

124 FERC ¶ 62,194
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Borough of Lehigh

Project No. 12455-004

ORDER ISSUING ORIGINAL LICENSE (MAJOR PROJECT)

(September 12, 2008)

INTRODUCTION

1. On December 29, 2006, the Borough of Lehigh (Borough) filed, pursuant to Part I of the Federal Power Act (FPA),¹ an application for an original license to construct, operate, and maintain its proposed Beltzville Hydroelectric Project. The 2.6-megawatt (MW) project would be connected to the U.S. Army Corps of Engineers (Corps) Beltzville dam which is located on Pohopoco Creek about 5 miles upstream of its confluence with the Lehigh River, and approximately 4 miles northeast of the Borough of Lehigh in Carbon County, Pennsylvania. The project would be located entirely on 3.17 acres of federal land under the jurisdiction of the Corps.² For the reasons discussed below, I am issuing an original license for this project.

BACKGROUND

2. The Commission issued a public notice of Borough's application on April 20, 2007.³ The U.S. Department of the Interior (Interior) filed a timely motion to intervene on June 18, 2007.⁴ Interior does not oppose the application.

¹ 16 U.S.C. §§ 791a - 825r (2000).

² Because the project would use surplus water or water power from a government dam, and would occupy lands of the United States, section 23(b)(1) of the FPA, 16 U.S.C. § 817(1) (2000), requires that it be licensed.

³ 68 Fed. Reg. 56832 (2003).

⁴ The motion to intervene was timely and unopposed and therefore it was automatically granted under Rule 214(c)(1) of the Commission's Rules of Practice and Procedure. 18 C.F.R. § 385.214(c)(1) (2008).

3. On August 3, 2007, the Commission issued a public notice⁵ that the project was ready for environmental analysis and solicited comments, recommendations, terms, conditions, and prescriptions. In response, comments and recommendations were filed by Interior.
4. An Environmental Assessment (EA) was prepared by Commission staff and issued on May 2, 2008.⁶ The Corps and the U.S. Geological Survey (USGS) filed comments on the EA.
5. The motion to intervene, comments, and recommendations have been fully considered in determining whether, and under what conditions, to issue this license.

PROJECT DESCRIPTION

A. Existing Corps Facilities

6. The project will use the head created by the Beltzville dam which is owned and operated by the Corps and is not part of the licensed project. Beltzville Dam was constructed by the Corps between 1966 and 1971 to provide water supply, flood control, flow augmentation, and recreation. It consists of: (1) a 175-foot-high, 4,600-foot-long earth-fill dam with a 23-foot-high, 2,000-foot-long ungated spillway that impounds a 949-acre reservoir with a normal water surface elevation of 628.0 feet national geodetic vertical datum (NGVD); (2) a 193-foot-high; 72-foot-long, 42-foot-wide water intake tower in the reservoir equipped with four flood control service gates and eight water quality portals arranged vertically from 13 to 85 feet deep with gates connected to; (3) a 84-inch-diameter, 1,175-foot-long concrete conduit that goes through the dam and discharges water into; (4) a 110-foot-long, 34-foot-wide concrete-lined stilling basin and into a channel that extends approximately 800 feet downstream of the dam; and (5) a 16-inch-diameter water supply conduit.

B. Current Operation

7. Beltzville Dam is one of eight regional reservoirs with storage and release patterns coordinated to serve multipurpose water requirements in the Lehigh and Delaware River Basins in conjunction with the Delaware River Basin Commission (Basin Commission). When the reservoir level is below 628 feet NGVD, the Corps releases a 35 cubic feet per

⁵ 69 Fed. Reg. 45034 (2004).

⁶ The Corps and Delaware River Basin Commission cooperated in the preparation of the EA.

second (cfs) minimum flow, which is required by the Basin Commission to protect aquatic resources and water quality in Pohopoco Creek. The minimum flow is drawn from the reservoir into the multi-portal intake tower, then through the existing 84-inch-diameter conduit into the stilling basin and channel, and then into Pohopoco Creek. The water quality control section of the intake tower has eight openings located from near the surface, to close to the bottom, of the reservoir, and allows the Corps to mix water from different depths, which may have different dissolved oxygen (DO) concentrations and temperatures.

8. The Corps attempts to keep the reservoir at 628 feet NGVD. When the reservoir is at or above 628 feet NGVD, inflows are released through the water quality portals in the same manner as the 35-cfs minimum flow. During flood control operations, reservoir releases are restricted to the 1,500-cfs capacity of the downstream channel until the reservoir reaches the spillway crest at which point the water quality outlet gates are closed and the four flood control gates are opened to their full capacity of 2,350 cfs.

9. The Corps monitors the DO and temperature of water in the reservoir and the creek below the dam with the goal of determining through which intake portals water in the reservoir should be drawn to ensure water released to Pohopoco Creek meets state standards for a coldwater fishery classification. The Pennsylvania Fish and Boat Commission (Pennsylvania FBC) actively manages the Beltzville Reservoir and Pohopoco Creek as a cold-water fishery and regularly stocks fish in both Beltzville Reservoir and in Pohopoco Creek below the dam.

C. New Licensed Facilities

10. The Beltzville Hydroelectric Project would be located on the downstream side of Beltzville Dam next to the existing stilling basin. Constructing the project would involve reducing the diameter of the 84-inch-diameter conduit (through which minimum flow releases are now made) to 78 inches by inserting a 78-inch-diameter steel pipe liner equipped with a 78-inch butterfly valve and a 84-inch-diameter slide gate. At the new butterfly valve would be a new 60-inch-diameter, 37-foot-long Y-branch penstock that bifurcates into two penstocks (one 36 inches in diameter and 43 feet long, and the other 48 inches in diameter and 39 feet long) leading to the new powerhouse located adjacent to the existing outlet works and containing a 1,700-kilowatt (kW) generating unit and a 900-kW generating unit for a total installed capacity of 2,600 kW. The butterfly valve and slide gate would direct water flowing into the conduit into either the new penstocks leading to the proposed powerhouse or into the existing stilling basin. A 300-foot-long, 12-kilovolt (kV) transmission line would also be constructed that would transmit project power from the powerhouse to an existing 12-kV transmission line that is part of the transmission grid. The Borough estimates the project's total average annual generation would be about 9,470 megawatt hours (MWh).

D. Project Boundary

11. The project boundary, discussed further below, will enclose the above new, licensed facilities. The project would occupy 3.17 acres of federal land managed by the Corps.

E. Proposed Project Operation

12. The Borough proposes to operate the hydropower project using flows released by the Corps in accordance with the current dam operation as set by the Corps and the Basin Commission. Flows would be diverted to the powerhouse by closing off the proposed 84-inch slide gate connected to the existing 84-inch-diameter conduit. Flows would enter the powerhouse through the proposed 37-foot-long Y-branch penstock, bypass the stilling basin, and discharge directly into the Pohopoco Creek below the proposed powerhouse.

13. The operational range of the two turbines would be from 47 cfs to 94 cfs for the smaller unit and from 94 cfs to 186 cfs for the larger unit. Therefore, the maximum and minimum hydraulic discharge capacity of the proposed turbine units would be 280 cfs (94 cfs + 186 cfs) and 47 cfs, respectively. Water would continue to be released by the Corps through the existing intake tower into the existing conduit. Depending on how much flow reaches the Y-branch, where it can be diverted to the powerhouse or to the stilling basin, the Borough would provide flows to either the powerhouse or the stilling basin, or both.

WATER QUALITY CERTIFICATION

14. Under section 401(a)(1) of the Clean Water Act (CWA),⁷ 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 1 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.⁸

15. On August 21, 2007, the Borough applied to the Pennsylvania Department Environmental Protection Agency (Pennsylvania DEP) for certification for the Beltzville

⁷ 33 U.S.C. § 1341(a)(1) (2000).

⁸ 33 U.S.C. § 1341(d) (2000).

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Hydroelectric Project, and the request was received on August 22, 2007. On February 15, 2008, Pennsylvania DEP issued its certification.

16. The certification includes nine conditions, two of which are project-specific and require the licensee to meet state water quality standards and monitor and report on water quality downstream of the powerhouse and stilling basin during project construction and operation. The other conditions are generic in nature and include provisions for maintaining facilities to achieve compliance with the terms of the certification, allowing inspection of the project's facilities and records, providing notice if any interest in the project is transferred, and reserving Pennsylvania DEP's right to revoke the certification. Article 405 requires the licensee to file, for Commission approval, a Water Quality Monitoring Plan consistent with the requirements of the certification.

17. Ordering Paragraph (D) of this order incorporates the certification into this license. A copy of the certification is included in Appendix A of this order.

COASTAL ZONE MANAGEMENT ACT

18. Under section 307(c)(3)(A) of the Coastal Zone Management Act (CZMA),⁹ the Commission cannot issue a license for a project within or affecting a state's coastal zone unless the state CZMA agency concurs with the license applicant's certification of consistency with the state's CZMA program, or the agency's concurrence is conclusively presumed by its failure to act within 180 days of its receipt of the applicant's certification. By letter dated August 6, 2008, the Pennsylvania Coastal Resources Management Program states that the Beltzville Hydroelectric Project is located outside of Pennsylvania's Delaware Estuary Coastal Zone, will have no impact upon it, and is consistent with Pennsylvania's Coastal Resources Management Program.

SECTION 18 FISHWAY PRESCRIPTIONS

19. Section 18 of the FPA¹⁰ provides that the Commission shall require the construction, maintenance, and operation by a licensee of such fishways as may be prescribed by the Secretary of the Interior or the Secretary of Commerce, as appropriate. No fishway prescriptions or reservations of authority were filed under section 18 of the FPA.

⁹ 16 U.S.C. § 1456(c)(3)(A) (2000).

¹⁰ 16 U.S.C. § 811 (2000).

20. By letter filed October 2, 2007, the Secretary of the Interior (Interior) requested that the Commission reserve its authority to require the construction, operation, and maintenance of such fishways as may be prescribed by Interior. Consistent with Commission policy, Article 401 of this license reserves the Commission's authority to require fishways that may be prescribed by Interior for the Beltzville Hydroelectric Project.

THREATENED AND ENDANGERED SPECIES

21. Section 7(a)(2) of the Endangered Species Act of 1973 (ESA)¹¹ requires federal agencies to ensure their actions are not likely to jeopardize the continued existence of federally listed threatened and endangered species, or result in the destruction or adverse modification of their designated critical habitat.

22. Interior states in a letter filed October 2, 2007, that no federally listed or proposed threatened or endangered species are known to occur in the project area. In the EA, staff found that issuing a license would not affect federally listed threatened and endangered species because the presence of such species has not been documented at the project. Therefore, further consultation under section 7 is not required.

NATIONAL HISTORIC PRESERVATION ACT

23. Under section 106 of the National Historic Preservation Act (NHPA)¹² and its implementing regulations,¹³ federal agencies must take into account the effect of any proposed undertaking on properties listed or eligible for listing in the National Register (defined as historic properties) and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking. This generally requires the Commission to consult with the State Historic Preservation Officer (SHPO) to determine whether and how a proposed action may affect historic properties, and to seek ways to avoid or minimize any adverse effects.

24. Commission staff concluded in the EA that the area downstream of the dam had been severely altered during construction of the Corps' dam and outlet facilities and consequently the continued existence of any cultural resources in this area was unlikely. Therefore, because the majority of the project-related ground disturbance would occur in

¹¹ 16 U.S.C. § 1536 (a) (2000).

¹² 16 U.S.C. § 470 *et seq* (2000).

¹³ 36 C.F.R. Part 800 (2007).

this previously disturbed area, staff concluded that project construction would have no effect on historic resources. In a letter dated January 24, 2007, the Pennsylvania State Historic Preservation Officer (Pennsylvania SHPO)¹⁴ found that although there is a high probability that prehistoric and historic archaeological resources are located in the proposed project's area, it believes that the activity of the proposed project would have no effect on such resources. The Pennsylvania SHPO added that if the project is amended and includes additional ground disturbance, then a Phase 1 Archaeological Survey may be needed. Article 406 requires the licensee to stop work and consult with the SHPO if previously unidentified cultural resources are discovered during project construction or operation.

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

25. Section 10(j)(1) of the Federal Power Act (FPA)¹⁵ requires the Commission, when issuing a license, to include conditions based on recommendations of federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act¹⁶ to “adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)” affected by the project.

26. If the Commission believes that any such recommendation may be inconsistent with the purposes and requirements of Part I of the FPA or other applicable law, section 10(j)(2)¹⁷ requires the Commission and the agencies to attempt to resolve any such inconsistency, giving due weight to the recommendations, expertise, and statutory responsibilities of such agencies. If the Commission still does not adopt a recommendation, it must explain how the recommendation is inconsistent with Part I of the FPA or other applicable law and how the conditions imposed by the Commission adequately and equitably protect, mitigate damages to, and enhance fish and wildlife resources.

27. Interior filed five recommendations under section 10(j) by letter dated October 2, 2007. Interior recommended: (1) upstream passage for juvenile eels; (2) downstream passage for juvenile and adult eels; (3) fish screens and a cleaning system at the intake

¹⁴ See letter filed with the Commission March 18, 2008.

¹⁵ 16 U.S.C. § 803(j)(1) (2000).

¹⁶ 16 U.S.C. § 661 *et seq* (2000).

¹⁷ 16 U.S.C. § 803(j)(2) (2000).

tower; (4) seasonal installation of an eel and fish trap in the intake tower to capture and transport eels around the project; and (5) preparation of all plans for fish passage in consultation with Interior and the Pennsylvania Fish and Boat Commission (Pennsylvania FBC).

28. In the EA, staff made an initial determination that the Interior recommendations related to eel passage (recommendations one, two, four, and five, above) were inconsistent with the substantial evidence standard of section 313(b) and 10(a) of the FPA. Staff also determined that Interior's recommendation for a fish screening device (recommendation three) was inconsistent with the comprehensive development and public interest standards of sections 10(a) and 4(e) of the FPA.

29. By letter dated May 2, 2008, Commission staff advised Interior of its preliminary inconsistency determinations and indicated its desire to resolve the apparent inconsistencies. The letter requested a response from Interior by June 2, 2008. Interior did not respond and staff contacted Interior to determine if it intended to respond to staff's letter or wanted to meet with staff to resolve the inconsistencies. Interior indicated it would not be providing any additional comments, nor did it request a meeting.¹⁸ Therefore, the inconsistencies remain unresolved.

30. Regarding passage for American eel, the subject of four of the Interior recommendations, the EA found upstream passage unnecessary because there is no evidence that American eel can currently migrate to Beltzville Dam. Furthermore, the proposed project would not alter the existing dam structure or exacerbate any existing blockage to the upstream migration of eels. Therefore, there is no basis for requiring upstream passage. Likewise, because the record indicates that eel do not occur above the dam, there is no basis for requiring downstream passage or the recommended fish/eel trap facility. Therefore, I find that the Interior recommendations for upstream and downstream passage for eel, an eel trapping facility, and passage facility plans inconsistent with the substantial evidence requirements of section of 313(b) of the FPA, and am not requiring these measures. In addition, I note that Interior did not prescribe such facilities under its FPA section 18 authority to do so.

31. The EA acknowledged, however, that eel are likely to occur within about five miles downstream of the project site, noting that of the five existing dams downstream of the project site, the three lower-most dams include fish passage facilities designed to pass American shad, and eels have been documented using these facilities to pass the two

¹⁸ See e-mail dated June 11, 2008 from Michael Chezik, Department of the Interior, Office of the Secretary, Office of Environmental Policy and Compliance.

lowermost dams.¹⁹ Therefore, The EA concluded that in the future, eels could migrate up to the project powerhouse and subsequently be attracted to the hydro project's tailrace discharge, enter the draft tubes and be harmed by contact with the project's turbine blades. The EA therefore recommended that the licensee monitor eel presence in Pohopoco Creek downstream of the project powerhouse to determine if any eels that may reach the project site in the future are being affected by project operation and assess whether any protection measures may be warranted. Article 405 requires monitoring for eel in the project tailwater area.

32. Regarding the recommendation for a screening device at the intake tower, Interior is concerned that migratory American eel and resident fish that are entrained could be killed or injured if passed through the proposed project's turbines, and recommends that 1-inch spaced, removable screens and a cleaning system be installed at the intake.

33. The EA noted that no migratory fish are known to occur upstream of the Beltzville dam. Because the intake tower is not currently equipped with screens, however, it is likely that some entrainment of resident fish is occurring. Although upgrading the existing intakes in the intake tower with fish screens could prevent most sizes and species of fish from being entrained and injured or killed by passing through the proposed project's turbines, most fish in the reservoir would not be susceptible to turbine mortality either because: (a) fish in the impoundment are non-migratory and spend much of their time in shallow, near-shore zones and would not be attracted to the open deep-water area of the project intakes; (b) any large individual fish that happens to be in the area of the intakes would have sufficient swimming strength to be able to avoid being entrained; and (c) small fish, if they were entrained, would likely survive turbine passage.²⁰ The estimated annual cost of screening the intake is \$34,530, including operation and maintenance. Therefore, because the benefit of this measure is expected to be minor or insignificant, and the cost is estimated to be high, I find Interior's recommendation for intake screens inconsistent with the comprehensive development and public interest standards of sections 10(a) and 4(e) of the FPA, and I am not requiring this measure.

34. In accordance with section 10(j)(2)(B) of the FPA, I find that the measures required by this license, which include monitoring for the presence of eels in the project's

¹⁹ The two downstream dams closest to the project site have no passage facilities.

²⁰ A desktop analysis of turbine mortality estimates shows that of the fish most likely to be entrained at the project, 90 percent would survive passage through the project.

tailrace, will adequately and equitably protect, mitigate damages to, and enhance fish and wildlife resources affected by this project.

COMMENTS ON THE EA

35. Comments on the EA were filed by the Corps and USGS.²¹ Substantive comments are addressed below.

Cultural Resources

36. In its comments on the EA, the Corps questions whether the SHPO's no-effect finding was based on a review of cultural resource reports for the Beltzville Lake area completed by the Corps in 1994 and 1999. If not, the Corps states that additional coordination needs to be done by the Borough or as part of the Corps' review of the permit required by section 404 of the CWA (404 permit).

37. Staff reviewed the reports referenced by the Corps in preparing the EA. Because the SHPO's letter documenting its no-effect determination was dated January 24, 2007, nearly eight years after the cited reports were completed and available for review, I believe it is reasonable that the SHPO reviewed all pertinent information before reaching its no-effect determination. Whether additional consultation with the SHPO is needed for the 404 permit is a decision the Corps can make once it receives the 404 permit application.

Section 404 Permit

38. The Corps states that it appears that a section 404 permit will be required for the Beltzville Hydroelectric Project and all appropriate coordination with the U.S. Fish and Wildlife Service and SHPO during the 404 permitting process, shall be coordinated by the Commission prior to issuance of the 404 permit. The Corps is also concerned about whether the scope of analysis in the Commission's EA was inclusive enough to allow for coordination and a determination on whether to issue a 404 permit.

²¹ USGS notes correctly that the Delaware River flows into the Delaware Bay not the Chesapeake Bay as stated in the EA. USGS also requested the source of the estimates of the mean annual and monthly flows in the EA. The source is the license application, specifically page E-7, Chapter 1.3 Water Resources, Figures A-1, *Average Monthly Flows, Water Years 1968-2003* and A-2, *Annual Flow Duration Curve*, and Appendix E-1, *Monthly Flow Duration Curves*. The data are from USGS flow gaging station, no. 01449800, located just downstream of the Beltzville dam.

39. The Borough has not indicated when it would apply for a 404 permit, which is not required prior to FERC licensing. Because the issuance of a 404 permit is a Corps responsibility that will be carried out after the project is licensed, it seems reasonable that any additional coordination with the SHPO would be conducted by the Corps. Regarding the scope of analysis in the EA, on which the Corps cooperated, the EA addressed reasonably foreseeable impacts from constructing and operating the project. Whether the EA needs to be supplemented by the Corps for its 404 review is an issue the Corps will need to address after it receives the Borough's 404 permit application.

Eel Passage

40. Regarding the construction and maintenance of eel passage at the project the Corps notes that any eel passage structure required at the project will need to be evaluated against Corps' operations and the Corps would reserve the right to approve or disapprove any physical and operational changes needed to the Beltzville dam. However, this license requires no eel or fish passage measures that would affect a Corps facility. In the event Interior were to exercise its authority under section 18 of the FPA to prescribe fishways, the licensee would of course need to coordinate the design and construction of such facilities with the Corps to ensure that the Corps' project and its operations would not be affected.

Water Quality Maintenance

41. Regarding maintaining water quality standards for Pohopoco Creek downstream of the dam, the Corps is concerned that once hydroelectric operations commence, it will be unclear who would be responsible for maintaining temperature and dissolved oxygen limits downstream and maintaining state standards.

42. The Borough proposes to monitor water quality before and during construction, and during project operation, as outlined in its Water Quality Protection and Monitoring Plan. Monitoring prior to construction would include testing the 16-inch-diameter water supply conduit to be used to pass flows while the steel liner is being installed to verify that turbulence and aeration result in DO levels that meet state standards. This information would be reported to the Pennsylvania DEP and the Corps. Likewise, any water pumped over the dam to provide minimum downstream flows during the liner and valve installation period would be monitored for temperature and DO. During the remainder of the construction period, the Borough would monitor and record water temperatures and DO at the downstream end of the stilling basin on a daily basis. Similarly, the Borough would monitor the DO and temperature of water discharged into Pohopoco Creek downstream of the project during project operation. Finally, the Borough proposes to take unspecified "corrective" action to aerate the discharged water to meet state standards and to ensure that the water quality, in particular DO and

temperature, of Pohopoco Creek below the Beltzville dam is maintained and that the creek maintains its classification as a cold-water fishery during project construction and operation.

43. The water quality certification requires the Borough to monitor water quality immediately downstream of the powerhouse discharge and at the downstream end of the stilling basin when the project is completed. It also requires water quality monitoring during construction of the conduit liner and closure valves at the point of water discharge from the conduit bypass. Reporting the monitoring results is to be done on a monthly basis. After the project has been operating for one year, the Borough may request to change the monitoring schedule.

44. In the EA staff found that reporting the results of water quality monitoring on a monthly basis as required in the certification would not be frequent enough for any needed corrective action to be effective. Additionally, staff noted that the details on what corrective actions would be taken, and in what order, if water quality fails to meet state standards, should be included in the water quality monitoring plan proposed by the Borough. Therefore, staff recommended that the water quality monitoring plan include real-time reporting of the monitoring results and specific measures for water quality mitigation in the event that any water quality parameters are found to fall below state standards. The plan required by Article 404 requires these provisions be included.

45. Regarding responsibility for violations, to the extent that any violation of the standards is project-related, then the licensee would be responsible. The Memorandum of Understanding between the Commission and the Corps provides for periodic inspections by the Corp's Regional Engineer to verify that the project is in compliance with all license conditions, which would include the state water quality certification.

Project Operation and Design

46. The Corps provided several comments related to design and/or operation of the hydroelectric project versus its operation of Beltzville Dam including: (1) expressing concern that the hydroelectric project could interfere with its operation of Beltzville Dam and the Corps' ability to modify its dam operations in the future if needs within the basin dictate a change; (2) noting that the final details of hydro operation have yet to be worked out but anticipating that the hydro project would physically control releases at the dam and that those releases would be directed by the Corps; (3) suggesting that operation of the hydro project be described as run-of-river in that the hydro project would have no storage and only use flows directed to be released by the Corps; (4) noting that the Borough proposal to reroute the 16-inch pipe in the vicinity of the junction of the existing conduit and the proposed 60-inch penstock as shown in Exhibit F-3 is undesirable and unnecessary, and that a valve needs to be included in the design between the bifurcated

penstocks and the powerhouse to provide a positive separation between the powerhouse and the existing 84-inch conduit; and (5) clarifying that when the Beltzville reservoir is above elevation 628 feet NGVD, the Corps releases water to return the pool level to 628 feet NGVD as quickly as possible.

47. Articles 303 through 307, and 309 provide the Corps sufficient authority over how the hydro project is designed, constructed, and operated. Specifically, they: (1) require the licensee to submit final plans and specifications for cofferdams and deep excavations to the Corps and Commission for review and approval; (2) require the licensee to enter into a comprehensive agreement with the Corps within 90 days after a license is issued to ensure that (a) studies and construction activities for the licensed project do not interfere with the operation of Corps' facilities or damage them, and (b) the licensee compensates the Corps for its project-related personnel and construction costs; (3) authorize the Corps to (a) inspect the construction, operation, and maintenance of any licensed facilities that may affect the structural integrity or operation of the Corps' project, and (b) order the licensee to stop any activity that may endanger the structural integrity or safety of the Corps' project; (4) require the licensee to submit a regulating plan to the Corps for approval at least 60 days prior to the start of construction, and to enter into an operating Memorandum of Agreement (MOA) with the Corps describing the detailed operation of the power facilities acceptable to the Corps; (5) provide that the licensee shall have no claim under the license against the United States arising from any changes made in the structure, operation, or reservoir levels of the Corps' project; and (6) require the licensee to provide the Commission's Regional Director two copies of all correspondence between the licensee and the Corps and provide that the Commission's Regional Director shall not authorize construction until the Corps provides final written approval of the project.

Minimum Flow

48. Regarding maintaining the current minimum flow of 35 cfs below the dam during construction, the Corps is concerned that the project may be licensed to release less than the 35-cfs minimum flow. The Corps states that passing less than the minimum required 35 cfs is not an option. The Corps also clarifies that the current Corps protocol for flood control operation of the Beltzville dam may require releasing only the minimum flow requirement of 35 cfs, even when inflows are high, in order to alleviate downstream flooding.

49. The project as licensed will be required to operate in a run-of-release mode as stipulated in Article 402 within the constraints established by the Corps. That is, the flow immediately downstream of the project shall at all times equal the flow made available to the project at the Beltzville dam. Therefore, if the Corps is only releasing the 35-cfs

minimum flow, the license will be required to pass the 35-cfs minimum flow either through the powerhouse or by bypassing the powerhouse.

Project Economics

50. Regarding the power and economic benefits of the project, the Corps is concerned that the Developmental Analysis section of the EA, does not clearly show that the project has negative net benefits.

51. The EA shows that the project, under both the applicant's proposal and the staff alternative, would have an annual power value less than the project's annual cost or a negative net annual benefit. Project economics are discussed further below.

OTHER ISSUES

A. Erosion and Sedimentation Control

52. Constructing the project will require ground-disturbing activities and some excavation, which could result in soil erosion and sedimentation. To control erosion and sedimentation, the Borough proposes to use best management practices during construction. These measures would include instituting an erosion and sediment control plan designed to limit surface runoff, limiting construction excavation and staging areas, and properly disposing of all excavated materials.

53. The EA found that constructing the project would likely cause only short-term, minor erosion and sedimentation because little soil is present where the tailrace and powerhouse would be constructed, and the stream banks have been built up by the Corps of Engineers with rip-rap. To ensure that erosion and sedimentation is minimized, the EA recommended a soil erosion and sedimentation control plan that specifies the location of specific erosion and sedimentation prevention measures. A soil erosion and sedimentation control plan is required under Article 302.

B. Flow Continuation

54. Pocopoco Creek downstream of Beltzville dam supports a sustainable trout population that provides year-round angling opportunities. Under normal operation, the Corps of Engineers maintains Beltzville Reservoir at 628 feet NGVD and releases flows to maintain the reservoir at that elevation. A minimum flow of 35 cfs is provided as prescribed by the Basin Commission to protect downstream aquatic resources.

55. During installation of the proposed steel liner and downstream closure valves, an estimated 4- to 8-week period proposed during September and October, the Borough would provide the existing minimum flow of 35 cfs in Pohopoco Creek below the dam by

releasing approximately 13 cfs through an existing 16-inch-diameter water supply conduit and by pumping the remaining 22 cfs over the dam into Pohopoco Creek. If reservoir inflows are lower than anticipated during the construction phase and no downstream flow augmentation is required by the Basin Commission, the Borough would request that the minimum flow be reduced to 22 cfs during the steel liner and closure valve installation.

56. The EA found that providing the existing 35-cfs minimum flow in Pohopoco Creek during the 4- to 8-week construction period, as proposed by the Borough, should ensure that flows in the creek meet state water quality standards. The EA noted, however, that even though the September to October period is a period of typically low flow in Pohopoco Creek, better protection of trout habitat could occur with the 35-cfs flow if the conduit liner and closure valve installation was begun in October. The EA also noted that a provision needed to be made for releasing higher flows if a major high flow event occurs during the liner and closure valve installation period, and that this could entail evacuating the construction site so the existing outlet works can be used by the Corps. Therefore, the EA recommended that the Borough develop, with the Corps, a plan for flow continuation during construction of the project, especially during installation of the steel liner and closure valve, which would help ensure that flows are released to Pohopoco Creek below the dam as needed. Finally, the EA noted that such a plan should be part of the agreement the Borough would be required to enter into with the Corps for construction and operation of the hydro project pursuant to the special articles included in Commission licenses at Corps facilities.

57. The Corps has made it clear in its comments on the EA that its preference is that the project release during construction whatever flow the Corps requires to be released. Article 307 of this license requires that the licensee, prior to start of construction, submit for approval a regulating plan to the 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. The article also requires the licensee, prior to start of power plant operation, to enter into an operating Memorandum of Agreement (MOA) with the Corps describing the detailed operation of the powerhouse acceptable to the Corps. The MOA will specify any restrictions needed to protect the primary purposes of the Corps project for navigation, recreation, water quality, and flood control. I find that these requirements allow the Corps sufficient latitude in determining how and how much flow the hydro project releases during construction.

C. Construction and Operation Compliance and Monitoring Plan

58. In the EA, staff recommended that construction and operation compliance monitoring measures be developed in consultation with the Corps, Pennsylvania DEP, and the Basin Commission to ensure compliance with the proposed mode of operation and ensure minimum flows are released during construction. Such measures would include documenting how flows would be released, calibrated, and monitored, and include contingencies for emergencies (such as providing downstream flows during project shutdowns), as well as reporting criteria, which would minimize misunderstandings about operational and construction phase compliance. Accordingly, Article 403 requires that a Compliance Monitoring Plan, prepared in consultation with Pennsylvania DEP, Basin Commission, and the Corps, be filed for Commission approval 120 days before beginning construction of the project.

D. Administrative Conditions

1. Annual Charges

59. The Commission collects annual charges from licensees for the administration of the FPA. Article 201 provides for the collection of such funds for administration of the FPA and use of a government dam. As noted, the Beltzville Hydroelectric Project will occupy 3.17 acres of federal land administered by the Corps. 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.²² Rather, it assesses a charge on the use of the federal facilities.²³

2. Exhibit F Drawings

60. The Commission requires licensees to file sets of approved project drawings on microfilm and in electronic file format. However, as noted above, the Corps recommends adding a valve in the project design on Exhibit F-3 between the bifurcated penstocks and the powerhouse to provide a positive separation between the powerhouse and the existing 84-inch conduit. Further, the Exhibit F drawings should be modified to remove the note stating that they are preliminary drawings intended to show the anticipated arrangement of the project features. Article 202 requires the Borough to file revised Exhibit F drawings for Commission approval after further consultation with the Corps, and to remove the note identifying the drawings as preliminary.

²² See 18 C.F.R. § 11.2(a) (2008).

²³ See 18 C.F.R. § 11.3 (2008).

3. Project boundary

61. The Borough's proposed project boundary (Exhibit G) drawing filed July 18, 2007, encloses its proposed new facilities as well as the Corps' existing intake tower, service-bridge, access road, and stilling basin. When the Commission licenses a hydro project at a federal dam, it only includes in the project those facilities that are being added to the federal dam. Further, the revised Exhibit G drawing is not stamped by a Registered Land Surveyor as required by section 4.39 of the Commission's regulations. Therefore, Article 203 requires the Borough to file a revised Exhibit G drawing that encloses only the licensed project facilities within the project boundary and meets the requirements of section 4.39 of the Commission's regulations. The Exhibit G drawing, therefore, filed on July 18, 2007, is not approved and is not made part of this license [see ordering paragraph (C)].

4. Headwater Benefits

62. Some projects directly benefit from headwater improvements that were constructed by other licensees, the United States, or permittees. Article 204 requires the licensee to reimburse such entities for these benefits if they were not previously assessed and reimbursed.

5. Start of Construction

63. Article 301 requires the licensee to start project construction within two years of the issuance date of this license and complete construction of the project within 5 years from the issuance date of this license.

6. Review of Final Plans and Specifications

64. The Commission requires licensees to file construction- and operation-related plans and specifications for unconstructed projects.

65. Article 302 requires the licensee to file for Commission approval final contract drawings and specifications - together with a supporting design report consistent with the Commission's engineering guidelines - a Quality Control and Inspection Program, Temporary Construction Emergency Action Plan, and a Soil Erosion and Sediment Control Plan at least 60 days before the start of project construction authorized by the license.

66. Where new construction of a project is involved, the Commission requires a licensee to file revised drawings of project features as-built. Article 310 requires the licensee to file revised Exhibits A, F, and G, as applicable; to describe and show those project facilities as-built.

7. Project Financing

67. To ensure completion of project construction once begun, Article 311 requires the licensee to file for Commission approval at least 90 days before the start of construction a project financing plan that shows that the licensee has acquired the funds or commitment for funds necessary to construct the project in accordance with the license.

8. Conditions for Projects at Corps Dams

68. Pursuant to a 1981 Memorandum of Understanding between the Commission and the Department of the Army, seven special articles are included in this license for the hydroelectric project to be developed at Corps facilities. The articles are incorporated in this license as Articles 303 through 309.

9. Use and Occupancy of Project Lands and Waters

69. Article 407 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. As stipulated in Article 407(g), the authority granted to the licensee under this article shall not apply to any part of the public lands and reservations of the United States included within the project boundary.

STATE AND FEDERAL COMPREHENSIVE PLANS

70. Section 10(a)(2)(A) of the FPA, 16 U.S.C. §803(a)(2)(A), requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project.²⁴ Under section 10(a)(2)(A), federal and state agencies filed comprehensive plans that address various resources in Pennsylvania. Of these, the staff identified and reviewed 9 comprehensive plans relevant to this project.²⁵ No conflicts were found.

SAFE MANAGEMENT, OPERATION, AND MAINTENANCE OF THE PROJECT

²⁴ Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19 (2008).

²⁵ The list of applicable plans can be found in section 7.0 of the EA.

71. Staff reviewed Borough's 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 provision's of this license.

NEED FOR POWER

72. The project would be located in the Reliability First Corporation (RFC) region of the North American Electric Reliability Council (NERC). According to NERC, summer peak demand in the region is expected to increase at an average rate of 1.4 percent per year during the period from 2007-2016. Staff concludes that project power will help meet the need for power in the region.

PROJECT ECONOMICS

73. 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.*,²⁶ 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.

74. In applying this analysis to the project, the staff considered two options: the applicant's proposal and the project as licensed herein. As proposed by the Borough, the levelized annual cost of operating the project is \$890,300, or \$94.01/MWh. The proposed project would generate an estimated average of 9,470 MWh of energy annually. When we multiply our estimate of average by the alternative power cost of \$65.06/MWh,²⁷ we get a total value of the project's power of \$616,130 in 2008 dollars. To determine whether the proposed project is currently economically beneficial, staff subtracts the project's cost from the value of the project's power.²⁸ Therefore, in the first

²⁶ 72 FERC ¶ 61,027 (1995).

²⁷ The alternative power cost of \$65.06/MWh is based on EIA fuel cost data.

²⁸ Details of staff's economic analysis for the project as license herein and for various alternatives are included in the EA issued May 2008.

year of operation, the project would cost \$274,170, or \$28.95/MWh, more than the likely alternative cost of power.

75. As licensed herein, the levelized annual cost of operating the project would be about \$867,080, or \$91.56/MWh with no effect on project generation. Based on the same estimated average annual generation and using the same power value, the power would cost \$250,950, or \$26.50/MWh, more than the likely cost of alternative power annually.

76. 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 their capability to provide an almost instantaneous load-following response to dampen voltage and frequency instability on the transmission system, system-power-factor correction through condensing operations, and a source of power available to help in quickly putting fossil-fuel based generating stations back on line following a major utility system or regional blackout.

77. 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.

78. 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

79. Sections 4(e) and 10(a)(1) of the FPA²⁹ 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; recreational opportunities; and the preservation of other aspects of environmental quality. Any license issued shall be such as in the Commission's judgment will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses. The decision to license this project, and the terms and conditions included herein, reflect such consideration.

²⁹ 16 U.S.C. §§ 797(e) and 803(a)(1) (2000), respectively.

80. The EA for the project contains background information, analysis of impacts, support for related license articles, and the basis for a finding that issuance of the license is not a major federal action significantly affecting the quality of the human environment. I conclude based on the record of this proceeding, including the EA and the comments thereon, that licensing the Beltzville Hydroelectric 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 constructed, operated, and maintained in accordance with requirements of this license.

81. Based on staff's independent review and evaluation of the Beltzville Hydroelectric Project, recommendations from the resource agencies and other stakeholders, and the no-action alternative, as documented in the EA, I selected the proposed Beltzville Hydroelectric Project, with the staff-recommended measures, and find that it is best adapted to a comprehensive plan for improving or developing the Pohopoco Creek.

82. I selected this alternative because: (1) issuance of an original license will allow for the development of a beneficial and dependable source of electric energy; (2) the required environmental measures will protect and enhance fish and wildlife resources, water quality; and (3) the 2.6 MW of electric energy generated from a renewable resource may offset the use of fossil-fueled, steam-electric generating plants, thereby conserving nonrenewable resources and reducing atmospheric pollution.

LICENSE TERM

83. Section 6 of the FPA³⁰ provides that original licenses for hydropower projects shall be issued for a term not exceeding 50 years. The Commission's general policy is to license a project at a federal facility for a full 50-year term.³¹ Because the Beltzville Hydroelectric Project will be located at a Corps dam, this license is issued for a period of 50 years.

The Director Orders:

(A) This original license is issued to the Borough of Lehighton (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 Beltzville Hydroelectric Project. This license is subject to the terms and conditions of the FPA, which is incorporated by reference as part

³⁰ 16 U.S.C. § 799 (2000).

³¹ See *City of Danville, Virginia*, 58 FERC ¶ 61,318 at 62,020 (1992).

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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 interest in those lands, described in the project description and the project boundary discussion of this order.

(2) Project works utilizing the Corps' Beltzville Dam consisting of: (a) a new 78-inch-diameter steel conduit liner; (b) a new 78-inch butterfly valve and 84-inch-diameter slide gate; (c) a new 60-inch-diameter, 37-foot-long Y-branch penstock that bifurcates into a new 36-inch-diameter, 43-foot-long penstock and a new 48-inch-diameter, 39-foot-long penstock leading to; (d) a new 60-foot-long by 30-foot-wide by 19-foot-tall concrete and rock powerhouse containing a 1,700 kW and a 900 kW generating units for a total installed capacity of 2,600 kW; (e) a new 300-foot-long, 12-kilovolt transmission line; and (f) appurtenant facilities.

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

Exhibit A: Pages A-1 through A-5 filed on December 29, 2006.

(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 and maintenance of the project.

(C) The Exhibit A described above is approved and made part of this license. However, the Exhibits F and G drawings are not approved. The revised Exhibit F Drawings must show the design of the project after consultation with Corps pursuant to Article 303 has been completed, and the note stating that the drawings are preliminary must be removed. The revised Exhibit G drawing must enclose only the licensed project facilities (i.e., the conduit liner, new valve(s) and gate(s), the project penstock(s), the project powerhouse, and the project transmission line) and must be stamped by a Registered Land Surveyor.

(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, as those conditions are set forth in Appendix A of this order.

(E) This license is subject to the articles set forth in Form L-2, (October 1975), entitled "Terms and Conditions of License for Unconstructed Major Project Affecting Lands of the United States" (*see* 54 FPC 1799 *et seq.*) except for article 20 of Form L-2 concerning the reservoir area, and the following additional articles:

Article 201. *Administrative Annual Charges.* The licensee shall pay the United States the following annual charges, effective as of the date of commencement of project construction, and as determined in accordance with the provisions of the Commission's regulations in effect from time to time for the purposes of:

- (1) reimbursing the United States for the cost of administration of Part I of the Federal Power Act. The authorized installed capacity for that purpose is 2,600 kW; and
- (2) recompensing the United States for the utilization of surplus water or water power from a government dam.

Article 202. *Exhibit F Drawings.* Within 90 days of license issuance, the licensee shall file for Commission approval, revised Exhibit F drawings showing the final design without the note identifying the drawings as preliminary. Prior to filing the Exhibit F for approval, the licensee shall consult with the Corps regarding Exhibit F-3 and the need to include a valve in the design between the bifurcated penstocks and the powerhouse to provide a positive separation between the powerhouse and the existing 84-inch conduit.

Article 203. *Exhibit G Drawing.* Within 90 days of license issuance, the licensee shall file, for Commission approval, a revised exhibit G drawing enclosing only the licensed project facilities within the project boundary. The exhibit G drawing shall comply with sections 4.39 and 4.41 of the Commission's regulations, 18 C.F.R. §§ 4.39 and 4.41 (2008).

Article 204. *Headwater Benefits.* If the licensee's project was directly benefited by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement during the term of the original license (including extensions of that term by annual licenses), and if those headwater benefits were not previously assessed and reimbursed to the owner of the headwater improvement, the licensee shall reimburse the owner of the headwater improvement for those benefits, at such time as they are assessed, in the same manner as for benefits received during the term of this license. The benefits will be assessed in accordance with Part 11, Subpart B, of the Commission's regulations.

Article 301. *Start of Construction.* The licensee shall commence construction of

the project works within two years from the issuance date of the license and shall 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 start of construction, the licensee shall 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 shall be a courtesy copy to the Director, D2SI). The submittal must also include as part of preconstruction requirements: a Quality Control and Inspection Program, Temporary Construction Emergency Action Plan, and Soil Erosion and Sediment Control Plan. The 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. 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 shall 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 shall 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 shall furnish the Corps and the Commission's Division of Dam Safety and Inspections – 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, shall meet with the Corps and the Commission's staff to revise the schedule accordingly. The licensee shall not begin project construction or any land-disturbing or land-clearing activities until the Corps has approved the final plans and specifications for the project.

Article 304. Review of Contractor Designs. The licensee shall review and approve the design of contractor–designed cofferdams and deep excavations, other than those approved according to Article 303, prior to the start of construction and shall ensure that construction of cofferdams and deep excavations is consistent with the approved design. At least 30 days prior to start of construction of the cofferdam, the licensee shall file with the Commission's New York Regional Engineer; and the Corps, one copy of the approved cofferdam construction drawings and specifications and a copy of the letter(s) of approval.

Article 305. Agreement with Corps. The licensee shall within 90 days from the issuance date of the license, enter into an agreement with the 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 shall not be redundant with the Commission's requirements contained in this license, shall 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 shall 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 shall refer the matter to the Commission for resolution.

Article 306. Periodic and Continuous Inspections by the Corps. The construction, operation and maintenance of the project works that, in the judgment of the Corps may affect the structural integrity or operation of the Corps project shall be subject to periodic or continuous inspections by the Corps. Any construction, operation and maintenance deficiencies or difficulties detected by the Corps inspection shall be immediately reported to the Commission's Division of Dam Safety and Inspections (D2SI) – New York Regional Engineer. Upon review, the D2SI – New York Regional Engineer shall 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 shall immediately inform the D2SI – New York Regional Engineer of the circumstances surrounding the cessation of construction, operation, or maintenance activities. The licensee shall 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 307. Regulating (or Operating) Plan. The licensee shall at least 60 days prior to start of construction, submit for Commission approval an operating plan describing: (a) reservoir flow diversion and regulation requirements for operation of the Corps project during construction as established by the Corps; and (b) integration of the operation of the hydroelectric facility into the Corps' project operation and emergency action plan. The operating plan shall include an operating memorandum of Agreement (MOA) entered into by the licensee and Corps describing the detailed operation of the power facilities acceptable to the Corps. The MOA shall specify any restrictions needed to protect the primary purposes of the Corps project for navigation, recreation, water quality, and flood control. The Commission's Division of Dam Safety and Inspections

(D2SI) – New York Regional Engineer shall be invited to attend meetings regarding the agreement. The MOA shall be subject to revision by mutual consent of the Corps and licensee as experience is gained by actual project operation. Should the licensee and the Corps fail to reach an agreement, the matter will be referred to the Director, Office of Energy Projects, for resolution. Copies of the regulating plan and signed MOA between the Corps and the licensee and any revision thereof shall be furnished to the Director, Office of Energy Projects, and the D2SI – New York Regional Engineer.

Article 308. *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 Corps project.

Article 309. *Corps' Written Approval.* The licensee shall file with the Commission, and provide two copies to the Commission's Division of Dam Safety and Inspections (D2SI) – New York Regional Office, all correspondence between the licensee and the Corps. The D2SI – New York Regional Engineer shall not authorize construction of any project work until the Corps' written approval of construction plans and specifications, quality control and inspection program, and temporary emergency action plan have been received by the Regional Engineer.

Article 310. *As-Built Drawings.* Within 90 days of completion of all construction activities authorized by this license, the licensee shall file for Commission approval, revised exhibits A, F, and G, as applicable, to describe and show those project facilities as built. A courtesy copy shall 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 311. *Project Financing Plan.* At least 90 days before starting project construction, the licensee shall file for Commission approval, three copies of a project financing plan. The plan must show that the licensee has acquired the funds, or commitment for funds, necessary to construct the project in accordance with this license. The licensee shall not start any project construction or ground–disturbing activities that are inseparably associated with the project, before the project financing plan is approved.

Article 401. *Reservation of Authority to Prescribe Fishways.* Authority is reserved to the Commission to require the licensee to construct, operate, and maintain, or to provide for the construction, operation, and maintenance of such fishways as may be prescribed by the Secretary of the Interior pursuant to section 18 of the Federal Power Act.

Article 402. Run-of-Release Operation. The licensee shall operate the project in a run-of-release mode in that the hydro project will have no storage and shall only use flows released by the Corps of Engineers or directed to be released by the Corps of Engineers within the constraints established by the Corps of Engineers according to Article 307.

Article 403. Compliance Monitoring Plan. At least 90 days prior to the start of project construction, the licensee shall file with the Commission, for approval, a plan to monitor compliance with the run-of-release (ROR) mode of operation required by Article 403.

The plan shall include, but not be limited to the following:

- (1) the criteria by which compliance with run-of-release operation will be measured;
- (2) the type and location of instrumentation to monitor project operation;
- (3) periodic maintenance and calibration necessary for any installed devices or gages, and identification of the data collection intervals and reporting procedures and time frames for fully calibrating any equipment installed to monitor ROR operation;
- (4) procedures to notify agencies within 24 hours of any deviations from the required mode of operation resulting from events beyond the licensee's control; measures used to restore normal operation as soon as possible following any deviations in flows; and measures proposed to notify agencies within 30 days prior to any scheduled operation or maintenance activity that may require deviation from normal operation; and
- (5) procedures for keeping accurate and sufficient records to show that hydroelectric project operation does not interfere with Corp reservoir operating levels and for making operating records readily available for agencies.

The licensee shall prepare the plan after consultation with the Pennsylvania Department of Environmental Protection, the Delaware River Basin Commission, and the U.S. Army Corps of Engineers. The licensee shall 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 resource agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall 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 shall include the licensee's reasons, based on project-specific information.

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

Article 404. Water Quality Monitoring Plan. At least 90 days before starting project construction, the licensee shall, prepare and file for Commission approval a Water Quality Monitoring Plan for the Beltzville Hydroelectric Project.

The plan shall include, but not be limited to:

- (1) a schedule for implementing the plan;
- (2) methods for measuring and verifying DO, temperature, and pH;
- (3) estimated costs for any structural or operational modifications that are needed to implement the plan;
- (4) consultation with the agencies, concerning changes to the plan after the first full year of monitoring implementation;
- (5) real-time reporting of the monitoring data; and
- (6) specific measures proposed for mitigation in the event that any water quality parameters are found to be below state standards and project-related.

The licensee shall prepare the plan after consultation with the Pennsylvania Department of Environmental Protection, the Delaware River Basin Commission, and the U.S. Army Corps of Engineers. The licensee shall 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 resource agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall 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 shall include the licensee's reasons, based on project-specific information.

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

Article 405. Eel Monitoring Plan. Within 90 days from the date the project begins operation, the licensee shall file with the Commission for approval, a plan for monitoring the project's tailrace for the presence of American eel to determine whether measures are needed to protect upstream migrant eels.

The plan shall include, but not be limited to:

- (1) methods for monitoring and quantifying the presence of eels in the vicinity of the project powerhouse, for determining whether eels are being attracted to the project powerhouse, and for determining whether eels are being adversely affected by contact with the project turbines;
- (2) consultation with the agencies concerning the monitoring results;
- (3) estimated costs for any potential structural or operational modifications that are determined to be needed to protect upstream migrating eels from the project turbines; and
- (4) a schedule for filing a report with the Commission on the results of monitoring and, if structural changes to the project are proposed, for applying for a license amendment.

The licensee shall prepare the plan after consultation with the Pennsylvania Department of Environmental Protection, the U.S. Fish and Wildlife Service, the Delaware River Basin Commission, and the U.S. Army Corps of Engineers. The licensee shall 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 resource agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall 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 shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Project operation shall not begin until the licensee is notified by the Commission that the plan is

approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 406. Cultural Resources Protection. If archeological or historic sites are discovered during project construction or during project operation or maintenance, or if the licensee plans any future modifications, other than routine maintenance, the licensee shall: (1) consult with the Pennsylvania State Historic Preservation Officer (SHPO) about any discovered sites; (2) prepare a historic properties management plan and a schedule to evaluate the significance of the sites and to avoid or mitigate any impacts to sites found eligible for inclusion in the National Register of Historic Places; (3) base the plan on recommendations of the SHPO and on the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation; (4) file the plan for Commission approval, together with the written comments of the SHPO documenting consultation and the adequacy of the plan; and (5) take the necessary steps to protect the discovered archeological or historic sites from further impact until notified by the Commission that all of these requirements have been satisfied.

The Commission may require a cultural resources survey and changes to the historic properties management plan based on the filings. The licensee shall not implement a historic properties management plan or begin any land-clearing or land-disturbing activities in the vicinity of any discovered sites until informed by the Commission that the requirements of this article have been fulfilled.

Article 407. Use and Occupancy. (a) In accordance with the provisions of this article, the licensee shall 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, to the extent it has interests in such 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 shall 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 shall 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 types 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 watercraft 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 shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall 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 shall: (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 reservoir 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 reservoir. No later than January 31 of each year, the licensee shall 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. If no conveyance was made during the prior calendar year, the licensee shall so inform the Commission and the Regional Director in writing no later than January 31 of each year.

(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 watercraft 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 Exhibit R or 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 submit a letter to the Director, Office of Energy Projects, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked Exhibit G or K map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the 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 shall 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 shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved Exhibit R or approved report on recreational resources of an Exhibit E; or, if the project does not have an approved Exhibit R or 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 shall not endanger health, create a

nuisance, or otherwise be incompatible with overall project recreational use; (ii) the grantee shall 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 shall 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 or K 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 shall be consolidated for consideration when revised Exhibit G or K drawings would be filed for approval for other purposes.

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

(F) The licensee shall serve copies of any Commission filing required by this order on any entity specified in this order to be consulted on matters related to the filing. Proof of service on these entities must accompany the filing with the Commission.

(G) This order is issued under authority delegated to the Director and is final unless a request for rehearing is filed within 30 days from the date of its issuance, as provided in Section 313(a) of the FPA. 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, except as specifically ordered by the Commission. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

J. Mark Robinson
Director
Office of Energy Projects

Project No. 12455-004

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**Form L-2
(October, 1975)**

FEDERAL ENERGY REGULATORY COMMISSION

**TERMS AND CONDITIONS OF LICENSE FOR
UNCONSTRUCTED MAJOR PROJECT AFFECTING
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 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 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 Commission may prescribe for the 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. Timber on lands of the United State 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 22. 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 23. 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 24. 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 25. 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 26. 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 27. 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 28. 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 29. 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 30. 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 31. 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 32. 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

1. Water Quality Limitations

- a. Operation of the Project shall not cause the dissolved oxygen ("DO") concentration, measured as set forth below, to be less than the instantaneous minimum and/or the minimum daily average as specified in 25 Pa. Code §93.7.
- b. Operation of the Project shall not cause the pH, measured as set forth below, to be less than or greater than the standards as specified in 25 Pa. Code §93.7.
- c. Operation of the Project shall not cause the water temperature, measured as set forth below, to be greater than the standards as specified in 25 Pa. Code §93.7.

2. Monitoring and Reporting

- a. The Owner shall conduct water quality monitoring immediately downstream of the powerhouse discharge and at the downstream end of the stilling basin when the Beltzville Hydroelectric Project is completed. The Owner shall conduct water quality monitoring during construction of the conduit liner and the downstream closure valves at the point of water discharge from the conduit bypass. The water shall be monitored for the identified parameters as follows:

<u>Parameter</u>	<u>Minimum Measurement Frequency</u>
DO	Daily
pH	Daily
Temperature	Daily

Water quality monitoring shall be taken immediately downstream of the powerhouse discharge and at the end of the stilling basin at a time representative of the entire discharge. The Owner may request the Department of Environmental Protection to change the monitoring schedule set forth in this paragraph after the completion of a one-year monitoring cycle conducted in accordance with this paragraph. The Owner retains the right to challenge any Department of Environmental Protection decision concerning a request to change the monitoring schedule submitted in accordance with this paragraph.

Monitoring results obtained during each month shall be summarized for that month and submitted to Department of Environmental Protection and received no later than the 28th day of the following month. The monthly reports shall include sample results, collection time and date, discharge start and end times, and comments.

- b. The Department of Environmental Protection retains the right to specify additional studies or monitoring to ensure that the receiving water quality is not adversely impacted.
3. Operations - The Owner shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed by the Owner to achieve compliance with the terms and conditions of this Certification. Proper operation and maintenance includes, but is not limited to, adequate laboratory controls and appropriate quality assurance procedures. This provision also includes the operation of backup or auxiliary facilities or similar systems that are installed by the Owner.
4. Inspection - The Project, including all relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Protection to determine compliance with this Certification and Pennsylvania's Water Quality Standards. A copy of this Certification shall be available for inspection by the Department of Environmental Protection during such inspections of the Project.
5. Transfer of Project - If the Owner intends to transfer any legal or equitable interest in the Project which is affected by this Certification, the Owner shall serve a copy of this Certification upon the prospective transferee of the legal and equitable interest at least thirty (30) days prior to the contemplated transfer and shall simultaneously inform the Regional Office of the Department of such intent. Notice to the Department shall include a transfer agreement signed by the existing and new owner containing a specific date for transfer of Certification responsibility, coverage, and liability between them.
6. Correspondence - All correspondence with and submittals to the Department of Environmental Protection concerning this Certification shall be addressed to:

Department of Environmental Protection
Northeast Regional Office
Water Management Program Manager
2 Public Square

Project No. 12455-004

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Wilkes-Barre, PA 18711

7. Reservation of Rights - The Department of Environmental Protection may suspend or revoke this Certification if it determines that the Owner has not complied with the terms and conditions of this Certification. The Department of Environmental Protection may require additional measures to achieve compliance with applicable law, subject to the Owner's applicable procedural and substantive fights.
8. Other Laws - Nothing in this Certification shall be construed to preclude the institution of any legal action or relieve the Owner from any responsibilities, liabilities, or penalties established pursuant to any applicable federal or state law or regulation.
9. Severability - The provisions of this Certification are severable and should any provision of this Certification be declared invalid or unenforceable, the remainder of the Certification shall not be affected thereby.

Document Content(s)

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