

135 FERC ¶ 62,149
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

City of Kaukauna, Wisconsin

Project No. 2677-019

ORDER ISSUING NEW LICENSE

(May 18, 2011)

INTRODUCTION

1. On August 29, 2007, the City of Kaukauna, Wisconsin (Kaukauna) filed, pursuant to sections 4(e) and 15 of the Federal Power Act (FPA),¹ an application for a new license to continue operation and maintenance of the Badger-Rapide Croche Hydroelectric Project No. 2677.² The project's authorized capacity being licensed is 9.4 megawatts (MW). The project is located on the Fox River in Outagamie County, Wisconsin and includes two developments.³ The Badger Development is located in the City of Kaukauna at the U.S. Army Corps of Engineers (Corps) Kaukauna dam. The Rapide Croche Development is located in the Town of Buchanan at the Corps' Rapide Croche dam. The project does not utilize federal lands.⁴

¹ 16 U.S.C. §§ 797(e) and 808 (2006).

² Some parts of the application refer to the City of Kaukauna as the licensee/applicant, and other parts refer to Kaukauna Utilities (a division of the City) as the licensee/applicant. The City of Kaukauna is the incumbent licensee, and this order thus treats the City as the relicense applicant.

³ Because the project is located on a navigable waterway of the United States and uses the power potential of federal dams, the project is required to be licensed by section 23(b)(1) of the FPA, 16 U.S.C. 817(1) (2006).

⁴ The project utilizes head created by two dams originally built by Green Bay & Mississippi Canal Company (Company), predecessor to Kaukauna, and sold to the United States in 1872. The Company retained its right to use for power purposes all surplus water not required for navigation. As such, no compensation was due for the use of the government dams at Kaukauna and Rapide Croche. See *City of Kaukauna*, 46 FERC ¶ 62,101(1989).

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2. As discussed below, I am issuing a new license for the project.

BACKGROUND

3. The Commission issued a new 30-year license for the project on January 30, 1989.⁵ On January 31, 2005, Kaukauna filed an application to amend the license, requesting an accelerated expiration date in order to begin repairs on facilities that had deteriorated due to age,⁶ decommission the Old Badger powerhouse, and construct a new Badger powerhouse to increase the project's installed capacity. On May 11, 2005, the Commission issued an order that granted this request and accelerated the expiration date of the license to not less than 5 years and 90 days from the issuance date of the order.⁷ The license for the Badger-Rapide Croche Project expired on August 9, 2010. Since then, Kaukauna has operated the project under an annual license pending the disposition of its new license application.

4. On November 28, 2007, the Commission issued a public notice accepting the license application, setting January 28, 2008, as the deadline for filing motions to intervene and protests. The U.S. Department of the Interior (Interior) and the Wisconsin Department of Natural Resources (Wisconsin DNR) filed timely notices of intervention,⁸ and American Whitewater filed a timely motion to intervene.⁹ None of the intervenors oppose the project.

5. On March 26, 2009, the Commission issued a public notice indicating that the application was ready for environmental analysis and soliciting comments,

⁵ 46 FERC ¶ 62,101(1989). The original license was issued in November 1977, effective November 1, 1938. 58 F.P.C. 2452 (1977).

⁶ The Old Badger plant was built in 1908 and the New Badger plant was constructed in 1929.

⁷ See *City of Kaukauna, Wisconsin*, 111 ¶ FERC 62,155 (2005).

⁸ Under Rule 214(a) of the Commission's Rules of Practice and Procedure, upon the timely filing of notices to intervene, the agencies became parties to the proceeding. See 18 C.F.R. § 385.214(a) (2010).

⁹ The motion to intervene was timely and unopposed and therefore was automatically granted under Rule 214(c)(1) of the Commission's Rules of Practice and Procedure. See 18 C.F.R. § 385.214(c)(1) (2010).

recommendations, terms and conditions, and prescriptions, with a filing deadline of May 25, 2009. In response, Interior filed timely recommendations on May 18, 2009. Wisconsin DNR (May 26, 2009), American Whitewater (May 26, 2009), and River Alliance of Wisconsin (May 28, 2009) filed comments and recommendations. The National Park Service (Park Service) filed comments and recommendations on July 24, 2009. On July 7, 2009, and August 5, 2009, Kaukauna filed reply comments.

6. On January 20, 2010, Commission staff issued a draft Environmental Assessment (EA). Kaukauna, the Park Service, Interior, Wisconsin DNR, American Whitewater, and River Alliance of Wisconsin filed comments on the draft EA. The Commission issued a final EA on August 12, 2010. The Park Service filed additional comments regarding recreational access at the project on December 14, 2010, and March 24, 2011. Kaukauna filed reply comments to the Park Service's latest letter on April 12, 2011.

7. The motions to intervene, comments, and recommendations were fully considered in determining whether, and under what conditions, to issue this license.

PROJECT DESCRIPTION

A. Existing Corps Facilities and Operation

8. The objective of Corps' regulation on the Lower Fox River is to maintain the upper pools of the dams within prescribed limits by the removal and placement of flashboards and the opening and closing of sluice gates in accordance with the Lake Winnebago Reservoir Regulation Manual (Manual).¹⁰ The Kaukauna and Rapide Croche dams are federal facilities located at about river mile 24 and 19, respectively, and not part of this license. The Corps operates the Kaukauna and Rapide Croche dams for navigation, recreation, water quality, and flood control purposes. There are no minimum flow releases at either dam.

9. The Kaukauna dam is a concrete gravity dam founded on bedrock. The dam includes a 205-foot-long sluiceway section flanked by 199-foot-long spillway sections on either side. The sluiceway section contains eight 14-foot by 20-foot Taintor gates. The Corps maintains water levels at the Kaukauna dam between the dam crest at elevation

¹⁰ The Manual (filed by staff on May 3, 2011) describes the Corps' operation of nine federal dams and associated locks and Lake Winnebago within the Fox River drainage. The Corps' operations pertaining specifically to the Kaukauna and Rapide Croche dams are also described in a 1990 Memorandum of Agreement (MOA) between the Corps and Kaukauna (filed by staff on May 12, 2011).

652.75 feet International Great Lakes Datum 1955 (IGLD) and 1.5 feet above the dam crest at elevation 654.25 feet IGLD with 6-inch wooden flashboards in place.¹¹ The Corps' operating range ensures at least a 6-foot navigation channel upstream of the dam. To maintain reservoir levels within the 1.5-foot operating range, the Corps opens its Taintor gates or requests Kaukauna to adjust its operation or remove flashboards.¹² If the reservoir level falls below the dam crest, the Corps directs Kaukauna to promptly cease operation until the level has returned to the top of the dam crest.

10. The Rapide Croche dam is also a concrete gravity dam founded on bedrock. The dam includes a center sluiceway section flanked by a 204-foot-long spillway section to the south and a 152.3-foot-long spillway section to the north. The sluiceway section contains four 15.5-foot by 20-foot Taintor gates. The Corps maintains water levels at the Rapide Croche dam between the dam crest at elevation 602.16 feet IGLD and 3 feet above the dam crest at elevation 605.16 feet IGLD with 30-inch wooden flashboards in place.¹³ To maintain reservoir levels within an approximate 3-foot operating range, the Corps opens its Taintor gates or requests Kaukauna to adjust its operation or remove flashboards.¹⁴ As with the situation at the Kaukauna dam, if the reservoir level falls below the dam crest, the Corps directs Kaukauna to promptly cease operation until the level has returned to the top of the dam crest.

B. Project Facilities

11. The existing Badger Development is situated on the south side of the Fox River, approximately 1,800 feet downstream of the Corps' Kaukauna dam. The Badger Development utilizes the head created by the 22-foot-high Kaukauna dam and consists of: (1) a 2,100-foot-long, 100-foot-wide power canal that bifurcates into a 260-foot-long, 200-foot-wide canal leading to the Old Badger powerhouse, and a 250-foot-long, 80-foot-wide power canal leading to the New Badger powerhouse; (2) the Old Badger powerhouse, containing two 1,000-kilowatt (kW) generating units for a total installed

¹¹ A Corps' permit dated March 13, 1919, allows Kaukauna to install and maintain 6-inch flashboards on the Kaukauna dam.

¹² The flood stage elevation at Kaukauna dam is 655.35 feet IGLD.

¹³ A Corps' permit issued to the Green Bay and Mississippi Canal Company on August 27, 1934, amended on November 17, 1961, and later transferred to Kaukauna, allows Kaukauna to install and maintain 30-inch flashboards on the Rapide Croche dam.

¹⁴ The flood stage elevation at the Rapide Croche dam is 606.66 feet IGLD.

capacity of 2,000 kW; and (3) the New Badger powerhouse, containing two 1,800-kW generating units for a total installed capacity of 3,600 kW. A 3,000-foot-long bypassed reach extends from the Corps' Kaukauna dam downstream to the impoundment of the City Plant Dam Project No. 1510.¹⁵

12. The existing Rapide Croche Development, located approximately 4.5 miles downstream of the Badger Development, is integral to the Corps' Rapide Croche dam. The Rapide Croche Development utilizes the head created by the 20-foot-high dam, and consists of: (1) a powerhouse, located on the south end of the dam, containing four 600-kW generating units for a total installed capacity of 2,400 kW; and (2) a 5-mile-long, 12-kilovolt (kV) transmission line (serving both developments).

13. Kaukauna installs flashboards atop the Kaukauna and Rapide Croche dams to provide additional head for project generation under low and normal flow conditions. The flashboards used at the Kaukauna dam are 6 inches high. The flashboards used at the Rapide Croche dam are 30 inches high. This order incorporates the flashboards into the project description as they are project facilities.

14. The current license requires Kaukauna to operate and maintain the Rapide Croche Park. Amenities provided at the park include, drinking water, a parking area, toilet facilities, picnic tables and grills, hiking trails, and protective fencing.

C. Project Boundary

15. The existing project boundary for the Badger-Rapide Croche Project includes the two developments, the Rapide Croche Park, and the transmission line right-of-way easement connecting the two developments. The transmission line is approximately 5 miles long and is immediately adjacent to County Road ZZ. The transmission line right-of-way easement varies in width from 50 feet to 116 feet; however, along most of its length it is approximately 60 feet wide (encompassing the road).

16. In a letter issued November 27, 2007, Commission staff instructed Kaukauna to submit revised exhibit G drawings for the project to include, among other things, the flashboards used at the Kaukauna and Rapide Croche dams and the area of the Corp's Kaukauna and Rapide Croche impoundments that results from the increased water surface elevation created by the flashboards.¹⁶ On April 4, 2008, Kaukauna filed a

¹⁵ Kaukauna's City Plant Dam Project is located between the Badger Development and the Rapide Croche Development.

¹⁶ Commission staff cited the order issuing license for the Green Island Project No. (continued)

revised exhibit G enclosing the upper 6-inch and 30-inch portions of the Corps' Kaukauna and Rapide Croche impoundments, respectively, resulting from the height of Kaukauna's flashboards. The upper reservoir elevation included within Kaukauna's revised project boundary was 656 feet North American Vertical Datum 1988 (NAVD)¹⁷ and 606 feet NAVD for the Kaukauna and Rapide Croche impoundments, respectively. Because the upper water surface elevations established as a result of Kaukauna's flashboards are within the flood stage of the Corps' Kaukauna and Rapide Croche impoundments, these upper bounds do not need to be included in the project boundary. As such, this order requires Kaukauna to revise its exhibit G drawings previously filed with its final license application to include the 6-inch flashboards at the Kaukauna dam and the 30-inch flashboards at the Rapide Croche dam but not the areas of the Corps' impoundments that are inundated.

D. Project Operation

17. Kaukauna operates the project in accordance with the MOA with the Corps, so that impoundment levels are maintained for navigation, while excess inflows are used to generate electricity at the Badger and Rapide Croche powerhouses.

18. The existing project license requires Kaukauna to operate the project in a run-of-river mode, and to minimize the fluctuations of the reservoir surface elevations associated with the Badger and Rapide Croche developments by maintaining sufficient discharge from each development such that flow, as measured immediately downstream from the tailrace of each development, approximates the instantaneous sum of inflow to the respective reservoirs. Although this requirement pertains to the operation of both developments, it is most applicable to the operation of the Rapide Croche Development, which is integral with the Corps' dam. The Badger Development, on the other hand, uses a power canal and thus flows used for generation bypass the natural river channel. As such, the sum of the bypassed reach flow and tailrace flow approximate the sum of inflow to the Corps' Kaukauna impoundment.

13 that required a revised project boundary encompassing any flooded land attributable to an increase in reservoir elevation created by the flashboards. *See* 57 FPC 817 (1977).

¹⁷ IGLD is the reference system for the measurement of water levels in the Great Lakes and St. Lawrence River Basin. The first IGLD was based on measurements centered on the year 1955. The most recent datum is based on measurements centered on 1985 and is referred to as IGLD 1985. IGLD 1955 elevations can be converted to IGLD 1985 elevations by adding 0.7 feet. Kaukauna's exhibits reference NAVD 1988, which is considered equal to IGLD 1985.

E. Proposed Project Facilities and Operation

19. Kaukauna proposes to decommission the Old Badger powerhouse, demolish the New Badger powerhouse, and construct a new 7-MW powerhouse about 150 feet upstream from the existing New Badger powerhouse site. The proposed project works would consist of: (1) a modified power canal; (2) a new powerhouse with integral intake; and (3) two new identical 3.5- to 3.6-MW horizontal Kaplan "S" type turbines. The Old Badger powerhouse would be converted to an alternative use. The New Badger powerhouse would be decommissioned, demolished, and removed. The existing service road and bridge that provide access from Kaukauna's offices and garage to the existing New Badger powerhouse would be demolished and removed. The tailrace area associated with the existing Old Badger powerhouse would be filled with soil and a new service road would be constructed over the filled area.

20. The new generating units that would be installed at the Badger Development would each have a hydraulic capacity of 2,630 cubic feet per second (cfs), for a total of 5,260 cfs, compared to the hydraulic capacity for the existing Badger Development of 3,096 cfs. The increased hydraulic capacity through the proposed powerhouse would decrease the frequency, duration, and magnitude of spill over the Corps' Kaukauna dam. The minimum operating discharge of each unit would be 570 cfs, which is slightly lower than the minimum discharge capacity of the existing units.

21. No significant changes to hydropower facilities or operation are proposed for the Rapide Croche Development. Kaukauna proposes to continue operating both developments in a run-of-river mode by maintaining impoundment levels within a 1.5-foot and 3.0-foot operating band above the dam crest at the Kaukauna and Rapide Croche dams, respectively, and in a manner consistent with the Corps' operation requirements (discussed previously).

F. Environmental Measures

22. Kaukauna proposes to implement several measures to protect or enhance water quality, fisheries, recreation, aesthetics, and cultural resources.

23. Kaukauna proposes to develop and implement an erosion and sedimentation control plan to prevent adverse construction-related effects on water quality; test excavated overburden for contaminants, and if necessary, develop and implement a sediment disposal plan; continue to operate the project in a run-of-river mode, with minimal reservoir fluctuations; and maintain a minimum instream flow of 100 cfs in the bypassed reach year-round except from mid-March through mid-April when water

temperatures are 38 to 50 degrees Fahrenheit (°F), when Kaukauna would maintain a minimum instream flow of 1,500 to 1,550 cfs to support walleye spawning.¹⁸

24. Kaukauna proposes to implement the proposed Recreation Plan it filed on January 9, 2009, that includes: a one-time donation of \$100,000 to the City of Kaukauna for use in the further enhancement and development of Hydro Park;¹⁹ a one-time donation to the Fox River Navigational System Authority²⁰ of \$25,000 (\$5,000 for each of the five Kaukauna Locks) for use in the development of canoe portages at the locks; a new boat launch area on the southern shoreline of the Rapide Croche impoundment upstream of Rapide Croche Park (Rapide Croche boat launch) on lands owned by the City of Kaukauna; enhancements at the existing Rapide Croche Park; a one-time donation of \$40,000 to the Fox Cities Whitewater Park Committee for the development of an “off-site” whitewater boating park on the lower Fox River; and revising the project boundary to include the existing City of Kaukauna Boat Launch (City Boat Launch) on the Kaukauna impoundment and the proposed Rapide Croche boat launch.

25. Finally, Kaukauna proposes to implement the Historic Resources Management Plan (HRMP) filed on August 21, 2007, and approved by the Wisconsin State Historic Preservation Officer on January 14, 2008. As part of the HRMP, Kaukauna proposes to continue routine maintenance of the Old Badger powerhouse without altering the exterior; design the proposed new powerhouse to complement the Old Badger powerhouse; investigate options for re-using salvaged stone to minimize the visual impact of filling portions of the canal (*e.g.*, by using this material to outline the new

¹⁸ To provide a minimum instream flow in the bypassed reach, Kaukauna would curtail or forego generation such that the Corps has to either spill excess flows over the Kaukauna dam or release flows through a gate or gates at the dam; or install a new structure to release flows from the power canal into the bypassed reach. Either mechanism may require Corps concurrence that project operation or facilities would not interfere with Corps operation or facilities.

¹⁹ Hydro Park is an area of open space located adjacent to the south side of the Badger power canal outside of the existing project boundary. In addition to the open space, Hydro Park includes a retired hydropower turbine on display. The City of Kaukauna intends to add trails, picnic areas, a shelter, restrooms, and a visitor kiosk that would provide information on the importance of hydroelectric generation in the Kaukauna area.

²⁰ The State of Wisconsin formed the Fox River Navigational System Authority to renovate and operate the Fox River lock system for the purpose of navigation.

contours); and periodically monitor shoreline erosion sites at the Rapide Croche impoundment.

SUMMARY OF LICENSE REQUIREMENTS

26. As summarized below, this license, which authorizes 9.4 MW of renewable energy, requires a number of measures to protect and enhance fish, wildlife, aesthetics, recreation, and cultural resources at the project.

27. To protect water quality, the license requires Kaukauna to develop and implement an erosion and sedimentation control plan, test excavated overburden for contamination, and develop and implement a disposal plan for contaminated soils, if necessary. The license also requires implementation of a 3-year water quality monitoring plan to evaluate the effectiveness of year-round and seasonal flow releases on water temperature and dissolved oxygen in the bypassed reach.

28. To protect or enhance conditions for aquatic, terrestrial, and riparian resources during project operation, the license requires Kaukauna to operate in a run-of-river mode in accordance with the existing MOA until such time as a new operating agreement and MOA are approved by the Corps and filed with the Commission, and year-round and seasonal flow releases at the Badger Development bypassed reach.

29. To clarify Kaukauna's responsibilities for operation of the Badger and Rapide Croche developments relative to the Corps' operation of the Kaukauna and Rapide Croche dams, the license requires an operation compliance monitoring plan to verify and report on impoundment levels, tailwater elevations, power generation, flows in the bypassed reach, ramping rates, and temperatures.

30. To reduce fish entrainment at both developments, the license requires the installation of trash racks with 1-inch clear spacing at the proposed Badger powerhouse and, no later than 2021, at the existing Rapide Croche powerhouse.

31. To protect native plant communities and the wildlife that depend on them, the license requires the implementation of an invasive species management plan.

32. The license requires completion of recreation facilities planned by the City of Kaukauna at Hydro Park, inclusion of the City Boat Launch on the Kaukauna impoundment as a project facility, a new boater access site at Central Park, a new access site near Elm Street, a new boat launch on the Rapide Croche impoundment, facility improvements at Rapide Croche Park, and provisions for addressing public safety at the Central Park and Elm Street access locations.

33. To mitigate for the loss of boating flows due to the increase in installed capacity of the proposed new Badger powerhouse, this license requires scheduled whitewater boating flows of 3,340 cfs, flow information for boaters, and monitoring at the Central Park access location.

34. To protect the cultural resource values associated with the Badger and Rapide Croche developments, the license requires the implementation of an HRMP that includes designing the proposed Badger powerhouse to complement the appearance of the Old Badger powerhouse, and re-using materials salvaged from the existing power canal in landscaping after demolition and construction activities are complete.

WATER QUALITY CERTIFICATION

35. Under section 401(a) of the Clean Water Act (CWA),²¹ 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 (certification) for the project or has waived certification by failing to act on a request for certification within a reasonable period of time, not to exceed one year. Section 401(d) of the CWA provides that the certification shall become a condition of any federal license that authorizes construction or operation of the project.²²

36. On April 1, 2009, Kaukauna applied to the Wisconsin DNR for 401 water quality certification for the Badger-Rapide Croche Project. On February 19, 2010, Kaukauna withdrew its request and submitted a new request for certification. Wisconsin DNR received the request on February 22, 2010. On February 17, 2011, Wisconsin DNR issued a certification that includes 14 conditions that are set forth in Appendix A of this order and incorporated into the license as ordering paragraph D. The certification includes requirements for run-of-river operation in accordance with the water level and flow management plan of the Corps, limiting impoundment fluctuations, minimum flow and spawning flow releases, ramping rates, fish protection, water quality monitoring, invasive species monitoring, and recreational facilities. Article 401 requires the licensee to file, for Commission approval, plans required by the certification conditions, notify the Commission of planned and unplanned deviations from license requirements, and file amendment applications, as appropriate. As discussed below, Commission staff does not recommend adopting some of these measures, but they nevertheless must be included in the license.

²¹ 33 U.S.C. § 1341(a)(1) (2006).

²² 33 U.S.C. § 1341(d) (2006).

COASTAL ZONE MANAGEMENT ACT

37. Under section 307(c)(3)(A) of the Coastal Zone Management Act (CZMA),²³ 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.

38. The Badger-Rapide Croche Project is not located in a coastal county. By letter dated November 9, 2009, the Wisconsin Coastal Management Program confirmed that water quality certification would be sufficient for consistency with the state's CZMA program and that no separate review is needed.

SECTION 18 FISHWAY PRESCRIPTIONS

39. Section 18 of the FPA²⁴ 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 Commerce or the Secretary of the Interior, as appropriate. In a letter filed May 18, 2009, Interior requested that the Commission reserve its authority to require fishways that it may prescribe in the future. Consistent with Commission policy, Article 403 of this license reserves the Commission's authority to require fishways that may be prescribed by Interior for the Badger-Rapide Croche Project.

THREATENED AND ENDANGERED SPECIES

40. Section 7(a)(2) of the Endangered Species Act of 1973²⁵ 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.

41. In the EA, Commission staff found that no federally listed species or critical habitats for such species are present within the project area. For this reason, Commission

²³ 16 U.S.C. § 1456(c)(3)(A) (2006).

²⁴ 16 U.S.C. § 811 (2006).

²⁵ 16 U.S.C. § 1536(a) (2006).

staff concluded that issuing a new license for the project would have no effect on federally listed species.²⁶

NATIONAL HISTORIC PRESERVATION ACT

42. Under section 106 of the National Historic Preservation Act (NHPA)²⁷ and its implementing regulations,²⁸ federal agencies must take into account the effect of any proposed undertaking on properties listed or eligible for listing in the National Register of Historic Places (defined as historic properties) and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking. This generally requires the Commission to consult with the 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.

43. To satisfy these responsibilities, the Commission executed a statewide Programmatic Agreement (PA) in 1993 with the Wisconsin and Michigan State Historic Preservation Officers and the Advisory Council on Historic Preservation. The PA requires the licensee to prepare and implement a Historic Properties (or Resources) Management Plan for the term of any new license issued for this project. Execution of the PA demonstrates the Commission's compliance with section 106 of the NHPA.

44. The existing Badger Development and associated project features are listed on the National Register of Historic Places as part of the Badger Hydroelectric Historic District, and the Rapide Croche Development is eligible for listing. Kaukauna filed its HRMP on August 21, 2007, and consulted further with the SHPO on December 12 and 13, 2007. By e-mail dated January 14, 2008, the SHPO agreed that the HRMP addresses its concerns. Article 410 requires the licensee to implement the PA and the HRMP filed by Kaukauna on August 21, 2007.

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

²⁶ See final EA at 10-11.

²⁷ 16 U.S.C. § 470 et seq. (2006).

²⁸ 36 C.F.R. Part 800 (2010).

45. Section 10(j)(1) of the FPA²⁹ requires the Commission, when issuing a license, to include conditions based on recommendations by federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act,³⁰ to “adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)” affected by the project.

46. In response to the March 26, 2009, public notice that the project was ready for environmental analysis, Interior filed nine recommendations under section 10(j).³¹ One recommendation was determined to be outside the scope of section 10(j) and is discussed in the next section. One recommendation found to be within the scope of section 10(j) is not included in this license and is discussed below.

47. This license includes conditions consistent with seven of the eight recommendations that are within the scope of section 10(j): (1) operate the project in a run-of-river mode (certification condition 2);³² (2) a minimum flow in the bypassed reach of 1,500 to 1,550 cfs for walleye spawning during March and April when water temperatures are between 38 and 50°F and 300 cfs during the remainder of the year (certification condition 3);³³ (3) an operation compliance monitoring plan (certification

²⁹ 16 U.S.C. § 803(j)(1) (2006).

³⁰ 16 U.S.C. §§ 661 et seq. (2006).

³¹ Interior filed the recommendations on May 18, 2009.

³² Interior originally recommended that the Badger Development maintain a constant discharge through the powerhouse in the event of a power outage as part of its recommendation for run-of-river operation. Following discussion during the 10(j) meeting held on March 23, 2010, Interior agreed with staff’s conclusion in the draft EA that fish and wildlife resources would be protected by spill into the bypassed reach at the Kaukauna dam and by the backwater effects of the City Plant dam (FERC Project No. 1510, owned and operated by Kaukauna) located downstream of the Badger Development. Interior agreed with staff that the need for continuous communication between Kaukauna and the Corps in the event of a project shut-down in order to prevent dewatering of important aquatic habitat downstream of the Badger Development could be addressed within the provisions of an operation compliance monitoring plan.

³³ Interior originally recommended a minimum flow release of 1,339 cfs in March, 1,859 cfs in April, and 624 cfs for the remainder of the year. Interior revised its recommendation in its comments on the draft EA filed February 19, 2010.

condition 12 and Article 407); (4) maintenance of State of Wisconsin water quality standards (certification condition 11); (5) periodic water quality monitoring (certification condition 11 and Article 406); (6) installation of trash racks with 1-inch-clear horizontal spacing above the intakes of the powerhouses (certification condition 6); and (7) measures to identify and control the spread of invasive weeds when deemed appropriate by the agencies (certification condition 8).

48. If the Commission believes that any recommendations filed pursuant to section 10(j) may be inconsistent with the purposes and requirements of Part 1 of the FPA or other applicable law, section 10(j)(2) 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.³⁴ If the Commission still does not adopt a recommendation, it must explain how the recommendation is inconsistent with Part 1 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.

49. In the draft EA, Commission staff made a preliminary determination that Interior's recommendation for Kaukauna to maintain average normal inflow velocities immediately upstream of the trash racks of the powerhouses to be no greater than 2.0 feet per second (fps) was inconsistent with the comprehensive development and public interest standards of sections 10(a) and 4(e) of the FPA.³⁵

50. By letter filed February 19, 2010, Interior requested a meeting to discuss Commission staff's preliminary determination. In this letter, Interior also provided revised recommendations regarding minimum instream flows and maximum approach velocities at the Badger Development intake, and a new recommendation regarding ramping rates, which is discussed in the following section. Commission staff held a meeting by teleconference on March 23, 2010, to attempt to resolve the apparent inconsistency.

51. In its comments on the draft EA and during the March 23, 2010, 10(j) conference call, Interior revised its recommendation to specify that the approach velocity at the proposed Badger Development intake should be no greater than 2.4 fps to adequately protect juvenile lake sturgeon.

³⁴ 16 U.S.C. § 803(j)(2) (2006).

³⁵ See draft EA at 120.

52. As noted in the draft EA, fish large enough to be physically excluded from entrainment by 1-inch clear bar spacing are usually much more capable than small fish of escaping the hydraulic forces of intake flow as they approach powerhouse intakes. Based on the swimming speeds of fishes residing in the project impoundment and the existing approach velocities in front of the intakes, most fish greater than 6 inches long would be able to avoid impingement even at intake velocities approaching 2.9 fps.

53. In the final EA, staff reviewed the results of a study Kaukauna conducted, in response to Interior's revised recommendation, to determine the frequency at which fish would be exposed to high approach velocities. The study (filed on April 12, 2010) shows that during an average year, approach velocities at the new Badger powerhouse trash racks would be 2.4 fps or less for approximately 250 days a year, or approximately 68 percent of the time, and that higher approach velocities would occur most frequently during the months of March, April, May, and June.

54. The timing of higher approach velocities in relation to lake sturgeon life history indicates that impingement of juvenile lake sturgeon is unlikely. During the spring months when the higher approach velocities are most likely to occur, young-of-year lake sturgeon are very small and could pass through trash racks with 1-inch clear spacing. Yearling lake sturgeon that would be migrating downstream from Lake Winnebago have an average length of 11 inches and their burst speed capability would likely exceed 2.4 fps, which would enable them to escape impingement. For these reasons, Interior's recommendation for velocities no greater than 2.4 fps at all times would not result in incremental benefits to aquatic resources, and would not justify the \$144,220 levelized annual cost associated with constructing and maintaining a facility to ensure intake velocities of no greater than 2.4 fps.³⁶

55. For the above reasons, I conclude, in accordance with FPA section 10(j)(2)(A), that Interior's recommendation for Kaukauna to maintain an approach velocity at the proposed Badger Development intake no greater than 2.4 fps is inconsistent with the comprehensive planning standard of sections 4(e) and 10(a) of the FPA. In accordance with section 10(j)(2)(B) of the FPA, I find that requiring limitations on intake velocities (pursuant to condition 5 of the certification) of 2.4 fps during August, September, and October, and 2.9 cfs at other times will adequately and equitably protect, mitigate damages to, and enhance fish and wildlife resources affected by this project.

SECTION 10(a)(1) OF THE FPA

³⁶ To reduce the intake velocities, the trash rack structure would need to be relocated to the head of the power canal. *See* EA at 112.

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

A. Federal and State Fish and Wildlife Agency Recommendations

57. The following section discusses one recommendation Interior filed under section 10(j), but which Commission staff determined to be outside the scope of section 10(j); one new recommendation filed by Interior following issuance of the draft EA; and fish and wildlife recommendations filed by Wisconsin DNR that the agency did not specifically designate as section 10(j) recommendations. I consider these recommendations and proposed measures under the broad public-interest standard of section 10(a) of the FPA.

1. Operating emergencies

58. Interior filed a recommendation under section 10(j) that run-of-river and flowage elevations may be modified temporarily if required by operating emergencies beyond the control of the licensee, or if measures (*e.g.*, releases) are necessary to maintain suitable habitat for spawning lake sturgeon downstream of the dam. In the EA,³⁸ Commission staff found this recommendation to be outside the scope of section 10(j) because it is not a specific measure to protect, mitigate, or enhance fish or wildlife resources, but staff recommended implementation of this measure, because the Commission typically includes such provisions in its license articles for operating situations beyond the control of the licensee. Certification condition 2 allows for temporary modifications of run-of-river and the flowage elevations, if required, and Article 401 requires that the Commission be notified of any temporary modifications in project operation.

2. Ramping rates

59. On February 19, 2010, Interior filed a new recommendation for a project discharge ramping rate. In its letter and during the section 10(j) meeting, Interior (and Wisconsin

³⁷ 16 U.S.C. § 803(a)(1) (2006).

³⁸ See final EA at 134.

DNR) recommended that Kaukauna develop a discharge ramping rate (to be included in the operation compliance monitoring plan) to maintain an appropriate transition downward from the 1,500-cfs minimum discharge during the walleye spawning season to the recommended minimum flow during the remainder of the year. In addition, the Park Service offered its participation with Interior and Wisconsin DNR in determining ramping rates for both up-ramping and down-ramping, if needed, for whitewater boating flows, and identified 10 cfs per minute as a reasonable standard.

60. Decreases in project outflows associated with downward adjustments (whether from 1,500-cfs walleye spawning flows or whitewater boating flows) to the minimum instream flow have the potential to adversely affect fish, mussels, and other aquatic biota as a result of stranding. Rapid increases in streamflow could also adversely affect aquatic resources as a result of turbidity or rapid “flushing” of aquatic resources downstream. For these reasons, Commission staff recommended in the EA that limits be placed on both down-ramping and up-ramping rates.³⁹ Certification condition 7 requires that a change in generation flows not exceed 10 percent of the total inflow per hour unless otherwise agreed upon by Wisconsin DNR, the U.S. Fish and Wildlife Service (FWS), and Kaukauna. Limiting these rates so that they do not exceed 10 percent of the inflow per hour should be adequate to protect aquatic resources and would provide similar benefits to those that would be realized under the Park Service’s recommended 10 cfs per minute (600 cfs per hour) down-ramping rate recommendation.

3. Water resources plan

61. Wisconsin DNR recommended that Kaukauna be required to develop a water resources plan, but did not explain the need or basis for such a plan, or what the goals and objectives of such a plan should be. The EA recommended and the certification includes conditions that Kaukauna develop and implement a 3-year water quality monitoring plan to evaluate the effects of changes in project operation, once the proposed Badger powerhouse comes on line and an operation compliance monitoring plan to document maintenance of minimum flows and ramping rates. Certification condition 11 and Article 406 require the water quality monitoring plan and certification condition 12 and Article 407 require the operation compliance monitoring plan. These plans should address water resource management concerns at the project.

4. Fish passage plan

62. Wisconsin DNR recommended that Kaukauna develop a fish passage plan but did

³⁹ See final EA at 120.

not explain the need or basis for such a plan, or what the goals and objectives of such a plan should be. The EA found that the results of fish and mussel surveys in pools upstream and downstream of the Badger-Rapide Croche Project indicate that the fish assemblages are similar and that the populations of fish are relatively healthy and generally reflect those of other developed Wisconsin rivers.⁴⁰ In addition, there are no fish passage facilities at any of the 13 dams on the lower Fox River, and the EA acknowledged that these dams likely prevent some species from accessing mainstem and tributary habitats they once occupied but noted that the Corps has modified the Rapide Croche dam to prevent the upstream migration of sea lamprey to protect native fish populations from this invasive species.⁴¹ Finally, fish passage was not identified as an agency management objective during scoping, and reservation of section 18 authority would allow Interior to prescribe fish passage in the future, if conditions warrant. Therefore, the license does not require Kaukauna to develop a fish passage plan.

5. Turtle nesting habitat

63. Wisconsin DNR recommended that, where possible, Kaukauna provide swale habitat (*i.e.*, a shelf away from the water, with easily dug soils of silt or sandy loam) for turtles to place their eggs, to replace suitable nesting habitat that is now flooded by impoundments or unavailable along the bypassed reach where concrete walls have been constructed.

64. The flooding of potential turtle nesting habitat due to the original construction of the dams, construction of vertical concrete walls within the bypassed reach, and the presence of rocky substrates are not related to project effects but rather associated with prior construction activities or are natural conditions.⁴² Therefore, the EA did not recommend that Kaukauna provide swale habitat for turtles. Kaukauna's proposal to continue to operate the project with minimal reservoir fluctuations would help to maintain relatively stable conditions for turtles using riparian habitat adjacent to the impoundments. Providing minimum instream flows in the bypassed reach would also increase the area of aquatic habitat that would be available. Therefore, this license does not require that Kaukauna provide swale habitat.

6. Wildlife, endangered resources, and land management plans

⁴⁰ See final EA at 127.

⁴¹ *Id.*

⁴² See final EA at 129.

65. Wisconsin DNR recommended that Kaukauna develop several plans for wildlife management, endangered resources, and land management, but did not describe the need for the plans, or indicate what goals, objectives, or activities should be included in the plans. The EA found that only a small acreage of land in Kaukauna's ownership is occupied by project facilities or managed for recreation, and there are no project lands that include sensitive habitats, such as wetlands, or that support special status wildlife or plant species.⁴³ The EA concluded that development and implementation of plans for wildlife management, endangered resources, and land management would not be necessary. Nevertheless, this license includes certification condition 10, which stipulates that Kaukauna develop a wildlife and land management plan that would consider the 1,000 Islands Nature Conservancy and how the project would enhance that feature.⁴⁴ Condition 10 also requires the plan address bald eagles and state and federally listed threatened, endangered, and special concern species.

7. Recreation plan

66. Kaukauna filed a recreation plan with its license application and filed an updated plan on January 9, 2009 (described previously). In the final EA, staff recommended modification of Kaukauna's proposed recreation plan to include completion of measures planned by the City of Kaukauna for Hydro Park rather than the proposed funding measures,⁴⁵ and construction and monitoring of a new boat put-in site at Central Park. The EA did not recommend either of Kaukauna's other proposed funding measures which are discussed below in a separate section.

⁴³ See final EA at 131-132.

⁴⁴ The Conservancy Zone encompasses about 350 acres and is located between the Badger and Rapide Croche developments, outside the project boundary. See final EA at 70.

⁴⁵ Kaukauna proposes to partially fund (in the amount of \$100,000) the remaining recreational enhancements planned for what is known as Hydro Park, a city park area being developed adjacent to the Badger power canal that would focus on the importance that hydropower has in the Kaukauna area. Consistent with the Commission's preference for specific measures over general funding mechanisms, staff recommended in the EA that Hydro Park be included within the project boundary and that Kaukauna complete the rest of the planned measures including the interpretive kiosk, trail surfacing, landscaping, a picnic area, and restrooms. See *Settlements in Hydropower Licensing Proceedings under Part I of the Federal Power Act*, 116 FERC ¶ 61,270 (2006).

67. In its comments on the license application, Wisconsin DNR recommended several recreational enhancements within the vicinity of the Badger Development that were not included in Kaukauna's proposed recreation plan. These include constructing an accessible fishing pier at the intersection of Main Avenue and Lawe Street, and expanding a library parking lot to accommodate 10 additional parking spots; constructing an accessible fishing pier on City of Kaukauna property where Elm Street crosses the Fox River, and renovating the site to provide for parking, picnicking, and shore fishing; and constructing a paved riverwalk to connect the two fishing piers, as well as the high school and library.

68. Certification condition 9 requires that Kaukauna develop and implement a recreation plan that includes many of the measures proposed by Kaukauna and recommended by Commission staff. However, in addition to the staff recommended measures, condition 9 requires the development of public access facilities near Elm Street,⁴⁶ but does not require a new boater put-in site at Central Park as recommended by staff in the EA.

69. The EA concluded that existing recreational facilities, along with the improvements being proposed by Kaukauna and recommended by staff, should provide adequate public access to project lands and waters.⁴⁷ The EA did not recommend construction of a public access with parking area near Elm Street. The EA noted that monitoring recreation at the project through FERC Form 80 reporting would provide a mechanism for determining whether additional facilities are needed over the license term. The EA also concluded that short-term monitoring of the staff-recommended whitewater boating access site at Central Park would provide valuable information about the need for additional access facilities, such as those recommended by Wisconsin DNR.

70. In a letter filed March 24, 2011, the Park Service states that Wisconsin DNR did not consider input from whitewater boaters when it developed condition 9 of the certification and that the Elm Street location is primarily for walk-in fishermen.⁴⁸ The Park Service states that its preferred location for a boater put-in site is the Central Park location recommended by Commission staff in the EA. Regarding the Elm Street site, the Park Service recommends that a sign be posted at this location warning users about

⁴⁶ The certification did not specify the exact location of the access site.

⁴⁷ See final EA at 130-131.

⁴⁸ Kaukauna responded on April 12, 2011, to the Park Service's letter stating that the Park Service filing lacks justification and should not be considered.

the hazards of high flows and the need to remain alert to warning sounds of flow releases from the Kaukauna dam. Because the certification is mandatory and must be made part of this license, the development of an access site near Elm Street must be included in the recreation plan required by this license. However, I note that some of the land downstream from Elm Street is within the project boundary of the City Hydro Project No. 1510. Section 6 of the FPA provides that licenses may not be amended without the licensee's consent. Therefore, to the extent that the access location would use another project's lands, provision of such access may require further proceedings. In addition, I agree with the Park Service that safety issues should be taken into consideration in the planning and development of any new access site within the bypassed reach including the Elm Street site, whether it is under this license or in a subsequent proceeding.

71. Based on the above considerations, this license requires Kaukauna to develop and implement a recreation plan consistent with certification condition 9 that includes: inclusion of the City Boat Launch on the Kaukauna impoundment as a project facility; completion of the recreation facilities planned by the City of Kaukauna for Hydro Park as recommended in the EA; a new boater access site at Central Park as recommended in the EA; a new access site near Elm Street as required by the certification; Kaukauna's proposed new boat launch on the Rapide Croche impoundment; facility improvements at Rapide Croche Park at the Rapide Croche development; and provisions for addressing public safety at the Central Park and Elm Street access locations (Article 408). With the exception of the Elm Street access site, this license does not include the additional project facilities recommended by Wisconsin DNR in its comments on the license application.

B. Cooperation with Lower Green Bay Remedial Action Plan

72. Under the current license, Kaukauna cooperates with Wisconsin DNR in implementation of the Lower Green Bay Remedial Action Plan (Action Plan).⁴⁹ Under the Action Plan, Kaukauna allows Wisconsin DNR or other agencies reasonable access to the project area, and temporarily modifies project operations, as needed, to facilitate the removal or treatment of contaminated sediments. Under a new license, this cooperation would continue. Article 404 requires Kaukauna to continue to cooperate in implementation of the Action Plan.

C. Erosion plan and large woody debris plan

⁴⁹ The Action Plan is a state comprehensive plan filed with the Commission in accordance with section 10(a)(2)(A) of the FPA.

73. Demolition and construction activities authorized by a new license for this project, including demolition of the New Badger plant; construction of the proposed Badger plant; and construction and enhancement of recreational facilities at Hydro Park, Central Park, Elm Street as required by certification condition 9, the new boat launch and associated facilities on the Rapide Croche impoundment, and construction and enhancement of recreational facilities at Rapide Croche Park have the potential to result in erosion and sedimentation problems. The EA recommended adoption of Kaukauna's proposed erosion and sedimentation control plan⁵⁰ and certification condition 13 requires that Kaukauna develop an erosion control plan.

74. In commenting on the draft EA, Wisconsin DNR recommended installing woody debris along the shorelines to provide wildlife habitat and for stabilizing disturbed soils. In the EA, staff agreed that the placement of large woody debris along the shoreline could be a valuable component of an erosion and sediment control plan.⁵¹ Certification condition 13 requires Kaukauna to develop a large woody debris passage plan. The plan would be developed within one year of license issuance and approved by the Wisconsin DNR. Because condition 13 is contained in the certification, it is made part of this license. However, because the Kaukauna and Rapide Croche dams are regulated by the Corps and not within the project boundary, any removal and disposal of woody debris would likely require authorization of the Corps.

D. Periodic erosion monitoring

75. Kaukauna proposes to periodically monitor erosion sites around the Rapide Croche impoundment. The EA concluded that while factors such as high-flow events and wind and wave action under typical weather conditions could cause occasional erosion in the future, Kaukauna's proposal to continue to operate the project in a run-of-river mode, with minimal reservoir fluctuations, would minimize project-related erosion.⁵² For these reasons, this license does not require Kaukauna to periodically monitor erosion sites around the Rapide Croche impoundment.

E. One-time funding for canoe portages

76. In lieu of providing a canoe portage at the project, Kaukauna proposes to partially

⁵⁰ See final EA at 119.

⁵¹ See final EA, Appendix A at A-7.

⁵² See EA at 126.

fund (in the amount of \$25,000, or \$5,000 per lock) portages at each of the five Kaukauna locks which are owned and being renovated by the State of Wisconsin. The Park Service and Wisconsin DNR support Kaukauna's proposal.⁵³ In the EA, staff concluded that portaging within the project vicinity would be problematic due to the urban and industrial nature of the area, including several dams and project facilities and that the most likely route for a portage would be the Kaukauna lock system that the State was rehabilitating.⁵⁴ Commission staff noted that the locks were constructed to provide passage around the Kaukauna dam, which was constructed prior to the Badger Development and would continue to block passage if the Badger Development had not been built. Staff also noted that the Rapide Croche lock would likely remain sealed to prevent upstream migration of the invasive sea lamprey and, therefore, would not be available to boat traffic. Although this license does not require Kaukauna's proposed funding, or a specific measure to provide a portage, Kaukauna is free to pursue its proposed funding measure outside of the license.

F. Whitewater boating flows and monitoring

77. Kaukauna's proposed increase in hydraulic capacity at the Badger Development would reduce the availability of whitewater boating flows and associated opportunities in the 3,000-foot-long Badger bypassed reach. To mitigate the loss of whitewater boating opportunities, Kaukauna proposes to partially fund (in the amount of \$40,000) an off-site whitewater park being planned upstream of the project near the City of Menasha.

78. The Park Service and American Whitewater recommended that Kaukauna provide whitewater boating flows to the Badger Development bypassed reach and provide improved whitewater boating access and egress in the vicinity of the project's bypassed reach and immediately downstream. The Park Service also recommended that if the new license did not require provision of on-site flows and improved access, Kaukauna should be required to provide funding in the amount of \$100,000 to develop off-site whitewater boating opportunities.

79. The Corps commented that provision of on-site whitewater boating flows would severely affect the Corps' ability to safely and efficiently operate the Kaukauna dam for authorized purposes. The City of Kaukauna Fire Department identified safety as a key issue for whitewater boating access, egress, and use of the 1.5-mile reach.

⁵³ In a letter filed March 24, 2011, the Park Service reiterated its recommendation that portage around the Badger Development should be addressed in a license condition.

⁵⁴ See EA at 90.

80. The draft EA analyzed the effect of Kaukauna's proposal to increase hydraulic capacity at the Badger plant on whitewater boating opportunity. In the draft EA, Commission staff found that with the new powerhouse operating, there would be 17 fewer days between April and November when optimal boating flows would be available in the bypassed reach.⁵⁵ Most of the effect would occur in the spring (March through May), when there would be 12 fewer days.

81. In their comments on the draft EA, the Park Service and American Whitewater revised their recommendations regarding whitewater boating flows. As revised, the recommendations asked that Kaukauna provide flows of at least 3,340 cfs in the bypassed reach by ceasing generation between 10:00 a.m. and 2:00 p.m. for four days each year (i.e., the third and fourth Saturdays in June, the last Saturday in September, and the first Saturday in October). American Whitewater also recommended that Kaukauna develop a whitewater boating plan to: (1) evaluate the opportunities that would be available as a result of spring spills, together with scheduled flows, in three consecutive years, to see if additional scheduled flows would be warranted; (2) evaluate costs associated with scheduled flows; (3) notify the public regarding potential cancellation of flows; and (4) provide a schedule for consultation, implementation, and reporting.

82. Consistent with the Commission's preference for specific measures over general funding mechanisms,⁵⁶ staff recommended in the EA that Kaukauna provide on-site mitigation for the loss of boating opportunities by ensuring flows of at least 3,340 cfs in the bypassed reach for four days each year on the schedule outlined by the Park Service and American Whitewater.⁵⁷ Kaukauna could provide boating flows by curtailing or foregoing generation such that the Corps would either spill excess flows over the Kaukauna dam or release such flows through a gate(s), or by installing a new structure to release flows from the power canal into the bypassed reach.

83. Currently, there is no designated access to the Badger bypassed reach for whitewater boating; boaters use a local school property and parking lot to access the bypassed reach. This access route is not desired by the school for reasons of liability and student safety. In the EA, Commission staff concluded that providing a designated boater access area would address those concerns, and would assist Kaukauna in managing and

⁵⁵ See draft EA at 77.

⁵⁶ See *Settlements in Hydropower Licensing Proceedings under Part I of the Federal Power Act*, 116 FERC ¶ 61,270 (2006).

⁵⁷ See final EA at 125.

monitoring whitewater boating activity. While a specific site has not been established for this, the EA identified a small portion of the City of Kaukauna's Central Park (discussed above) that could be used for this purpose and included within the project boundary.⁵⁸

84. Article 409 requires Kaukauna to develop a whitewater boating flow and monitoring plan to provide the flows and schedule recommended by the Park Service and American Whitewater and to monitor use for 3 years, and Article 408 requires a boater access site in Central Park and public safety provisions as part of Kaukauna's final recreation plan.

G. Drawdown Plan

85. Certification condition 14 requires Kaukauna to develop a reservoir drawdown plan to minimize the impact of any project maintenance requiring a reservoir drawdown on aquatic and wetland resources. The plan would be developed within one year of license issuance and approved by the Wisconsin DNR. The plan would include procedures for consulting with Wisconsin DNR and FWS in advance of a drawdown. The plan would also address procedures for consulting with agencies after an emergency drawdown. Because condition 14 is contained in the certification, it is made part of this license. However, because the Kaukauna and Rapide Croche impoundments are regulated by the Corps and not within the project boundary, any drawdown of the reservoir would require authorization of the Corps.

H. Minimum Flow Release Structure

86. Condition 4 of the certification states that the 300-cfs minimum flow release in the bypassed reach may be achieved by either: (1) utilizing a discharge conduit which may contain a low-flow turbine immediately downstream from the right descending bank of the Corps' Kaukauna dam; or (2) constructing a flow release facility or device that would pass the flow in or over the Kaukauna dam immediately adjacent to the Badger diversion power canal, upon agreement among Kaukauna, the Commission, the Corps, and the Wisconsin DNR. In the EA, staff concluded that a new release structure would be needed to provide flows from the power canal into the bypassed reach, if flows cannot be provided by curtailing or ceasing generation, which would allow the Corps to spill excess flow over or through Kaukauna dam.⁵⁹ Due to its mandatory nature, condition 4 is included as part of this license. As an interim measure to constructing a new release

⁵⁸ See final EA at 124.

⁵⁹ See final EA at 122.

structure, this license assumes that the minimum flow release would be achieved by Kaukauna curtailing generation at the Badger Development. However, because an alternative mechanism for releasing these flows is permitted under the certification and may result in changes in project structures, Article 401 of this license requires the filing of an application to amend the license to incorporate any alternative minimum flow release structure, should it be pursued.

I. Testing and Disposal of Contaminated Sediments

87. Demolition of the existing New Badger powerhouse, construction of the proposed new powerhouse, modifications to the power canal, and construction of recreational facilities would involve ground-disturbing activities that could potentially expose contaminated sediments. Kaukauna proposes to test excavated overburden for contaminants, and if necessary, develop and implement a sediment disposal plan. Because doing so could help prevent adverse effects on water quality that could otherwise result from ground-disturbing activities, Article 405 requires the preparation of a Subsurface Testing and Contaminated Soils Disposal Plan.

ADMINISTRATIVE PROVISIONS

A. Annual Charges

88. The Commission collects annual charges from licensees for administration of the FPA. Article 201 provides for the collection of such funds.

B. Exhibit F and G Drawings

89. The Commission requires licensees to file sets of approved project drawings on microfilm and in electronic file format. Article 202 requires the filing of the exhibit F drawings.

90. The exhibit G drawings filed as part of the application and revised on April 4, 2008, include lands that are not part of the project as discussed in this license and do not include the following proposed recreation facilities required by this license: the City Boat Launch on the Kaukauna impoundment; Hydro Park; the whitewater boating access at Central Park; public access with parking in the vicinity of Elm Street as required by condition 9 of the certification; and a new public access on the Rapide Croche impoundment to include an access road, a boat ramp, parking area, and an accessible fishing pier with partial railing, signage and lighting. Article 203 requires the licensee to file revised exhibit G drawings showing the above recreation facilities enclosed within the project boundary and omitting from the project boundary lands inundated by the use of the project's flashboards.

C. Headwater Benefits

91. 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.

D. Use and Occupancy of Project Lands and Waters

92. Requiring a licensee to obtain prior Commission approval for every use or occupancy of project land would be unduly burdensome. Therefore, Article 411 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; bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; or food plots for wildlife enhancement. Such uses must be consistent with the purposes of protecting and enhancing the scenic, recreational, and environmental values of the project.

E. Review of Final Plans and Specifications

93. Article 301 requires the licensee to commence construction associated with the proposed Badger powerhouse within two years from the issuance date of the license and complete construction of those facilities within five years of license issuance.

94. Article 302 requires the licensee to provide the Commission's Division of Dam Safety and Inspections (D2SI) Chicago Regional Office (CRO) with final contract drawings and specifications, together with a supporting design report consistent with the Commission's engineering guidelines; a geotechnical site investigation plan; a quality control and inspection program; a temporary construction emergency action plan; and soil erosion and sediment control plan.

95. Where new construction or modifications to the project are involved, the Commission requires licensees to file revised drawings of project features as-built. Article 310 provides for the filing of these drawings.

F. Conditions for Projects at Corps' Dams

96. Pursuant to a 2011 Memorandum of Understanding between the Commission and the Department of the Army,⁶⁰ seven special articles are included in licenses for

⁶⁰ Memorandum of Understanding between United States Army Corps of
(continued)

hydroelectric projects to be developed at Corps facilities. The articles are incorporated in this license as Articles 303 through 309.

97. Article 307 requires that Kaukauna submit to the Corps for approval an operating plan at least 60 days prior to the start of construction and requires that Kaukauna enter into an operating Memorandum of Agreement with the Corps prior to the start of power plant operation. However, because the Badger-Rapide Croche Project is an existing operating project, this license includes Article 402 to specify that the project shall be operated in accordance with the 1990 MOA (filed by staff on May 12, 2011) until such time that a revised MOA has been approved by the Corps and filed with the Commission.

STATE AND FEDERAL COMPREHENSIVE PLANS

98. Section 10(a)(2)(A) of the FPA⁶¹ 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.⁶² Under section 10(a)(2)(A), Commission staff identified and reviewed eight comprehensive plans that are relevant to the project.⁶³ No conflicts were found.

APPLICANT'S PLANS AND CAPABILITIES

99. In accordance with sections 10(a)(2)(C) and 15(a) of the FPA,⁶⁴ Commission staff evaluated Kaukauna's record as a licensee for these areas: (1) conservation efforts; (2) compliance history and ability to comply with the new license; (3) safe management, operation, and maintenance of the project; (4) ability to provide efficient and reliable electric service; (5) need for power; (6) transmission services; (7) cost effectiveness of plans; and (8) actions affecting the public. I accept Commission staff's finding in each of the following areas.

Engineers and Federal Energy Regulatory Commission on Non-federal Hydropower Projects, March 2011.

⁶¹ 16 U.S.C. § 803(a)(2)(A) (2006).

⁶² Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19 (2010).

⁶³ The list of applicable plans can be found in section 5.5 of the final EA.

⁶⁴ 16 U.S.C. §§ 803(a)(2)(C) and 808(a) (2006).

A. Conservation Efforts

100. Section 10(a)(2)(C) of the FPA requires the Commission to consider the extent of electricity consumption efficiency improvement programs in the case of license applicants primarily engaged in the generation or sale of electric power, like Kaukauna. Kaukauna maintains a number of programs designed to manage electric loads and reduce projected capacity and energy requirements. Kaukauna's Efficiency Improvement Incentive program is designed to help business customers enhance energy efficiency of their facilities. Working with Wisconsin Public Power, Inc. (Wisconsin Public Power), a power company serving electric utilities, Kaukauna also maintains a Cogeneration Evaluation Service that provides large retail customers with information and assistance in the evaluation of cogeneration and self-generation options. Kaukauna's Energy Management Service program is designed to promote the wise use of electricity by providing recommendations for energy cost savings customized for particular area businesses. Kaukauna also maintains a green power program to encourage its customers to elect to support renewable resources for a portion of their energy supply. These programs show that Kaukauna is making an effort to conserve electricity and has made a satisfactory good faith effort to comply with section 10(a)(2)(C) of the FPA.

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

101. Based on a review of Kaukauna's compliance with the terms and conditions of the existing license, Commission staff finds that Kaukauna's overall record of making timely filings and compliance with its license is satisfactory. Therefore, Commission staff believes that Kaukauna can satisfy the conditions of a new license.

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

102. Commission staff has reviewed Kaukauna's management, operation, and maintenance of the Badger-Rapide Croche Project pursuant to the requirements of 18 C.F.R. Part 12 and the Commission's Engineering Guidelines and periodic Independent Consultant's Safety Inspection Reports. Commission staff concludes that the project works are safe, and that there is no reason to believe that Kaukauna cannot continue to safely manage, operate, and maintain these facilities under a new license.

D. Ability to Provide Efficient and Reliable Electric Service

103. Commission staff has reviewed Kaukauna's plans and its ability to operate and maintain the project in a manner most likely to provide efficient and reliable electric service. Commission staff's review indicates that Kaukauna continuously monitors headwater and tailwater levels and takes generating units on-line and off-line as required to utilize available flow for generation. Kaukauna employs a preventive maintenance

program to increase reliability and efficiency of the mechanical and electrical components of the system.

104. The Old Badger powerhouse was built in 1908 and the New Badger powerhouse was built in 1929. Over the years, these powerhouses have experienced various levels of deterioration and require extensive repairs. Recognizing the need to fully evaluate the Badger Development structures, Kaukauna implemented a systematic approach to determining the best course of action to improve efficiency. As a result of these analyses, Kaukauna proposes a redevelopment plan that includes decommissioning the existing Old Badger and New Badger plants, and constructing a new 7.0-MW plant. The new plant is desired to support long-term reliability, address maintenance requirements at the aging plants, and increase generating capacity. The Rapide Croche Project is a newer plant that has a very low head. The existing generating units can utilize all inflow for generation, and it is not deemed feasible to add additional capacity at this plant.

E. Need for Power

105. Kaukauna meets the demand for electricity of its customers using a mix of power purchased from Wisconsin Public Power and power generated by its own generating facilities. In recent years, Wisconsin Public Power has met its energy requirements through a power supply portfolio that includes ownership of generation (approximately 11 percent), as well as purchase power arrangements (78 percent) and economy power purchases (11 percent). Most of Wisconsin Public Power's purchase power arrangements are intermediate or long-term arrangements designed to provide it with competitively priced energy.

106. The Badger-Rapide Croche Project would provide hydroelectric generation to meet part of Kaukauna's power requirements, resource diversity, and capacity needs. The project as licensed herein would have an installed capacity of 9.4 MW and generate approximately 53,044 megawatt hours (MWh) per year.

107. The North American Electric Reliability Council (NERC) annually forecasts electrical supply and demand nationally and regionally for a 10-year period. The Badger-Rapide Croche Project is located in the Reliability First Corporation region of the NERC, and is affiliated with the Midwest Independent System Operator. According to NERC's 2008 forecast, average annual demand requirements for the Reliability First Corporation's Midwest Independent System Operator region are projected to grow at a rate of 1.5 percent from 2008 through 2017. NERC resource capacity margins (generating capacity in excess of demand) are currently at 21.5 percent and reserve margins are expected to meet the 14.1 percent target through 2014. Over the period 2008 to 2014, Reliability First Corporation estimates that about 4,400 MW of additional capacity will be brought on line in the region. Approximately 1,300 MW of additional

capacity will be needed in 2015, with an expected increase to 4,600 MW by 2017.

108. Commission staff concludes that power from the Badger-Rapide Croche Project would help meet a need for power in the region in both the short and long term.

F. Transmission Services

109. The project includes a 5-mile-long transmission line. Kaukauna is proposing no changes that would affect its own or other transmission services in the region. The project and project transmission line are important elements in providing power to local communities and the region.

G. Cost Effectiveness of Plans

110. Kaukauna plans to make a number of facility modifications to improve project generating capacity and enhance biological and recreational resources affected by the project. Based on Kaukauna's record as an existing licensee, Commission staff concludes that these plans are likely to be carried out in a cost-effective manner.

H. Actions Affecting the Public

111. Kaukauna provided opportunities for public involvement in the development of its application. During the previous license period Kaukauna provided facilities to enhance public use and operated the project with consideration for the protection of downstream uses of the Fox River. Kaukauna uses the project to help meet local power needs, provide employment opportunity, and provide recreational opportunities.

PROJECT ECONOMICS

112. In determining whether to issue a new license for an existing hydroelectric project, the Commission considers a number of public interest factors, including the economic benefits of project power. Under the Commission's approach to evaluating the economics of hydropower projects, as articulated in *Mead Corporation*,⁶⁵ 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

⁶⁵ *Mead Corp.* 72 FERC ¶ 61,027 (1995).

informed decision concerning what is in the public interest with respect to a proposed license.

113. In applying this analysis to the Badger-Rapide Croche Project, Commission staff considered two licensing alternatives: Kaukauna's proposal and the project as licensed herein. As proposed by Kaukauna, the levelized annual cost of operating the Badger-Rapide Croche Project is \$5,121,780, or \$93.45/MWh. The proposed project would generate an estimated average of 54,810 MWh of energy annually. When Commission staff multiplies its estimate of average annual generation by the alternative power cost of \$39.85/MWh,⁶⁶ it gets a total value of the project's power of \$2,184,250 in 2010 dollars. To determine whether the proposed project is currently economically beneficial, Commission staff subtracts the project's cost from the value of the project's power.⁶⁷ Therefore, in the first year of operation under Kaukauna's proposal, project power would cost \$2,937,530 or \$53.59/MWh more than the likely alternative cost of power.

114. As licensed herein with the certification conditions and staff measures, the levelized annual cost of operating the project is 5,257,710, or \$99.12/MWh. The proposed project would generate an estimated average of 53,044 MWh of energy annually. When we multiply our estimate of average generation by the alternative power cost of \$39.85/MWh, we get a total value of the project's power of \$2,113,880 in 2010 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. Therefore, in the first year of operation, the project would cost \$3,143,840 or \$59.27/MWh more than the likely alternative cost of power.

115. Although Commission staff's 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.

⁶⁶ Commission staff bases its estimate of the comparable cost of energy generation on the fixed cost of combined-cycle combustion turbine generating facilities fueled by natural gas in the East North Central region of the United States. Staff estimates the energy cost based on information in Energy Information Administration (EIA), Annual Energy Outlook 2010. Based on EIA information, the regional energy cost is \$39.85/MWh.

⁶⁷ Details of Commission staff's economic analysis for the project as licensed herein and for various alternatives are included in the EA issued August 12, 2010. All costs in the final EA are in 2009 dollars. Staff escalated these costs to 2010 dollars.

116. 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

117. Sections 4(e) and 10(a)(1) of the FPA⁶⁸ require the Commission to give equal consideration to power development purposes and to the purposes of energy conservation, the protection, mitigation of damage to, and enhancement of fish and wildlife, the protection of recreational opportunities, and the preservation of other aspects of environmental quality. Any license issued shall be such as in the Commission's judgment will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses. The decision to license this project, and the terms and conditions included herein, reflect such consideration.

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

119. Based on my independent review and evaluation of the Badger-Rapide Croche Project license application, recommendations from resource agencies and other stakeholders, certification conditions, and the no-action alternative, as documented in the EA, I have selected the proposed Badger-Rapide Croche Project, including the proposed Badger powerhouse and new turbine generating units, the staff-recommended measures and modifications, and the certification conditions, and find that it is best adapted to a comprehensive plan for improving or developing the Fox River waterway.

120. I have selected this alternative because: (1) issuance of the new license would serve to maintain a beneficial and dependable source of electric energy; (2) the required environmental measures would protect and enhance fish and wildlife resources, water quality, recreational resources, and historic properties; and (3) the 9.4 MW of electric energy comes from a renewable resource which does not contribute to atmospheric

⁶⁸ 16 U.S.C. §§ 797(e) and 803(a)(1) (2006).

pollution.

LICENSE TERM

121. Section 15(e) of the FPA provides that any new license issued shall be for a term that the Commission determines to be in the public interest, but not less than 30 years or more than 50 years from the date the license is issued.⁶⁹ It is Commission policy to issue a 50-year license for a project located at a federal dam.⁷⁰ Accordingly, I will issue this license for a term of 50 years.

The Director orders:

(A) This license is issued to the City of Kaukauna (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 Badger-Rapide Croche Project. This license is subject to the terms and conditions of the FPA, which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the FPA.

(B) The project consists of:

(1) All lands, to the extent of the licensee's interests in these lands, described in the project description and the project boundary discussion of this order.

(2) Project works consisting of: (a) a 2,100-foot-long, 100-foot-wide power canal that bifurcates into a 260-foot-long, 200-foot-wide canal leading to the Old Badger powerhouse, and a 250-foot-long, 80-foot-wide power canal leading to the New Badger powerhouse; (b) the Old Badger powerhouse, containing two 1,000-kilowatt (kW) generating units for a total installed capacity of 2,000 kW; (c) the New Badger powerhouse, containing two 1,800-kW generating units for a total installed capacity of 3,600 kW; (d) the Rapide Croche powerhouse located on the south end of the Corps' Rapide Croche dam approximately 4.5 miles downstream from the Badger plants, and containing four 600-kW generators for a total installed capacity of 2,400 kW; (e) the 6-inch flashboards that Kaukauna installs and maintains on the Corps' Kaukauna dam during normal and low flows; (f) the 30-inch flashboards that Kaukauna installs and maintains on the Corps' Rapide Croche dam during normal and low flows; (g) the 2.4-

⁶⁹ See 16 U.S.C. § 808(e) (2006).

⁷⁰ See *City of Danville, Virginia*, 58 FERC ¶ 61,318 at 62,020 (1992).

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kilovolt (kV) generator leads, and the 2.4/12-kV, 5/6-million volt-ampere (MVA) transformer at the Badger plants; (h) the 2.3-kV generator leads and the 2.3/12-kV, 3-MVA transformer bank at the Rapide Croche plant; (i) the 5-mile-long, 12-kV transmission line (serving both developments); and (j) appurtenant facilities.

Proposed project works, following decommissioning of the Old Badger plant with conversion to an alternative use and decommissioning, demolition, and removal of the New Badger plant, to include the proposed Badger plant, a 100-foot by 90-foot by 45-foot-high powerhouse superstructure with integral intake, housing two identical 3.5- to 3.6-MW horizontal- Kaplan "S" type turbines to be constructed within the existing power canal.

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

Exhibit A: Pages A-1 through A-6 of the license application filed August 29, 2007.

Exhibit F: The following Exhibit F drawings filed on August 29, 2007:

Exhibit F Drawings	FERC No. 2677-	Description
Drawing 1	1001	Badger Existing Site Topography
Drawing 2	1002	Badger Proposed Project Layout
Drawing 3	1003	Badger Proposed Site Plan
Drawing 4	1004	Old Badger Powerhouse and Tailrace Cross-Section
Drawing 5	1005	Existing Headworks Structure and Proposed Canal Modifications
Drawing 6	1006	Badger Proposed Powerhouse Building Elevations (East-West)
Drawing 7	1007	Badger Proposed Powerhouse Building Elevations (North-South)
Drawing 8	1008	Badger Proposed Powerhouse Building Section

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Exhibit F Drawings	FERC No. 2677-	Description
Drawing 9	1009	Badger Proposed Powerhouse Floor Plan
Drawing 10	1010	Badger and Rapide Croche Transmission Line
Drawing 11	1011	Rapide Croche Powerhouse Plan and Elevation
Drawing 12	1011	Rapide Croche Powerhouse Section
Drawing 13	1012	Rapide Croche Retaining Wall Plan and Section

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

(C) The exhibits A and F described above are approved and made part of the license. The exhibit G drawings are not approved.

(D) This license is subject to the conditions submitted by the Wisconsin Department of Natural Resources under section 401(a)(1) of the Clean Water Act, 33 U.S.C. §1341(a)(1) (2006), as those conditions are set forth in Appendix A to this order.

(E) This license is also subject to the articles set forth in Form L-3 (Oct. 1975), entitled "Terms and Conditions of License for Constructed Major Project Affecting Navigable Waters of the United States" (*See* 54 FPC 1792), as reproduced at the end of this order, and the following additional articles:

Article 201. Administrative Annual Charges. The licensee shall pay the United States annual charges, effective the first day of the month in which the license is issued, and as determined in accordance with provisions of the Commission's regulations in effect from time to time, for the purposes of 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 8.0 MW, until the date of the start of operation of the new capacity authorized by this license, after which time the authorized installed capacity is 9.4 MW.

Article 202. Exhibit F Drawings. Within 45 days of the date of issuance of this license, the licensee shall file the approved exhibit drawings in aperture card and electronic file formats.

(a) Three sets of the approved exhibit drawings shall be reproduced on silver or gelatin 35mm microfilm. All microfilm shall be mounted on type D (3-1/4" X 7-3/8") aperture cards. Prior to microfilming, the FERC Drawing Number (i.e., P-2677-1001 through P-2677-1006) shall be shown in the margin below the title block of the approved drawing. After mounting, the FERC Drawing Number shall be typed on the upper right corner of each aperture card. Additionally, the Project Number, FERC Exhibit (i.e., F-1, G-1, etc.), Drawing Title, and date of this license shall be typed on the upper left corner of each aperture card.

Two of the sets of aperture cards shall be filed with the Secretary of the Commission, ATTN: OEP/DHAC. The third set shall be filed with the Commission's Division of Dam Safety and Inspections, Chicago Regional Office.

(b) The licensee shall file two separate sets of Exhibit drawings in electronic raster format with the Secretary of the Commission, ATTN: OEP/DHAC. A third set shall be filed with the Commission's Division of Dam Safety and Inspections Chicago Regional Office. Exhibit F drawings must be segregated from other project exhibits and identified as Critical Energy Infrastructure Information (CEII) material under 18 CFR §388.113(c). Each drawing must be a separate electronic file, and the file name shall include: FERC Project-Drawing Number, FERC Exhibit, Drawing Title, date of this license, and file extension in the following format [P-2677-1001, F-1, Description, MM-DD-YYYY.TIF]. Electronic drawings shall meet the following format specification:

IMAGERY – black and white raster file
 FILE TYPE – Tagged Image File Format, (TIFF) CCITT Group 4
 RESOLUTION – 300 dpi desired, (200 dpi min)
 DRAWING SIZE FORMAT – 24" X 36" (min), 28" X 40" (max)
 FILE SIZE – less than 1 MB desired

Article 203. Exhibit G Drawings. Within 90 days of the effective date of the license, the licensee shall file, for Commission approval, revised exhibit G drawings enclosing within the project boundary all principal project works necessary for operation and maintenance of the project, including the following proposed recreation facilities: City of Kaukuana Boat Launch on the Kaukauna impoundment; Hydro Park; the whitewater boating access at Central Park; public access with parking in the vicinity of Elm Street as required by condition 9 of the section 401 water quality certification; and a new public access on the Rapide Croche impoundment to include an access road, a boat ramp, parking area, and an accessible fishing pier with partial railing, signage and lighting. The revised exhibit G should not include lands based solely on inundation due to the project's flashboards. The exhibit G drawings must comply with sections 4.39 and

4.41 of the Commission's regulations.

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 new 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 associated with the proposed Badger powerhouse within two years from the issuance date of the license and shall complete construction of those facilities within five years from the issuance date of the license.

Article 302. Contract Plans and Specifications. At least 60 days prior to the start of construction associated with the proposed Badger powerhouse, the licensee shall submit one copy of its final plans and specifications and supporting design document to the Commission's Division of Dam Safety and Inspections (D2SI) – Chicago 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 Geotechnical Site Investigation Plan, 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 – Chicago 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 – Chicago 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.

Article 304. Review of Contractor Designs. The licensee shall review and approve the design of contractor–designed cofferdams and deep excavations 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 Director, Division of Dam Safety and Inspections (D2SI), the D2SI - Chicago 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) – Chicago Regional Engineer. Upon review, the D2SI – Chicago 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 – Chicago 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 – Chicago 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 approval an operating plan, describing (a) the designed mode of hydropower operation, (b) reservoir flow diversion and regulation requirements for operation of the Corps project during construction as established by the Corps, and (c) integration of the operation of the hydroelectric facility into the Corps' emergency action plan. In addition, the licensee, prior to start of power plant operation, shall enter into an operating Memorandum of Agreement (MOA) with the 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) – Chicago 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 – Chicago 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 provide the Commission's Division of Dam Safety and Inspections (D2SI) – Chicago Regional Office two copies of all correspondence between the licensee and the Corps. The D2SI – Chicago 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 any new construction, 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) - Chicago Regional Engineer, the Director, D2SI, and the Director, Division of Hydropower Administration and Compliance.

Article 401. Commission Approval, Notification, and Filing of Amendments.

(a) Requirement to file plans for Commission approval.

Various conditions of this license found in the Wisconsin Department of Natural Resources (Wisconsin DNR) Water Quality Certification (Appendix A) require the licensee to prepare and implement plans following approval by Wisconsin DNR without consulting with the U.S. Fish and Wildlife Service (FWS) and prior Commission approval. Each plan shall be developed in consultation with the FWS and also be submitted to the Commission for approval. These plans are listed below:

Wisconsin DNR Condition No.	Plan Name	Date Due to Commission
8	Invasive species monitoring and control plan	Within 1 year of license issuance
10	Wildlife and land management plan	Within 1 year of license issuance
11	Water quality monitoring plan	Within 1 year of license issuance
13	Erosion plan	Within 1 year of license issuance
13	Large woody debris passage plan	Within 1 year of license issuance
14	Reservoir drawdown plan	Within 1 year of license issuance

The licensee shall include with each plan filed with the Commission documentation that the licensee developed the plan in consultation with the FWS and has received approval from the Wisconsin DNR. The Commission reserves the right to make changes to any plan submitted. Upon Commission approval, each plan becomes a requirement of the license, and the licensee shall implement the plan, including any changes required by the Commission.

(b) Requirement to Notify Commission of Planned and Unplanned Deviations from License Requirements.

Two certification conditions in Appendix A would allow the licensee to temporarily modify project operation under certain conditions. The Commission shall be notified prior to implementing such modifications, if possible, or in the event of an emergency, as soon as possible, but no later than 10 days after each such incident. The Wisconsin DNR and the U.S. Fish and Wildlife Service shall also be notified prior to implementing any modifications to run-of-river operation or minimum flows required by certification conditions 2 and 3, respectively.

Wisconsin DNR Condition No.	License Requirement
2	Run-of-river operation and reservoir levels in cooperation with the Army Corps of Engineers
3	Minimum instream flows and seasonal spawning flows

(c) Requirement to File Amendment Applications.

The Wisconsin DNR's certification conditions noted below may result in unspecified long-term changes to project operations or facilities for the purpose of mitigating environmental impacts. These changes may not be implemented without prior Commission authorization granted after the filing of an application to amend the license. These conditions are listed below.

Wisconsin DNR Condition No.	Project Modification
4	Potential minimum flow release structure
9	Potential modification to the location of the Rapide Croche boat launch if southern shoreline is not available

Article 402. Interim Operating Requirements. The licensee shall operate the project in accordance with the 1990 Memorandum of Agreement between the United States of America and the City of Kaukauna, Wisconsin filed by Commission staff on May 12, 2011, until such time as a new operating Memorandum of Agreement has been approved by the Corps and filed with the Commission as required by Article 307.

Article 403. Reservation of Authority to Prescribe Fishways. Authority is reserved to the Commission to require the licensee to construct, operate, and maintain, or 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 404. Cooperation with Lower Green Bay Remedial Action Plan. The licensee shall cooperate with the Wisconsin Department of Natural Resources (Wisconsin DNR) in the implementation of the Lower Green Bay Remedial Action Plan (Action Plan). Such cooperation shall include allowing Wisconsin DNR or other agencies involved with the implementation of the Action Plan reasonable access to the project area. Further, the project's instantaneous run-of-river mode of operation, specified in section 401 water quality certification condition 2, Appendix A, may be temporarily

modified, should such modifications be necessary to facilitate the removal or treatment of contaminated sediments in the Fox River.

Article 405. Subsurface Testing and Contaminated Soil Disposal Plan. Within 6 months of license issuance, the licensee shall file with the Commission for approval, a plan to conduct subsurface testing in areas proposed for ground disturbance to test for contaminated soils. The plan shall include identification of the ground disturbance sites and provisions for disposal of contaminated soils if such soils are discovered during the subsurface testing or are discovered during demolition of existing facilities or construction of proposed project structures, in order to protect natural and human resources.

The subsurface testing and contaminated soil disposal plan shall be developed after consultation with Wisconsin Department of Natural Resources, the U.S. Fish and Wildlife Service, and the U.S. Army Corps of Engineers. The licensee shall include with the plan an implementation schedule, documentation of consultation, copies of recommendations on the completed plan after it has been prepared and provided to the entities listed above, and specific descriptions of how the entities' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

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

Article 406. Water Quality Monitoring Plan. Within 1 year of license issuance, the licensee shall file with the Commission for approval, a plan to conduct water quality monitoring for a period of 3 years, to begin upon completion of the proposed Badger powerhouse and implementation of minimum instream flows. The plan shall include a description of how the licensee will implement a 3-year water quality monitoring plan that would be used to evaluate the effects of year-round and walleye spawning flow releases on water temperature and dissolved oxygen immediately upstream of the Badger intake, at the downstream end of the Badger bypassed reach, and in the tailrace.

The water quality monitoring plan shall be developed after consultation with Wisconsin Department of Natural Resources and the U.S. Fish and Wildlife Service. The licensee shall include with the plan an implementation schedule, documentation of consultation, copies of recommendations on the completed plan after it has been prepared

and provided to the entities above, and specific descriptions of how the entities' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Water quality monitoring 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.

If the results of the monitoring indicate that changes in project structures or operations, including alternative flow releases, are necessary to protect fish resources, the Commission may direct the licensee to modify project structures or operations.

Article 407. Operation Compliance Monitoring Plan. Within 1 year of license issuance, the licensee shall file with the Commission for approval, a plan consistent with water quality certification condition 12 to document compliance with the operational provisions required by water quality certification conditions 2, 3, 5, and 7. In addition to the provisions required by certification condition 12, the plan shall also include a continuously recording water temperature logger (located in the Badger powerhouse or other appropriate location) to determine the start/stop dates of the walleye spawning flow releases.

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

The Commission reserves the right to require changes to the plan. Operations compliance monitoring 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 408. Recreation Plan. Within 1 year of license issuance, the licensee shall

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file with the Commission for approval, a final recreation plan for the project that includes the following facilities and measures:

(a) completion by the licensee of the facilities planned by the City of Kaukauna for Hydro Park as described in the licensee's revised recreation plan filed January 9, 2009;

(b) a new boat launch at the Rapid Croche impoundment and improvements to Rapid Croche Park as described in the licensee's revised recreation plan filed January 9, 2009;

(c) the City of Kaukauna Boat Launch at the Kaukauna impoundment;

(d) a new boater access site at Central Park as described in the Commission's Final EA issued August 12, 2010;

(e) the facilities required by condition 9 of the section 401 water quality certification (Appendix A);

(f) operation and maintenance of all existing and new facilities; and

(g) provisions to address public safety.

The plan shall be prepared after consultation with the U.S. Fish and Wildlife Service, the Wisconsin Department of Natural Resources, and the National Park Service. The licensee shall include in the plan an implementation schedule, conceptual design drawings and construction schedules, documentation of consultation, copies of comments and recommendations on the plan after it has been prepared and provided to the entities listed above, and specific descriptions of how the entities' comments are accommodated by the licensee's plan. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on site-specific information.

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

Article 409. *Whitewater Boating Flows and Monitoring Plan.* Within 1 year of license issuance, the licensee shall file with the Commission for approval, a plan to provide whitewater boating flows and monitor boating use in the bypassed reach to

mitigate the effects of increased hydraulic capacity associated with the new Badger powerhouse on recreational opportunities. At a minimum, the plan shall include provisions for:

- (a) providing and documenting four scheduled whitewater boating flows of 3,340 cfs with up-ramping and down-ramping at a rate not to exceed 10 percent per hour;
- (b) monitoring, evaluating, and reporting recreational use of the Central Park access site and boating flows for 3 years following implementation of the first scheduled whitewater boating flow;
- (c) making flow information publicly available to assist boaters in planning their use of the bypassed reach; and notifying boaters of scheduled flow events and possible cancellations; and
- (d) coordinating with the National Park Service (Park Service), the Wisconsin Department of Natural Resources (Wisconsin DNR), the U.S. Army Corps of Engineers (Corps), the City of Kaukauna Fire Department (Fire Department), and American Whitewater, and the River Alliance of Wisconsin, to ensure that scheduled flows are compatible with operation of the Kaukauna dam, that emergency responders are notified of scheduled events, and to address other details of flow monitoring and evaluation, as needed.

The plan shall be prepared after consultation with the Park Service, Wisconsin DNR, Corps, Fire Department, American Whitewater, and River Alliance of Wisconsin. The licensee shall include with the plan an implementation schedule, design drawings and construction schedules, documentation of consultation, copies of comments and recommendations on the plan after it has been prepared and provided to the entities listed above, and specific descriptions of how the entities' comments are accommodated by the licensee's plan. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on site-specific information.

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

Article 410. *Programmatic Agreement and Historic Resources Management Plan.* The licensee shall implement the "Programmatic Agreement Among the Federal Energy Regulatory Commission; the Advisory Council on Historic Preservation; the State of Wisconsin, State Historic Preservation Officer; and the State of Michigan, State Historic

Preservation Officer, for Managing Historic Properties that may be Affected by New and Amended Licenses Issued for the Continued Operation of Existing Hydroelectric Projects in the State of Wisconsin and Adjacent Portions of the State of Michigan,” executed on December 30, 1993, and including but not limited to the Historic Resources Management Plan (HRMP) for the project that was filed on August 21, 2007, and approved by the Wisconsin State Historic Preservation Officer on January 14, 2008. In the event that the Programmatic Agreement is terminated, the licensee shall continue to implement the provisions of its approved HRMP. The Commission reserves the authority to require changes to the HRMP at any time during the term of the license.

Article 411. 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 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 type of use and occupancy of project lands and waters for which the licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 water craft at a time and where said facility is intended to serve single-family type dwellings; (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and (4) food plots and other wildlife enhancement. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee 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 impoundment shoreline. To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

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

(d) The licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 water craft at a time and are located at least one-half mile (measured over project waters) from any other private or public marina; (6) recreational development consistent with an approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from project waters at normal surface elevation;

and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 60 days before conveying any interest in project lands under this paragraph (d), the licensee must submit a letter to the Director, Office of Energy Projects, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked Exhibit G map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the 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 report on recreational resources of an Exhibit E; or, if the project does not have an approved report on recreational resources, that the lands to be conveyed do not have recreational value.

(3) The instrument of conveyance must include the following covenants running with the land: (i) the use of the lands conveyed 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 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

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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 drawings would be filed for approval for other purposes.

(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.

(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 that filing. Proof of service on these entities must accompany the filing with the Commission.

(G) This order constitutes final agency action. Any party may file a request for rehearing of this order within 30 days from the date of its issuance, as provided in section 313(a) of the FPA, 16 U.S.C. § 8251 (2006), and section 385.713 of the Commission's regulations, 18 C.F.R. § 385.713 (2010). The filing of a request for rehearing does not operate as a stay of the effective date of this license or of any other date specified in this order. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

Jeff C. Wright
Director
Office of Energy Projects

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**Form L-3
(October, 1975)**

**FEDERAL ENERGY REGULATORY COMMISSION
TERMS AND CONDITIONS OF LICENSE FOR CONSTRUCTED
MAJOR PROJECT AFFECTING NAVIGABLE
WATERS OF THE UNITED STATES**

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

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

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

Article 4. The project, including its operation and maintenance and any work incidental to additions or alterations authorized by the Commission, whether or not conducted upon lands of the United States, shall be subject to the inspection and

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

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

Article 6. In the event the project is taken over by the United States upon the termination of the license as provided in Section 14 of the Federal Power Act, or is

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

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

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

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

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

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

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

Article 13. On the application of any person, association, corporation, Federal agency, State or municipality, the Licensee shall permit such reasonable use of its reservoir or other project properties, including works, lands and water rights, or parts thereof, as may be ordered by the Commission, after notice and opportunity for hearing, in the interests of comprehensive development of the waterway or waterways involved and the conservation and utilization of the water resources of the region for water supply or for the purposes of steam-electric, irrigation, industrial, municipal or similar uses. The Licensee shall receive reasonable compensation for use of its reservoir or other project properties or parts thereof for such purposes, to include at least full reimbursement for

any damages or expenses which the joint use causes the Licensee to incur. Any such compensation shall be fixed by the Commission either by approval of an agreement between the Licensee and the party or parties benefiting or after notice and opportunity for hearing. Applications shall contain information in sufficient detail to afford a full understanding of the proposed use, including satisfactory evidence that the applicant possesses necessary water rights pursuant to applicable State law, or a showing of cause why such evidence cannot concurrently be submitted, and a statement as to the relationship of the proposed use to any State or municipal plans or orders which may have been adopted with respect to the use of such waters.

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

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

Article 16. Whenever the United States shall desire, in connection with the project, to construct fish and wildlife facilities or to improve the existing fish and wildlife facilities at its own expense, the Licensee shall permit the United States or its designated agency to use, free of cost, such of the Licensee's lands and interests in lands, reservoirs, waterways and project works as may be reasonably required to complete such facilities or such improvements thereof. In addition, after notice and opportunity for hearing, the Licensee shall modify the project operation as may be reasonably prescribed by the Commission in order to permit the maintenance and operation of the fish and wildlife facilities constructed or improved by the United States under the provisions of this article. This article shall not be interpreted to place any obligation on the United States to construct or improve fish and wildlife facilities or to relieve the Licensee of any obligation under this license.

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

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

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

Article 20. The Licensee shall clear and keep clear to an adequate width lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which results from the clearing of lands or from the maintenance or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. All clearing of the lands and disposal of the unnecessary material shall be done with due diligence and to the satisfaction of the authorized representative of the Commission and in accordance with appropriate Federal, State, and local statutes and regulations.

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

shall also be done to the satisfaction of the District Engineer, Department of the Army, in charge of the locality.

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

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

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

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

Article 26. 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.

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Article 27. 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 28. 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**WISCONSIN DEPARTMENT OF NATURAL RESOURCES
WATER QUALITY CERTIFICATION CONDITIONS
ISSUED FEBRUARY 17, 2011****STATE CONDITIONS AND LIMITATIONS OF CERTIFICATION**

1. The permittee after securing related federal, state and local permits shall notify the WDNR of its intent to begin construction at least five days prior to the beginning of its construction and shall provide a minimum notification of 5 days after completion of construction.
2. Both hydropower facilities are to be operated in a run-of-river (ROR) mode and in cooperation with the water level and flow management plan of the Corps of Engineers for the Fox River. The licensee shall act at all times to minimize fluctuation of the reservoir surface elevation by maintaining a discharge from the Project so that, at any point in time, flows, as measured immediately downstream from the confluence of the tailrace and the bypassed channel, approximate the sum of inflows to the project reservoir. Project operation may be temporarily modified if required by operating emergencies beyond the licensee's control or for short periods with the Department's approval. If project operation is temporarily modified due to circumstances beyond the licensee's control, the licensee must make all reasonable attempts to return to authorized operation as soon as possible.
3. A minimum flow of 300 cfs shall be required at all times to the natural bypass (main river channel downstream from the COE's Kaukauna Dam. An additional 1200-1250 cfs for a total flow of 1500-1550 cfs shall be released into the natural bypass channel when water temperatures are between 38 and 50 degrees F. These water temperatures are generally attained during the months of March and April. The 1500-1550 cfs is intended to support walleye spawning in the spring. Deviations of flow from ROR operations, minimum flows (300 cfs) in the natural bypass channel and spring spawning flows (1500-1550 cfs) shall be reported to the department within 24 hours of the deviation. Run of river and flowage elevations may be modified temporarily if required by operating emergencies beyond control of the permittee or are necessary to maintain suitable habitat downstream of the COE Kaukauna dam.
4. The 300 cfs minimum flow in the natural bypass channel may be achieved utilizing a discharge conduit which may contain a low flow turbine capable of discharging 300 cfs immediately downstream from the right descending bank of the COE Kaukauna dam. In lieu of a discharge conduit and upon agreement between Kaukauna Utilities, FERC,

USCOE and WDNR, a facility/device may be constructed that achieves a minimum flow release of 300 cfs in or over the COE Kaukauna dam immediately adjacent to the Badger diversion power canal.

5. Intake Velocities at the power canal intake trash rack for the new Badger Plant shall not exceed 2.4 fps during the months of August September and October and shall not exceed 2.9 fps at any time. Kaukauna Utilities shall strive to achieve intake velocities less than 2.0 fps whenever practicable. Intake velocities at Rapide Croche are currently below 2.0 fps and shall remain below 2.0 fps.
6. Trash rack spacing at the new Badger plant shall not exceed 1-inch clear spacing. The current trash rack at Rapide Croche will be replaced no later than 2021 and shall have trash rack spacing of a maximum of 1-inch clear spacing unless otherwise determined by the WDNR, the US F&WS and Kaukauna Utilities. Should supplemental funds become available earlier than 2021 to replace the trash rack at Rapide Croche, Kaukauna Utilities shall replace the trash rack at that time. Approach velocity compliance shall be described in the compliance plan approved by FERC and WDNR.
7. Ramping rates, change in generation flows should not exceed more than 10% of the total inflow per hour or unless otherwise agreed upon by WDNR, FWS and Kaukauna Utilities.
8. Kaukauna Utilities shall develop an Invasive species monitoring and control plan subject to the approval of FERC and WDNR review and approval within one year of issuance of a FERC license. The invasive species monitoring and control plan should include Japanese knotweed, garlic mustard, buckthorn, Eurasian water milfoil, purple loosestrife, phalaris, phragmites and dreissenid mussels. In addition Kaukauna Utilities must monitor for any "prohibited" species as required under NR 40, Wisconsin Administrative Code. "Prohibited invasive species" or "prohibited species" means an invasive species that the department, at the time of listing under s. NR 40.04 (2), has determined is likely to survive and spread if introduced into the state, potentially causing economic or environmental harm or harm to human health, but which is not found in the state or in that region of the state where the species is listed as prohibited in s. NR 40.04 (2), with the exception of isolated individuals, small populations or small pioneer stands of terrestrial species, or in the case of aquatic species, that are isolated to a specific watershed in the state or the Great Lakes, and for which statewide or regional eradication or containment may be feasible.
9. Kaukauna Utilities shall develop and implement a recreation plan consistent with the requirements of FERC and WDNR, within one year of issuance of the FERC license. The plan shall include: a) the development of a public access with parking areas near the

railroad bridge and Elm Street in the natural diversion channel, b) the development of a new boat launch area on the southern shoreline of the Rapide Croche impoundment to include an access road, boat ramp, parking area, pier and an accessible ADA compliant fishing pier with signage and lighting. In lieu of a boat landing at this location, Kaukauna Utilities may construct a similar facility, subject to WDNR approval, on other property such as "The Old Marina Bar" should those properties become available to Kaukauna Utilities within 3 years from the date of license approval. If no other feasible properties are available with that 3 year time period the boat landing facilities shall be complete no later than year 4 after license issuance. c) provide enhancements at the existing Rapide Croche Park to include construction of a pavilion with accessible restrooms, display kiosk, replacement of existing picnic tables and grills and development of an approved fishing access trail leading down to the Rapide Croche tailwater including the installation of steps in certain locations and erosion control measures along the trail. d) Incorporate Hydro Park into the project boundary and develop new facilities including the installation of interpretive kiosks, trail surfacing, landscaping, a picnic area and restrooms. and e) continue to provide a website and staff gage to provide flow information for those planning on boating in the bypass reach.

10. Kaukauna Utilities shall develop a Wildlife and Land Management plan and submit to WDNR for approval no less than 1 year after issuance of a FERC license. Land uses within the project boundaries are primarily industrial, commercial, agriculture, and residential; however, the 1000 Islands Nature Conservancy is a unique natural feature within the project boundaries. The wildlife and land management plan shall consider that natural feature and how these projects will enhance that feature. Those plans should also address Bald Eagles and state and federally listed threatened, endangered and special concern species.

11. Kaukauna Utilities shall meet the most current water quality standards adopted under s. 281.15, Wis. Stats. and 33 USC 1313, as well as any revised water quality standards that may be adopted over the term of the license. The licensee shall develop within 1 year issuance of the FERC license, a water quality monitoring plan that describes the methodology used to conduct periodic water quality monitoring in accordance with a schedule approved by WDNR. WDNR classifies all surface waters into one of five fish and aquatic life subcategories. The impounded and free-flowing reaches of the Fox River upstream and downstream of the Badger and Rapide Croche Hydroelectric Projects are classified as *warm water sport fish communities*. This subcategory includes surface waters capable of supporting a community of warm water sport fish or serving as a spawning area for warm water sport fish.

Except for natural conditions, all waters classified for fish and aquatic life, subcategory *warm water fish communities* shall meet the following criteria (Chapter NR 102.04,

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Wisconsin Administrative Code):

Dissolved oxygen - The dissolved oxygen content in surface waters may not be lowered to less than 5 milligrams per liter (mg/l) at any time.

Temperature -

There shall be no temperature changes that may adversely affect aquatic life.

Natural daily and seasonal temperature fluctuations shall be maintained.

The temperature shall not exceed 89⁰ F for warm water fish.

pH - The pH shall be within the range of 6.0 to 9.0, with no change greater than 0.5 units outside the estimated natural seasonal maximum and minimum.

12. Kaukauna Utilities shall develop, within 1 year issuance of a FERC license, a compliance plan for flow delivery and flow monitoring in the spillway channel at both projects, including 1) installation of staff gage showing each reservoir operating band stipulated in the license; 2) a staff gage calibrated to a stage vs. discharge relationship in the spillway channel to document the minimum flow agreed upon; and 3) automatic water level recorders to record headwater and spillway channel elevations and flow releases through the power houses and spillways.

13. The licensee shall develop, within 1 year issuance of a FERC license, an erosion plan and a large woody debris passage plan as approved by WDNR.

14. The licensee shall develop, within 1 year issuance of a FERC license, a reservoir drawdown plan approved by WDNR. The purpose of the drawdown plan is to minimize the impact of any project maintenance requiring a reservoir drawdown on aquatic and wetland resources. The plan shall include procedures for consulting with WDNR and FWS in advance of a drawdown. The plan shall also address procedures for consulting with agencies after an emergency drawdown of the reservoirs surface water elevations. The procedure shall identify notification and agency consultation requirements that would occur prior to returning to normal operating reservoir levels.

Document Content(s)

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