to the Director, D2SI). The submittal to the D2SI-New York Regional Engineer must also include as part of preconstruction requirements: a Quality Control and Inspection Program, Temporary Construction Emergency Action Plan, and Soil Erosion and Sediment Control Plan. The licensee may not begin construction until the D2SI-New York Regional Engineer has reviewed and commented on the plans and specifications, determined that all preconstruction requirements have been satisfied, and authorized start of construction.

Article 303. *Cofferdam and Deep Excavation Construction Drawings.* Should construction require cofferdams or deep excavations, the licensee must: (1) review and approve the design of contractor-designed cofferdams and deep excavations prior to the start of construction; and (2) ensure that construction of cofferdams and deep excavations is consistent with the approved design. At least 30 days before starting construction of any cofferdams or deep excavations, the licensee must submit one copy to the Commission's Division of Dam Safety and Inspections (D2SI)-New York Regional Engineer and two copies to the Commission (one of these copies must be a courtesy copy to the Commission's Director, D2SI), of the approved cofferdam and deep excavation construction drawings and specifications, and the letters of approval.

Article 304. *As-built Drawings.* Within 90 days of completion of construction of the facilities authorized by this license, the licensee must file for Commission approval, revised exhibits A, F, and G, as applicable, to describe and show those project facilities as built. A courtesy copy must be filed with the Commission's Division of Dam Safety and Inspections (D2SI)-New York Regional Engineer, the Director, D2SI, and the Director, Division of Hydropower Administration and Compliance.

Article 305. *Inspection by Independent Consultant.* In accordance with Part 12D § 12.38 of the Commission's regulations, the initial independent consultant's inspection of the project must be completed and the report on the inspection filed no later than five years from the date of first commercial operation or the date on which the powerhouse is subject to normal water levels, whichever comes first. Information on specific inspection and report requirements can be found in Part 12D §12.35 and §12.37 of the Commission's regulations.

Article 306. *Project Owner's Dam Safety Program.* Within 90 days of the issuance date of the license, the licensee must submit to the Commission's Division of Dam Safety and Inspections (D2SI)-New York Regional Engineer, a Project Owner's Dam Safety Program which at a minimum must demonstrate a clear acknowledgement of the project owner's responsibility for the safety of the project, an outline of the roles and responsibilities of the dam safety staff, and access of the dam safety official to the Chief Executive Officer. For guidance on preparing a Project Owner's Dam Safety Program, the licensee should reference the information posted on the FERC website.

Article 307. *Public Safety Plan.* At least 60 days prior to the start of construction, the licensee must submit one copy to the Commission's Division of Dam Safety and Inspections (D2SI)- New York Regional Engineer and two copies to the Commission (one of these copies must be a courtesy copy to the Commission's Director, D2SI) of a Public Safety Plan. The plan must include an evaluation of public safety concerns at the project site, including designated recreation areas, and assess the need for the installation of safety devices or other safety measures. The submitted plan must include a description of all public safety devices and signage, as well as a map showing the location of all public safety measures. For guidance on preparing public safety plans the licensee can review the *Guidelines for Public Safety at Hydropower Projects* on the FERC website.

Article 308. *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 (D2SI)-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 309. *Facility Design and Construction.* The design and construction of those permanent and temporary facilities, including reservoir impounding cofferdams and deep excavations, that would be an integral part of, or that could affect the structural integrity or operation of the Government project must be done in consultation with and subject to the review and approval of the Corps' District Engineer. The Corps' review of the cofferdams will be in addition to the licensee's review and approval of the final plans, and must in no way relieve the licensee of responsibility and liability regarding satisfactory performance of

the cofferdams. Within 90 days from the issuance date of the license, the licensee must furnish the Corps and the Commission's Division of Dam Safety and Inspections (D2SI)-New York Regional Engineer, a schedule for submission of design documents and the plans and specifications for the project. If the schedule does not afford sufficient review and approval time, the licensee, upon request of the Corps, must meet with the Corps and FERC staffs to revise the schedule accordingly.

Article 310. *Review of Contractor Designs.* The licensee must review and approve the design of contractor-designed cofferdams and deep excavations, other than those approved according to Article 309, prior to the start of construction and must ensure that construction of cofferdams and deep excavations are consistent with the approved design. At least 30 days prior to start of construction of the cofferdam, the licensee must file with the Director, Division of Dam Safety and Inspections, with a copy to the Commission's Regional Engineer, and the U.S. Army Corps of Engineers, one copy of the approved cofferdam construction drawings and specifications and a copy of the letter(s) of approval.

Article 311. *Agreement with Corps.* The licensee must within 90 days from the issuance date of the license, enter into an agreement with the U.S. Army Corps of Engineers (Corps) to coordinate its plans for access to and site activities on lands and property administered by the Corps so that the authorized purposes, including operation of the Federal facilities, are protected. In general, the agreement must not be redundant with the Commission's requirements contained in this license, must identify the facility, and the study and construction activities, as applicable, and terms and conditions under which studies and construction will be conducted. The agreement must be mainly composed of reasonable arrangements for access to the Corps site to conduct studies and construction activities, such access rights to be conditioned by the Corps as may be necessary to protect the federally authorized project purposes and operations. Should the licensee and the Corps fail to reach an access agreement, the licensee must refer the matter to the Commission for resolution.

Article 312. *Periodic and Continuous Inspections by the Corps.* The construction, operation and maintenance of the project works that, in the judgment of the U.S. Army Corps of Engineers (Corps) may affect the structural integrity or operation of the Corps project shall 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 313. *Regulating (or Operating) Plan.* The licensee must, at least 60 days prior to start of construction, submit for approval a regulating plan to 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 during construction 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, prior to start of power plant operation, must enter into an operating Memorandum of Agreement (MOA) with the Corps describing the detailed operation of the powerhouse acceptable to the Corps. The MOA must specify any restrictions needed to protect the primary purposes of the Corps project for navigation, recreation, water quality, and flood control. The Division of Dam Safety and Inspections (D2SI)-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 (OEP), for resolution. Copies of the regulating plan and signed MOA between the Corps and the licensee and any revision thereof must be furnished to the Director, OEP and the D2SI-New York Regional Engineer.

Article 314. *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 315. *Corps' Written Approval.* The licensee must provide the Division of Dam Safety and Inspections (D2SI)-New York Regional Engineer two copies of all correspondence between the licensee and the U.S. Army Corps of Engineers (Corps). The D2SI-New York Regional Engineer must not authorize construction of any project work until the Corps' written approval of construction plans and specifications has been received by the D2SI-New York Regional Engineer.

Article 401. *Run-of-Release Operation.* The licensee must operate the project in a run-of-release mode, meaning the licensee must not deviate from the flow constraints, including flow releases, established by the U.S. Army Corps of Engineers (Corps) according to Article 313, Regulating (or Operating) Plan.

Run-of-release operation may be temporarily modified if required by operating emergencies beyond the control of the licensee; for short periods upon mutual agreement among the licensee, the Corps, the U.S. Fish and Wildlife Service, and the Pennsylvania Department of Environmental Protection; or as directed by the Corps to accommodate the authorized purpose of the Corps' facilities. If the flow is so modified, the licensee must

notify the Commission as soon as possible, but no later than 10 days after each such incident.

Article 402. Operation Compliance Monitoring Plan. At least 90 days prior to the start of project operation, the licensee must file with the Commission, for 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 necessarily be limited to, the following:

(a) provisions to monitor compliance with the operational requirements of the license, including the operating plan required by Article 313 and operating the project in a run-of-release mode as required by Article 401;

(b) a description of the steps the licensee will take to ensure run-of-release operation continues during planned and emergency shutdowns;

(c) a description of all gages or recording devices that will be used to monitor operation compliance;

(d) the method of calibration of each gage and/or measuring device;

(e) the frequency of recording for each gage and/or measuring device;

(f) procedures for recording, maintaining, and reporting the monitoring data to the Commission;

(g) a provision to maintain a log of project operation;

(h) a schedule of reporting any deviations from the operational requirements of this license during normal operation and in the event of an emergency; and

(i) a provision to file copies with the Director, OEP of the approved regulating plan required by Article 313 and a copy of the signed MOA between the Corps and the licensee and any subsequent revisions.

The licensee must prepare the plan after consultation with the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, the Pennsylvania Fish and Boat Commission, and the Pennsylvania Department of Environmental Protection. 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. Upon Commission approval, the licensee must implement the plan, including any changes required by the Commission.

Article 403. *Water Quality Monitoring Plan.* Within 180 days of license issuance, the licensee must file with the Commission, for approval, a plan consistent with certification conditions 6 and 7 to monitor water quality of the Monongahela River upstream and downstream of the Braddock Locks and Dam Project. The plan must include, at a minimum: (1) monitoring of summer (i.e., June through September) water temperature and dissolved oxygen concentration prior to construction; (2) continuous, real-time monitoring of water temperature, dissolved oxygen concentration, and turbidity during project construction; and (3) continuous, real-time monitoring of summer water temperature and dissolved oxygen for 5 years following project construction, and for an additional 5 years at such time as the normal elevation of the Braddock pool increases during the term of the license as a result of the U.S. Army Corps of Engineers' (Corps) Lower Monongahela Locks and Dams 2, 3, & 4 Project (Lower Mon Project). The plan must contain provisions such that: (1) during each year monitoring is conducted, the licensee must file annual summary reports of the results of the monitoring by December 31 of that year; and (2) should monitoring reveal non-compliance with water quality standards resulting from project construction or operation, the licensee must file a report with the Commission, within 10 days of discovery of the non-compliance, describing the non-compliance and any actions implemented to restore compliance with the standards.

The plan must be prepared after consultation with the Corps, the Pennsylvania Department of Environmental Protection, the Pennsylvania Fish and Boat Commission, and the U.S. Fish and Wildlife Service. 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. *Steel Valley Trail Rest Area.* Within 180 days of license issuance, the licensee must file, for Commission approval, a plan for the installation and maintenance of a

rest area along the Great Allegheny Passage's Steel Valley Trail. The plan must contain: (1) a list and description of the facilities to be installed at the rest area, which should include, at a minimum, a bench or benches, a bike rack, one bike tune-up station, and an interpretive sign that discusses the project, the existing dam, and renewable energy; (2) a description of the location of the rest area, including a map of the rest area and GPS coordinates; (3) details on how the rest area will be maintained; and (4) a schedule for the construction of the rest area, showing completion of construction within two years of license issuance.

The *Rest Area* plan and schedule must be developed after consultation with the National Park Service, the U.S. Army Corps of Engineers, the Regional Trail Corporation, the Steel Valley Trail Council, and the Allegheny Trail Alliance. The licensee must include with the plan and schedule, documentation of consultation, copies of recommendations on the completed plan after it has been prepared and provided to the entities above, and specific descriptions of how the entities' comments are accommodated by the plan and schedule. The licensee must allow a minimum of 30 days for the entities to comment and to make recommendations before filing the plan and schedule with the Commission. If the licensee does not adopt a recommendation, the filing must include the licensee's reasons, based on project-specific reasons.

The Commission reserves the right to require changes to the plan and schedule. Land-disturbing activities must not begin until the licensee is notified by the Commission that the plan and schedule are approved. Upon Commission approval the licensee must implement the plan and schedule, including any changes required by the Commission.

Article 405. Protection of Undiscovered Cultural Resources. If the licensee discovers previously unidentified cultural resources during the course of constructing, maintaining, or developing project works or other facilities at the project, the licensee must stop all land-clearing and land-disturbing activities in the vicinity of the resource and consult with the Pennsylvania State Historic Preservation Officer (Pennsylvania SHPO) to determine the need for any cultural resource studies or measures. If no studies or measures are needed, the licensee must file with the Commission documentation of its consultation with the Pennsylvania SHPO immediately.

If a discovered cultural resource is determined to be eligible for the National Register of Historic Places (National Register), the licensee must file for Commission approval a historic properties management plan (HPMP) prepared by a qualified cultural resource specialist after consultation with the Pennsylvania SHPO. In developing the HPMP, the licensee must use the Advisory Council on Historic Preservation and the Federal Energy Regulatory Commission's *Guidelines for the Development of Historic Properties Management Plans for FERC Hydroelectric Projects*, dated May 20, 2002. The HPMP must include, at a minimum, the following items: (1) a description of each discovered property, indicating whether it is listed in or eligible to be listed in the National Register; (2) a description of the potential effect on each discovered property; (3) proposed measures

for avoiding or mitigating adverse effects; (4) documentation of consultation; and (5) a schedule for implementing mitigation and conducting additional studies. The Commission reserves the right to require changes to the HPMP.

The licensee must not resume land-clearing or land-disturbing activities in the vicinity of a cultural resource discovered during construction, until informed by the Commission that the requirements of this article have been fulfilled.

Article 406. 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. § 8257 (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

**FEDERAL ENERGY REGULATORY COMMISSION
TERMS AND CONDITIONS OF LICENSE FOR UNCONSTRUCTED
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 works shall be constructed 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.

Upon the completion of the project, or at such other time as the Commission may direct, the Licensee shall submit to the Commission for approval revised exhibits insofar

as necessary to show any divergence from or variations in the project area and project boundary as finally located or in the project works as actually constructed when compared with the area and boundary shown and the works described in the license or in the exhibits approved by the Commission, together with a statement in writing setting forth the reasons which in the opinion of the Licensee necessitated or justified variation in or divergence from the approved exhibits. Such revised exhibits shall, if and when approved by the Commission, be made a part of the license under the provisions of Article 2 hereof.

Article 4. The construction, operation, and maintenance of the project and any work incidental to additions or alterations 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 a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of the project and for any subsequent alterations to the project. Construction of the project works or any features or alteration thereof shall not be initiated until the program of inspection for the project works or any such feature thereof has been approved by said representative. The Licensee shall also furnish to said representative such further information as he may require concerning the construction, operation, and maintenance of the project, and of any alteration thereof, and shall notify him of the date upon which work 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 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 of 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 state 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 locations of gages, meters, or other measuring devices, and the method of operation thereof, as are necessary to secure adequate determinations. The installation of gages, the rating of said stream or streams, and the determination of the flow thereof, shall be under the supervision of, or in cooperation with, the District Engineer of the United States

Geological Survey having charge of stream-gaging operations in the region of the project, and the Licensee shall advance to the United States Geological Survey the amount of funds estimated to be necessary for such supervision, or cooperation for such periods as may be 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 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 consult with the appropriate State and Federal agencies and, within one year of the date of issuance of this license, shall submit for Commission approval a plan for clearing the reservoir area. Further, 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. Upon approval of the clearing plan 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

Pennsylvania Department of Environmental Protection
Water Quality Certification Conditions
Filed February 17, 2015, as modified by this order.⁵⁵

Subject to the Special Conditions that are listed below, the Environmental Assessment for this project is hereby approved.

Except as otherwise noted below, the Department of Environmental Protection (Department), pursuant to Section 401(a) of the Federal Clean Water Act, as amended, 33 U.S.C. Section 1341(a), certifies that the construction and operation herein described will comply with the applicable provisions of Sections 301, 302, 303, 306, and 307 of that Act, and that the construction will not violate applicable federal and state water quality standards, provided the following requirements are met:

SPECIAL CONDITIONS

1. Prior to the beginning of work, all public water supplies or other water-related activities located downstream that may be affected by turbidity increases or other water quality changes caused by said work shall be sufficiently notified in advance to allow for preparation of any water quality changes.
2. The operation shall be conducted in such a manner so as to protect fish life and other aquatic life. This requires full cooperation with the Pennsylvania Fish and Boat Commission.
3. A regularly scheduled inspection of the structure(s) shall be made to provide for continued operation and maintenance during the lifetime of the facility.
4. Hydro Green Energy, LLC (HGE) shall comply with the operating plan and Memorandum of Agreement required by license Article 313~~the Operational Compliance Plan that has been provided in the application~~ to insure that operation of this facility does not interfere with the operation and maintenance of the existing Braddock Locks and

⁵⁵ As discussed in this license order, certification conditions 4, 7, and 8 are modified by deleting references to an “Operational Compliance Plan” and inserting instead “the operating plan and Memorandum of Agreement required by license Article 313.”

Dam which are owned, operated and maintained by the U.S. Army Corps of Engineers (USACE) It is noted that this plan may be modified as a result of further consultation with USACE. Any changes to this plan must be reported to the Department, and may require the Department's approval, prior to implementing any changes.

5. Approval is based upon the submitted drawings. If any changes are made to these drawings, you must contact the Department to determine whether further authorization will be required.
6. HGE shall comply with the water quality monitoring plan upstream and downstream of the Braddock Locks and Dam to include: (1) monitoring of summer water quality parameters prior to construction; (2) monitoring of water quality parameters during project construction; and (3) monitoring of summer water quality parameters for 5 years following project construction, and for an additional 5 years if the normal elevation of the Braddock pool increases during the term of the license as a result of the USACE's Lower Mon Project.
7. HGE shall submit to the Department, on a monthly basis, a water quality report and an annual summary report. These reports will provide the water quality measurements, as recorded by HGE and as outlined in the Water Quality Monitoring Plan, and shall identify any deviations from the water quality requirements that are outlined in the operating plan and Memorandum of Agreement required by license Article 313~~Operational Compliance Plan~~, and the specific water quality criteria that are listed in the Department's Chapter 93 rules and regulations. If any deviations from the water quality standards and/or specific water quality criteria are detected, then reporting frequency shall increase to weekly, and shall document any corrective actions that were taken, or will be taken, to address any detected deviations. The water quality reports shall be submitted to:

PA Dept. of Environmental Protection
Waterways and Wetlands Program
400 Waterfront Drive
Pittsburgh, PA 15222
8. Operation of HGE's facility shall be in accordance with the operating plan and Memorandum of Agreement required by license Article 313~~the submitted Operational Compliance Plan (dated December 2014)~~, to insure that water quality is maintained within the Monongahela River. While the Department recognizes that the operating plan and Memorandum of Agreement required by license Article 313~~Operational Compliance Plan~~ is designed to comply with the minimum water quality standards identified in this permit application, water quality standards shall also satisfy the applicable specific water

quality criterion that is listed in the Department's Chapter 93 rules and regulations. Any changes to the operating plan and Memorandum of Agreement required by license Article 313~~Operational Compliance Plan document~~ must be reported to the Department, and may require the Department's approval, prior to implementing any changes.

9. If the Department observes and/or HGE's water quality reports document any deviations from the specific water quality criteria that is outlined in the Department's Chapter 93 rules and regulations, and corrective actions undertaken by HGE do not adequately address these deviations, then HGE shall consult with the Department, to examine ways to come into compliance with the Department's specific water quality criteria.

10. This project also requires a Limited Power Permit to be issued by Department. Work in areas covered by the Limited Power Permit cannot be started until that permit is issued.

11. This authorization does not convey any real property rights or interests or authorization to trespass on privately-owned riparian land. By accepting this authorization, HGE certifies that it holds title, easement, right or other real interest in the riparian land. Any dispute over ownership of this land is solely a matter for private litigation.

12. This authorization does not relieve HGE of the responsibility to obtain any applicable approval/permit from the District Engineer, Pittsburgh District, U.S. Army Corps of Engineers, Room 1817 Federal Building, 1000 Liberty Avenue, Pittsburgh, PA 15222, under Section 10 of the Rivers and Harbor Act or Section 404 of the Clean Water Act of 1977.