

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Pat Wood, III, Chairman;
Nora Mead Brownell, Joseph T. Kelliher,
and Suedeem G. Kelly.

Midwest Hydro, Inc.

Project No. 287-009

ORDER ISSUING NEW LICENSE

(Issued June 1, 2005)

1. On April 8, 2002, Midwest Hydro, Inc. (Midwest) filed an application for a new license pursuant to sections 4(e) and 15 of the Federal Power Act (FPA)¹ for the continued operation and maintenance of the existing 3.68-megawatt (MW) Dayton Hydroelectric Project No. 287, located on the Fox River, a navigable waterway of the United States,² in La Salle County, Illinois. This order is in the public interest because it will allow the project to continue generating electric energy to serve growing regional demand while protecting and enhancing environmental, recreational and cultural resources.

Background

2. The current license for the Dayton Project was issued to North Counties Hydro-Electric Company in 1979. Midwest has been the licensee since 1998.³ The current license expired on April 10, 2004. Project operation has continued pursuant to an annual license, pending disposition of Midwest's application for a new license.

¹ 16 U.S.C. §§ 797(e) and 808.

² See 4th FPC Annual Report 122 (1924) where the Commission authorized the issuance of the original license for this project.

³ 8 FERC ¶ 62,067. In 1983, the license was transferred to Hydro-Op One Associates (23 FERC ¶ 62,307), and, in 1998, to Midwest Hydro, Inc. (82 FERC ¶ 62,067).

3. Public notice of the application was issued on April 2, 2003.⁴ The Environmental Law and Policy Center and the Sierra Club, (jointly, Law Center) filed a motion to intervene.

4. On January 20, 2004, the Commission issued a notice that the project was ready for environmental analysis and solicited comments, recommendations, and terms and conditions.⁵ In response, comments were filed by the Law Center, Illinois Department of Natural Resources (Illinois DNR), the U.S. Department of the Interior (Interior), and numerous individuals.⁶ Reply comments were filed by Midwest.

5. An environmental assessment (EA) was prepared by Commission staff and issued on January 24, 2005. The EA contains background information, analysis of impacts, support for related license articles, and the basis for a finding that issuance of a new license would not be a major federal action significantly affecting the quality of the human environment.

6. Comments on the EA were filed by Interior, the U.S. Environmental Protection Agency, the Illinois DNR, the Law Center, Friends of the Fox River, and local canoeists Rebecca Clayborn and Cynthia Skrukud.⁷

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

⁴ 68 *Fed. Reg.* 17040 (April 8, 2003).

⁵ 69 *Fed. Reg.* 4127 (January 28, 2004).

⁶ Approximately 60 individuals filed comment letters recommending dam removal, or, in the alternative, adoption of FWS' and Illinois DNR's recommendations for minimum flow releases, American eel passage, and water quality improvement.

⁷ Ms. Skrukud is also a former president of Friends of the Fox River. Ms. Clayborn identifies herself as an environmental scientist.

Project Description

8. The Dayton Project, located on the Fox River 5.5 miles upstream from its confluence with the Illinois River, is the lowermost of fifteen dams on the Fox. The Dayton Project consists of an arch buttress concrete overflow dam approximately 23 feet high and 594 feet long with a 200-foot-long earthen embankment along its east side; a 200-acre shallow reservoir; a canal along the west side of the Fox River extending 900 feet downstream from the dam to the powerhouse; and a powerhouse containing three generating units with a total installed capacity of 3.68 MW. The powerhouse discharges directly into the Fox River at the end of the 900-foot-long bypass reach. The project boundary encloses the dam and embankment, reservoir, power canal, and powerhouse. The bypassed reach is 900 feet long and approximately 300 feet wide. A more detailed project description is contained in Ordering Paragraph (B)(2).

9. The Fox River fishery, both upstream and downstream of the project, is healthy and diverse.⁸ The river in the vicinity of the project is host to 63 different species of fish, and has been noted as an excellent location for recreational fishing. The reach of river upstream of the project is noted for good fishing for walleye, smallmouth bass, white bass, crappie, and channel catfish. The area just below the project's powerhouse has been noted as an exceptional fishing spot for walleye, white bass, crappie, and channel catfish.⁹ The project bypassed reach has been observed to contain shad and carp in the areas along the main channel and the area immediately downstream of the spillway. Adult walleye and schools of shiners and other minnows have also been observed in the bypassed reach in the cobble/boulder areas that border the main channel. Illinois DNR fisheries staff states that large congregations of numerous species of fish are common below the spillway during the spring and early summer.¹⁰

10. The Dayton Project as licensed is authorized to operate in a modified run-of-river mode. From May to October each year, the reservoir's water surface elevation may

⁸ EA at 30.

⁹ Chicago Area Paddling/Fishing Guide website.
<http://pages.ripco.net/~jwn/fox.html>. The Dayton Project provides fishing access below the powerhouse.

¹⁰ Instream Flow Evaluation, *infra* at n. 26.

fluctuate by as much as 1.5 feet, i.e., between 498.9 and 497.4 feet mean sea level (msl). The license contains no minimum flow requirement for the bypassed reach.

11. Since becoming the licensee in 1998, Midwest has provided a minimum flow of 20 cubic feet per second (cfs) to the bypassed reach.¹¹ On relicensing, Midwest proposes to operate the project run of river with a normal reservoir surface elevation of 498.9 msl and to provide a 20-cfs minimum flow to the bypassed reach. Midwest also proposes to install flashboards of along the crest of the dam. It explains that the dam's crest is somewhat irregular, such that minimum flow releases are not distributed evenly over the dam's 594-foot length. Midwest proposes to install flashboards of varying heights up to six inches in order to provide a more uniform distribution of flow over the dam into the bypassed reach.¹² The flashboards will increase project generation by raising the dam's height and the water column (head) above the turbine generating units.¹³ No other construction or additional capacity at the Dayton Project is proposed.

Water Quality Certification

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

¹¹ Midwest does this by maintaining the reservoir's surface elevation at 498.9 msl (0.5 inches above the dam's crest), a height at which 20 cfs will spill over the dam. During higher spring flows (February through June), when the project's hydraulic capacity is exceeded much of the time, flows to the bypass reach often exceed 20 cfs.

¹² With the flashboards, the project will be able to generate approximately 314 megawatt hours more each year.

¹³ EA at 44, footnote f under table 8.

¹⁴ 33 U.S.C. ' 1341(a)(1).

¹⁵ 33 U.S.C. ' 1341(d).

13. On December 14, 2001, Midwest applied to the Illinois Environmental Protection Agency (Illinois EPA) for certification. Illinois EPA did not act on the application within one year. Therefore, certification is waived.

Section 18 Fishway Prescriptions

14. Section 18 of the FPA¹⁶ provides that the Commission shall require the construction, maintenance, and operation by a licensee of such fishways as may be prescribed by the Secretary of the Interior or the Secretary of Commerce. By letter filed March 19, 2004, the Secretary of the Interior requested that the Commission reserve authority to prescribe fishways. Consistent with Commission policy, Article 401 of this license reserves the Commission's authority to require fishways that may be prescribed by Interior for the Dayton Project.

Threatened And Endangered Species

15. Section 7(a)(2) of the Endangered Species Act of 1973 (ESA)¹⁷ requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally listed threatened and endangered species, or result in the destruction or adverse modification of their designated critical habitat.

16. The Indiana bat, a federally listed endangered species, the bald eagle, a federally listed threatened species, and the decurrent false aster, a federally listed threatened plant species, are known to occur in the Illinois River valley and La Salle County. Bald eagles have been sighted in the project area. The Indiana bat and decurrent false aster have not been seen at the project, but have the potential to occur there.

17. In the EA, staff recommended that Midwest prepare and implement a threatened and endangered species monitoring and protection plan that includes, at minimum, monitoring bald eagle roosting and nesting trees, potential Indiana bat roosting and maternity habitat, and potential decurrent false aster habitat at the project. The plan would include a schedule for conducting annual monitoring for the presence of bald eagle, Indiana bat, and decurrent false aster in the project area, reporting the monitoring

¹⁶ 16 U.S.C. ' 811.

¹⁷ 16 U.S.C. ' 1536(a).

results, and developing a bald eagle/Indiana bat/decurent false aster management plan if any of the species is found on project lands. In the EA, staff found that continued operation and maintenance of the project, as recommended in the EA, would not likely adversely affect the bald eagle, Indiana bat, and decurent false aster.

18. On January 24, 2005, Commission staff requested the concurrence of the U.S. Fish and Wildlife Service (FWS) with its determination that the project is not likely to adversely affect the bald eagle, Indiana bat or its critical habitat, and the decurent false aster.¹⁸ By letter filed February 23, 2005, the FWS concurred with staff's findings. Article 410 requires the licensee to prepare and implement a threatened and endangered species monitoring plan.

Recommendations Of Federal And State Fish And Wildlife Agencies Under Section 10(J) Of The Federal Power Act

A. Recommendations Pursuant to Section 10(j)(1) of the FPA

19. Section 10(j)(1) of the FPA¹⁹ 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,²⁰ to “adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)” affected by the project.

20. The Illinois DNR and Interior filed recommendations under section 10(j) by letters filed March 18, 2004, and March 19, 2004, respectively. Seven recommendations were determined to fall within the scope of section 10(j).²¹ This license includes conditions

¹⁸ Neither the bald eagle nor the decurent false aster have designated critical habitat in the area. See letter dated November 18, 2002, to Richard A. Loeffler, North American Hydro, Inc., from Richard C. Nelson, U.S. Department of the Interior, Fish and Wildlife Service.

¹⁹ 16 U.S.C. ' 803(j)(1).

²⁰ 16 U.S.C. § 661 *et seq.*

²¹ EA at 12. Interior submitted one recommendation that was determined to be outside the scope of section 10(j).

consistent with six of these recommendations: (1) operate the project with no peaking and with a constant discharge (Article 402); (2) monitor water quality (Article 404); (3) prepare a project operation compliance plan (Article 405); (4) pass woody debris downstream (Article 406); (5) prepare and implement an American eel monitoring plan (Article 407); and (6) prepare an eel passage plan, if needed based on monitoring (Article 408).²²

21. If the Commission believes that any section 10(j) recommendation may be inconsistent with the purposes and requirements of part I of the FPA or other applicable law, section 10(j)(2)²³ requires the Commission and the agencies to attempt to resolve any such inconsistency, giving due weight to the recommendations, expertise, and statutory responsibilities of such agencies. If the Commission still does not adopt a recommendation, it must explain how the recommendation is inconsistent with part I of the FPA or other applicable law and how the conditions imposed by the Commission adequately and equitably protect, mitigate damages to, and enhance fish and wildlife resources.

22. By letters issued January 24, 2005, Commission staff preliminarily determined that the recommendation of Illinois DNR and Interior for a 260-cfs minimum flow into the bypassed reach to increase fish habitat may be inconsistent with the comprehensive planning standard of section 10(a)(1) and the public interest standard of section 4(e) of the FPA because any benefit to the fishery from such a flow would be minimal and far outweighed by the significant adverse effect on project economics.²⁴ The staff instead

²² In the EA, staff made a preliminary determination that the Illinois DNR and Interior recommendations for American eel passage plans were inconsistent with the comprehensive development and public interest standards of sections 10(a) and 4(e) of the FPA. This inconsistency was, however, resolved during the section 10(j) teleconference.

²³ 16 U.S.C. § 803(j)(2).

²⁴ EA at 55. The 260-cfs flow would reduce annual generation by about 15 percent (2,860 megawatt hours), as compared to approximately a one percent reduction in annual generation under Midwest's proposed 20-cfs minimum flow. The 15 percent reduction corresponds to an estimated reduction in power benefits of about \$24,140 (for an annual loss of over \$5,000).

recommended adoption of the 20-cfs minimum flow proposed by the licensee. Interior and Illinois DNR responded by letters filed February 23 and March 11, 2005, respectively. On March 31, 2005, Commission staff conducted a teleconference with Illinois DNR and Interior in an attempt to resolve the flow issue, but the inconsistency could not be resolved.

23. With a 20-cfs minimum flow, the sloping configuration of the river bottom in the 900-foot-long bypassed reach causes the majority of the release to flow down the east bank, forming a main channel in the bypassed reach. On the west bank, there is an area about 600 feet long by 200 feet wide of shallow water and occasionally exposed substrate.²⁵

24. Midwest conducted a visual Instream Flow Evaluation Study (IFE study),²⁶ which consisted of releasing flows of 100, 75, 50, and 20 cfs into the bypassed reach and visually evaluating the suitability of the flows for aquatic habitat conditions.

25. The study evaluated the suitability of Midwest's proposed 20-cfs release on habitat for fish species identified in consultation with Illinois DNR.²⁷ Different life stages (*e.g.*, spawning, juveniles, adults) of the species were then classified into various habitat groups according to the habitat preferences of the species' life stages. The majority of the species prefer shallow, slow-moving waters or deep, slow-moving waters. The study concluded that, during the spring and early summer high flow periods, most of the bypassed reach would provide protection for spawning adult fish from these shallow-slow and deep-slow habitat groups. At flows of 20 cfs, the main channel in the bypassed reach

²⁵ EA at 15.

²⁶ Instream Flow Evaluation at the Dayton Hydroelectric Project in La Salle County, Illinois, FERC Project No. 287, Great Lakes Environmental Center, prepared December 10, 2002, and filed February 21, 2003, as appendix D to Midwest's response to additional information request. The licensee's environmental consultant, Great Lakes Environmental Center, developed and performed the study. The study identified the site and river characteristics and the species of fish that would inhabit the reach, and it observed various flows over the dam into the reach, and their likely effect on aquatic habitat. Illinois DNR personnel attended the flow evaluation.

²⁷ American eel, mooneye, sauger, muskellunge, skipjack herring, bigmouth buffalo, smallmouth buffalo, black buffalo, shortnose gar, and white bass.

would provide adequate protection for these groups, and would not impede fish movement. Moreover, the report concluded a minimum flow of 20 cfs would maintain the free-flowing nature of the riffle/pool sequence in the main channel of the bypassed reach and ensure maintenance of adequate dissolved oxygen levels.

26. Interior and Illinois DNR recommend a 260-cfs minimum flow for the bypassed reach, equivalent to the 7Q10 flow of the Fox River.²⁸ Illinois DNR indicates that 7Q10 flows have been required historically for state-permitted projects and would protect aquatic habitat in the bypassed reach. Interior believes that a 260-cfs flow is the minimum necessary to support food production for macroinvertebrates. Illinois DNR states that the 100-cfs flow evaluated in the IFE study would represent a 50 to 70 percent increase in available aquatic habitat from the proposed flow of 20 cfs, but that they still believe a 260-cfs flow is the appropriate flow to protect the aquatic inhabitants within the bypassed reach. Illinois DNR attributes the absence of fish and mussels in the bypassed reach to the low flows occurring there.

27. As explained in the EA, because the 7Q10 method is typically used in the context of addressing pollution effects and not for maximizing the availability of aquatic habitat, it is not the ideal method for determining flow needs for aquatic organisms. Instead, relying on the results from the IFE study conducted at the project, staff found that a 20-cfs minimum flow would maintain sections of riffle/rapids in the bypassed reach, thus providing oxygenated spawning, feeding, and rearing habitat for riverine fish species and allowing fish access to deeper pools immediately downstream of the dam. In addition, historical records show that flow in the bypassed reach between April and June exceeds 20 cfs about 56 percent of the time and 260 cfs about 50 percent of the time, thus providing additional wetted habitat during the critical spawning period for many fish species.²⁹

²⁸ The 7Q10 flow is calculated as the lowest consecutive seven-day streamflow that is likely to occur in a 10-year period and is often used to determine the minimum flow needed to dilute point source pollutants entering a stream so that aquatic habitat is not impacted by the introduction of toxins under low flow conditions.

²⁹ EA at Table 6.

28. During the teleconference, Illinois DNR indicated that its objectives for recommending the 260-cfs minimum flow release are to enhance invertebrate productions, possibly promote the return of mussels, and eliminate fish stranding. Illinois DNR also stated that the smallmouth bass population is smaller downstream of the dam than upstream due in part to the lack of fish productivity in the bypassed reach.³⁰ However, it also conceded that the bypassed reach is not considered critical fish habitat.

29. While the minimum flows recommended by Interior and Illinois DNR would provide a greater area of wetted habitat than the staff-recommended 20-cfs flow, staff's recommended flow would provide adequate habitat for the species' life stages residing there at a cost \$22,160 less per year than the agencies' recommended flow.³¹ We conclude that the cost of the 260-cfs flow would have a substantial negative effect on the power benefits of the project and is not justified given the overall health of the fishery, the bypassed reach's short distance, and that the bypassed reach is not considered critical habitat.

30. For the above reasons, in accordance with FPA section 10(j)(2)(A), we conclude that the recommendation for a 260-cfs flow is inconsistent with the comprehensive planning standard of sections 4(e) and 10(a) of the FPA. In accordance with FPA section 10(j)(2)(B), we find that the measures required by this license will adequately and equitably protect, mitigate damages to, and enhance fish and wildlife resources affected by this project. Therefore, Article 403 requires the licensee to maintain a 20-cfs minimum flow year-round in the bypassed reach.

³⁰ Illinois DNR filed supporting documentation on April 18, 2005, which included smallmouth bass survey data from three recent studies on the Fox River. The data show a gradual decreasing trend in smallmouth bass abundance in the lower reaches of the Fox River, including downstream of the Dayton Project. The Illinois DNR, however, states in its filing that habitat and water quality did not appear to be limiting factors in smallmouth bass abundance downstream of the project's tailrace.

³¹ EA at 43, table 8.

B. Recommendations Pursuant to Section 10(a)(1) of the FPA

31. Interior made a recommendation³² we consider under the public-interest standard of FPA section 10(a)(1).³³

32. Interior recommends that Midwest establish a fish protection and enhancement fund to provide monetary contributions commensurate with fish entrainment mortality at the project. In the EA,³⁴ Commission staff did not recommend adopting this measure because the maximum mortality rate for fish larvae, the life stage most likely to be affected by entrainment mortality at projects like the Dayton Project, was estimated to be only about one percent.³⁵ In addition, the aquatic community in the project area appears to be healthy, productive, and diverse, such that any entrainment mortality at the project is not having a significant effect on fish populations. It is well-established that the Commission cannot require funding of compensatory mitigation where it has not been shown by substantial evidence that entrainment mortality has had a significant adverse effect on the fishery population.³⁶ Therefore, we do not require it here.

³² Interior's request to establish a fish protection and enhancement fund is not an appropriate 10(j) recommendation because the recommendation is not a specific measure for the protection, mitigation, or enhancement of fish and wildlife. *See* 18 C.F.R. § 4.30(b)(9)(ii)(2004).

³³ 16 U.S.C. § 803(a)(1). Section(10(a)(1) 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.

³⁴ EA at 53.

³⁵ EA at 31.

³⁶ *See City of New Martinsville v. FERC*, 102 F.3d 567 (D.C. Cir. 1996); *Allegheny Energy Supply Company*, 109 FERC ¶ 61,028 (2004); *City of Jackson, Ohio*, 105 FERC ¶ 61,136 (2003); *Tower Kleber Limited Partnership*, 91 FERC ¶ 61,172 (2000); *City of New Martinsville v. FERC*, 81 FERC ¶ 61,093 (1997).

Historic Properties

33. The Illinois SHPO determined that no historic properties would be affected by the Dayton Project in a letter dated January 11, 2002. The EA also found that there are no known historical or archaeological properties within the project area listed or eligible for listing in the national Register of Historic Places. However, archaeological or historic sites could be discovered during any future project modification or construction that may require land-disturbing activities. If any unanticipated historic or archaeological properties are discovered during the term of the license, Article 411 requires the licensee to consult with the SHPO and prepare a cultural resources management plan to protect the properties. This consultation satisfies the Commission's responsibilities under section 106 of the Act.

Intervenor Concerns

34. In its comments, the Law Center requests that the relicense application be denied or, alternatively, that the Commission incorporate its recommended conditions into the license, as discussed below.

A. Dam Removal

35. The Law Center contends that the project has had an adverse effect on the health of the Fox River, reduces the water quality and quantity of the river, and degrades the river's quality for fish habitat. The Law Center argues that given the lack of mitigation, the relicense application should be denied and the Dayton dam removed so that restoration of the Fox River may occur.

36. In support of its position, Law Center states that the environmental, aesthetic, and recreational impacts of the dam outweigh the minor and replaceable power production benefits of the project, that removal of the Dayton dam is consistent with comprehensive plans for the restoration and improvement of the Fox River, and that removal of the dam would fully address the negative impacts of the project.

37. The EA considered the above factors for the Dayton Project and concluded the following: (1) a minimum bypassed reach flow and plans for water quality monitoring and woody debris management would protect fish and mussel habitat at the project; (2) the Fox River has no protected status and the project is consistent with the four federal

and state comprehensive plans that address resources relevant to the Dayton Project; (3) Midwest would operate the project in a run-of-river mode, and the water quality in the project impoundment and project tailrace would meet Illinois state water quality standards; (4) proposed measures to improve the portage, and portage signage should enhance recreational opportunities; and (5) there is a need for project power to help meet a growing need for power in the region. Additionally, the new flashboard system may improve the visual quality of water spilling over the dam.

38. After thoroughly examining all aspects of the Dayton Project, we have concluded that relicensing the project with the measures required here strikes an appropriate balance between developmental and non-developmental resources and is best adapted to the comprehensive development of the Fox River. Therefore, we find that project removal is not a reasonable alternative to project relicensing.

B. Fish Passage

39. The Law Center contends that the Dayton Project denies access to important fish spawning and nursery habitat in the Fox River, and recommends installation of fish passage facilities and American eel passage facilities.

40. As noted above, we have included Article 407, which requires the preparation of an American eel monitoring plan, and eel passage measures if monitoring shows that eels are present and not able to pass the project. Regarding fish passage, the EA found that while providing fish passage at the project may be beneficial to some species by expanding their ability to access additional habitat, this expansion of habitat availability is not vital to their life histories or for their survival. In addition, the project dam appears to be an upstream barrier to invasive species that can displace and out-compete indigenous species, thus providing a benefit to the upstream fishery.³⁷ Further, the fishery in the Fox River near the project appears to be healthy, productive, and diverse. The estimated annual cost to construct and operate a fish passage facility is about \$162,700. We do not believe that the potential benefit some species may gain by being able to access upstream habitat justifies the cost of a fish passage facility for these species

³⁷ By letter filed June 14, 2004, Illinois DNR withdrew their recommendation for fish passage because they are concerned that fish passage may encourage the spread of invasive species.

C. Water Quality

41. The Law Center contends that the Dayton dam contributes to degraded water quality in the project's reservoir, which in turn does not provide for healthy fish habitat. The Law Center recommends monitoring that would establish specific requirements for mitigation if fishery resources are adversely affected. The Law Center further contends that a minimum flow release of 612 cfs into the bypassed reach is needed to provide adequate water quality and healthy aquatic habitat in the reach.

42. As explained in the EA,³⁸ water quality in the project's reservoir and downstream of the powerhouse meets state water quality standards, except for occasional high pH readings. There is however a decline in dissolved oxygen (DO) concentrations from the impoundment to the tailrace, which could be due to conditions in the bypassed reach. Article 404 of the license therefore requires the licensee to monitor water quality in the bypassed reach to determine whether mitigation measures are needed.

43. With respect to the 612-cfs minimum flow recommendation, while such a high flow would ensure complete inundation of the bypassed reach, the Law Center provides no support for this level of inundation. Moreover, this flow is more than double the agencies' flow recommendation, which as discussed above we have declined to adopt.³⁹ The 20-cfs minimum flow required by this license will maintain sections of riffle/rapids in the bypassed reach, thereby providing oxygenated spawning, feeding, and rearing habitat for riverine fish species. The flow will also be sufficient to provide fish access to deeper pools immediately downstream of the dam.

³⁸ EA at 15-17.

³⁹ The 612-cfs flow would reduce annual generation by about 33 percent (6,300 megawatt hours), as compared to approximately a one percent reduction in annual generation under Midwest's proposed 20-cfs minimum flow. The 33 percent reduction corresponds to an estimated reduction in power benefits of about \$53,280 (for an annual loss of over \$34,000).

D. Recreation

44. The Law Center contends that the Dayton Project is a barrier to canoeing. Because the portage around the dam is very long and not well maintained, most downstream canoe trips on the lower Fox River conclude at the upstream end of the Dayton impoundment. The Law Center requests that if the project is relicensed, the Commission require modifications to address this as well as the aesthetic impacts of the dam.

45. Under Article 411 of this license, Midwest is required to improve the project's existing canoe trail by shortening it and moving the put-in from immediately downstream to just upstream of the powerhouse. Midwest also will install additional canoe portage signage. As noted above, the license authorizes the installation of flashboards across the crest of the dam which will improve the aesthetic impact of the dam by having the water pass over the entire face of the dam.

E. NEPA Compliance and Request for Public Hearing

46. Law Center contends that the operation of the project will significantly affect the quality of the human environment and that therefore, under the requirements of the National Environmental Policy Act (NEPA), the Commission should have prepared an EIS for the project.

47. Commission staff's decision to not prepare an EIS did not violate NEPA. The EA for the project contained a detailed description of the purpose of, and need for, the project. The EA provided a detailed analysis of the project which addressed all important environmental considerations, including the project's impacts on geology and soils, water resources, fishery resources, terrestrial resources, threatened and endangered species, visual resources, cultural resources, recreation and land use, as well as mitigation, need for power, and project alternatives. On the basis of this analysis, staff concluded the licensee's project would not have a significant impact on the quality of the human environment. We concur with this finding. An EIS is therefore unnecessary.

48. Law Center requests that the Commission hold a public hearing on the proposed relicensing of the Dayton Project to provide the public with a chance to express their views. As noted above, the public has had a number of opportunities to provide comments in this proceeding, consistent with our standard relicensing proceedings. The Law Center has shown no reason why special proceedings are needed in this case.

Other Issues

49. As noted above, Midwest's proposal to install flashboards of variable height across the crest of the dam will provide a more uniform distribution of flow over the spillway. Moreover, in the event American eels reach the base of the dam, this could assist their upstream passage by increasing the wetted surface area that eels can use for climbing over the dam.⁴⁰ In addition, establishing procedures to rapidly address flashboard failures could protect aquatic habitat in the Fox River and, to some extent, prevent adverse effects resulting from flow alterations and water fluctuations resulting from flashboard failure. Article 409 accordingly requires the licensee to prepare such a plan.

State And Federal Comprehensive Plans

50. Section 10(a)(2)(A) of the FPA⁴¹ 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.⁴² Under section 10(a)(2)(A), federal and state agencies filed four comprehensive plans that address various resources in Illinois. Of these, we identified and reviewed two comprehensive plans that are relevant to this project.⁴³ No conflicts were found.

Applicant's Plans And Capabilities

51. Sections 10 and 15 of the FPA require the Commission to make certain findings related to an applicant's plans and capabilities for operating the project in accordance with public interest standards. Section 10 applies to all licenses, but section 15 only applies to a new license for already licensed projects.

⁴⁰ EA at 29.

⁴¹ 16 U.S.C. § 803(a)(2)(A).

⁴² Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19.

⁴³ (1) Illinois Department of Conservation. Outdoor Recreation in Illinois: 1983 policy plan. Springfield, Illinois. November 1983; and (2) Illinois Environmental Protection Agency. Illinois Water Quality Management Plan. Springfield, Illinois. December 1992.

52. In accordance with sections 10(a)(2)(C) and 15(a) of the FPA,⁴⁴ Commission staff has evaluated Midwest's record as a licensee for these areas: (A) conservation efforts; (B) compliance history and ability to comply with the new license; (C) safe management, operation, and maintenance of the project; (D) ability to provide efficient and reliable electric service; (E) need for power; (F) transmission services; (G) cost effectiveness of plans; and (H) actions affecting the public. We accept the staff's findings in each of the following areas.

A. Conservation Efforts

53. FPA section 10(a)(2)(C) requires the Commission to consider the electricity consumption improvement programs of the applicant, including its plans, performance, and capabilities for encouraging or assisting its customers to conserve electricity cost-effectively, taking into account the published policies, restrictions, and requirements of state regulatory authorities. Midwest sells the project's energy to Illinois Power Company (Illinois Power), a utility.

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

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

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

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

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

56. Midwest owns and operates the Dayton Project, which is classified in accordance with Commission standards as having a low hazard classification.

57. Staff has reviewed Midwest's management, operation, and maintenance of the Dayton Project and concludes that the dam and other project works are safe, and that Midwest has the ability to manage, operate, and maintain the project safely for future operation. Based on the results of this review, staff concludes that the Dayton Project would pose no threat to public safety if operated according to the regulations governing hydroelectric licenses.

D. Ability to Provide Efficient and Reliable Electric Service

58. Commission staff reviewed Midwest's plans and its ability to operate and maintain the project in a manner most likely to provide efficient and reliable electric service. Midwest has been operating the project in an efficient manner within the constraints of the existing license. Staff concludes that Midwest is capable of operating the project to provide efficient and reliable electric service in the future.

E. Need for Power

59. To assess the need for power, staff looked at the needs in the operating region in which the project is located. The Dayton Project is located in the East Central Area Reliability (ECAR) region of the North American Electric Reliability Council (NERC). NERC annually provides public information relative to projected increases in energy demand. NERC's most recent report (September 2004) indicates that over the 2004 – 2013 period, and the first 5 years are projected to have a growth rate of 2.11 percent.

60. If a new license is issued to Midwest, continued operation of the project would provide about 19,201 megawatt-hours of energy annually. Staff concludes that the project's power, low cost, displacement of nonrenewable fossil-fired generation and contribution to the region's diversified generation mix will help meet a need for power in the region.

F. Transmission Services

61. The Dayton Project does not have a primary transmission line that carries electric power generated from the project to the regional grid. Instead, the project's power flows directly into Illinois Power Company's substation through appurtenant facilities at the powerhouse. Midwest proposes no changes that would affect the capability of the project to connect to the regional grid to continue to serve delivery to the region.

G. Cost-Effectiveness of Plans

62. Midwest proposes, and this license requires, measures for the protection, mitigation, and enhancement of environmental resources in the Fox River Basin. Midwest's past record as a licensee indicates it is likely to carry out these measures in a cost-effective manner.

H. Actions Affecting the Public

63. During the previous license period Midwest used the project to help meet local power needs and recreation needs. Midwest pays taxes that contribute to the cost of public services provided by the local government.

Project Economics

64. In determining whether a proposed project will be best adapted to a comprehensive plan for developing a waterway for beneficial public purposes, the Commission considers the economic benefits of project power. Under the Commission's approach to evaluating the economics of hydropower projects, as articulated in *Mead Corp.*,⁴⁵ the Commission employs an analysis that uses current costs to compare the costs of the project and likely alternative power, with no forecasts concerning potential future inflation, escalation, or deflation beyond the license issuance date. The basic purpose of the Commission's economic analysis is to provide a general estimate of the potential power benefits and the costs of a project, and of reasonable alternatives to project power. The estimate helps to support an informed decision concerning what is in the public interest with respect to a proposed license.

⁴⁵ 72 FERC & 61,027 (1995).

65. In applying this analysis to the Dayton Project, staff has considered two options: Midwest's proposal and the project as licensed here. As proposed by Midwest, the annual cost of the project would be about \$218,350 (11.37 mills/kWh). The annual power value, for the estimated annual generation of 19,201 MWh, would be \$245,770 (12.80 mills/kWh).⁴⁶ To determine whether the proposed project is currently economically beneficial, we subtract the cost of the project from the value of power the project produces. Thus, the project's power would cost about \$27,420 (1.43 mills/kWh) less than currently available alternative power.

66. As licensed, the project would produce the same estimated annual generation, and have the same power value as Midwest's proposal. The annual cost of the project would be about \$226,940 (11.82 mills/kWh). Thus, the project's power would cost about \$18,830 (0.98 mills/kWh) less than currently available alternative power.

67. In analyzing public interest factors, the Commission takes into account that hydroelectric projects offer unique operational benefits to the electric utility system (ancillary benefits). These benefits include their value as almost instantaneous load-following response to dampen voltage and frequency instability on the transmission system, system-power-factor-correction through condensing operations, and a source of power available to help in quickly putting fossil-fuel based generating stations back on line following a major utility system or regional blackout.

68. Ancillary services are now mostly priced at rates that recover only the cost of providing the electric service at issue, which do not resemble the prices that would occur in competitive markets. As competitive markets for ancillary services begin to develop, the ability of hydro projects to provide ancillary services to the system will increase the benefits of the project. The Dayton Project is located in the region served by PJM Interconnection, a regional transmission organization. PJM Interconnection serves the electrical transmission needs of much of the Mid-Atlantic, and provides ancillary services in the form of rules established for black start service, spinning reserves, and market based regulation (www.pjm.com).

⁴⁶ For the amount of energy and capacity provided by the Dayton Project, the power value would be about \$12/MWh based on replacing the project power using Midwest's estimated power purchase cost (EA at 41).

Comprehensive Development

69. Sections 4(e) and 10(a)(1) of the FPA,⁴⁷ respectively, require the Commission to give equal consideration to power development purposes and to the purposes of energy conservation, the protection, mitigation of damages 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.

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

71. We have selected this alternative because: (1) issuance of a new license would serve to maintain a beneficial, dependable, and inexpensive source of electric energy, (2) the required environmental measures would protect and enhance fish and wildlife resources, water quality, recreational resources and protect any undiscovered cultural resources, and (3) the 3.68-MW of electric energy generated from renewable resources would continue to offset the use of fossil-fueled, steam-electric generating plants, thereby conserving nonrenewable resources and reducing atmospheric pollution.

License Term

72. Section 15(e) of the FPA,⁴⁸ 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. Our general policy is to establish 30-year terms for projects with little or no redevelopment, new construction, or new capacity, or environmental

⁴⁷ 16 U.S.C. §§ 797(e) and 803(a)(1).

⁴⁸ 16 U.S.C. ' 808(e).

mitigation and enhancement measures; 40-year terms for projects with a moderate amount of such activities; and 50-year terms for projects with extensive measures.⁴⁹

73. Midwest proposes, and we are requiring, a modest level of new environmental measures, as detailed above. Accordingly, we issue this new license for a 30-year term.

The Commission orders:

(A) This license is issued to Midwest Hydro, Inc. (licensee) to operate and maintain the Dayton Hydroelectric Project, for a period of 30 years, effective the first day of the month in which this order is issued. This license is subject to the terms and conditions of the Federal Power Act (FPA), which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the FPA.

(B) The project consists of:

(1) The following Exhibit F filed on April 8, 2002:

<u>Exhibit F Drawings</u>	<u>FERC No. 287-</u>	<u>Description</u>
Figure 1	1001	Project Plan - Dam
Figure 2	1002	Project Plan - Powerhouse
Figure 3	1003	Cross-Sections of Dam Sections "A-A" & "B-B"
Figure 4	1004	Cross-Sections of Dam Sections "C-C" & "D-D"
Figure 5	1005	Cross-Section of Dam Section "E-E"
Figure 6	1006	Floor Plan of Powerhouse

⁴⁹ *Consumers Power Company*, 68 FERC & 61,077 at 61,383-84 (1994).

<u>Exhibit F Drawings</u>	<u>FERC No. 287-</u>	<u>Description</u>
Figure 7	1007	Cross-Sections of Powerhouse Sections "A-A" & "B-B"
Figure 8	1008	Cross-Sections of Powerhouse Sections "C-C" & "D-D"

- (2) Project works consisting of: (1) a 23-foot-high, 594-foot-long arch buttress
- (3) concrete dam; (2) a 200-foot-long earthen embankment; (3) a concrete head gate structure with four 15.5-foot-wide by 9.5-foot-high wooden gates; (4) flashboards up to 6 inches; (5) a 900-foot-long, 135-foot-wide power canal; (6) a 200-acre reservoir with a normal pool elevation of 498.9 feet mean sea level (msl) without flashboards and 499.4 feet msl with flashboards; (7) a powerhouse containing three generating units with a combined capacity of 3,680 kW; and (8) appurtenant facilities.

Exhibit A: Pages A-1 through A-3, and A-6 filed on April 8, 2002.

(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 as designated in Ordering Paragraph (B) above, are approved and made part of this license.

(D) This license is subject to the articles set forth in Form L-3 (October 1975), entitled "Terms and Conditions of License for Constructed Major Project Affecting Navigable Waters", and the following additional articles:

Article 201. Administrative Annual Charges. The licensee shall pay the United States the following annual charges, effective as of the first day of the month in which the license is issued.

For the purpose of reimbursing the United States for the Commission's administrative costs, pursuant to Part I of the Federal Power Act, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time. The authorized installed capacity for that purpose is 3,680 kilowatts.

Article 202. Exhibit Drawings. Within 45 days of license issuance, 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 (*e.g.*, P-287-1001 through P-287-1008) 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 (*e.g.*, 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 identified as (CEII) material under 18 CFR §388.113(c). Exhibit G drawings must be identified as (NIP) material under 18 CFR §388.112. 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-1234-####, G-1, Project Boundary, MM-DD-YYYY.TIF]. Electronic drawings shall meet the following format specification:

IMAGERY - black & 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

Each Exhibit G drawing that includes the project boundary must contain a minimum of three known reference points, arranged in a triangular format for GIS georeferencing to vector data. The latitude and longitude coordinates, or state plane coordinates, of each reference point must be shown and identified on the drawing. In addition, each project boundary drawing must be stamped by a registered land surveyor.

c) The licensee shall file three separate sets of the project boundary data in a georeferenced vector electronic file format (such as ArcView shape files, GeoMedia files, MapInfo files, or any similar GIS format) with the Secretary of the Commission, ATTN: OEP/DHAC. The file name shall include: FERC Project Number, data description, date of this license, and file extension in the following format [P-1234, boundary vector data, MM-DD-YYYY.SHP]. The georeferenced electronic boundary data file must be positionally accurate to ± 40 feet in order to comply with National Map Accuracy Standards for maps at a 1:24,000 scale. A single electronic boundary data file is preferred and must contain all reference points shown on the individual project boundary drawings. The latitude and longitude coordinates, or state plane coordinates, of each reference point must be shown. The data must be accompanied by a separate text file describing the map projection used (i.e., UTM, State Plane, Decimal Degrees, etc), the map datum (i.e., North American 27, North American 83, etc.), and the units of measurement (i.e., feet, meters, miles, etc.). The text file name shall include: FERC Project Number, data description, date of this license, and file extension in the following format [P-1234, project boundary metadata, MM-DD-YYYY.TXT].

Article 203. Amortization Reserve. Pursuant to Section 10(d) of the Federal Power Act, a specified reasonable rate of return upon the net investment in the project shall be used for determining surplus earnings of the project for the establishment and maintenance of amortization reserves. The licensee shall set aside, in a project amortization reserve account at the end of each fiscal year, one-half of the project surplus earnings, if any, in excess of the specified rate of return per annum on the net investment.

To the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year, the licensee shall deduct the amount of that deficiency from the amount of any surplus earnings subsequently accumulated, until absorbed. The licensee shall set aside one-half of the remaining surplus earnings, if any, cumulatively computed, in the project amortization reserve account. The licensee shall maintain the amounts established in the project amortization reserve account until further order of the Commission.

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

Article 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.

Article 301. *Cofferdam Construction Drawings.* Before starting construction, the licensee shall review and approve the design of contractor-designed cofferdams and deep excavations and shall make sure construction of cofferdams and deep excavations is consistent with the approved design. At least 30 days before starting construction of the cofferdam, the licensee shall submit one copy to the Commission's Regional Engineer and two copies to the Commission (one of these copies shall be a courtesy copy to the Commission's Director, Division of Dam Safety and Inspections), of the approved cofferdam construction drawings and specifications and the letters of approval.

Article 302. *Contract Plans and Specifications.* At least 60 days prior to the start of flashboard installation, the licensee shall submit one copy of its plans and specifications along with a supporting design document that includes the following: (1) stability analysis demonstrating that the dam meets the Commission's Engineering Guidelines; (2) revised spillway rating curves with and without the flashboards; and (3) an operating plan with flashboards installed that includes procedures to replace the flashboards following a flood event. The above information is to be submitted to the Commission's Division of Inspections Chicago Regional Engineer, and two copies to the Commission (one of these shall be a courtesy copy to the Director, Division of Dam Safety and Inspections). The licensee may not begin construction until the Regional

Engineer has approved in writing the plans and specifications and determined that all preconstruction requirements have been satisfied. The submittal to the Regional Engineer must also include as part of preconstruction requirements: a Quality Control and Inspection Program, Temporary Construction Emergency Action Plan, and Soil Erosion and Sediment Control Plan.

Article 303. *As-built Drawings.* Within 90 days of completion of construction of the facilities authorized by this license, the licensee shall file for Commission approval, revised exhibits A, F, and G, as applicable, to describe and show those project facilities as built. A courtesy copy shall be filed with the Commission's D2SI-Chicago Regional Engineer, the Director, D2SI, and the Director, DHAC.

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

Article 402. *Run-of-River Operation.* The licensee shall operate the project in a run-of-river mode. The licensee shall at all times act to minimize the 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 project tailrace, approximate the sum of inflows to the project reservoir.

Run-of-river operation may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for short periods upon mutual agreement between the licensee and the Illinois Department of Natural Resources and the U.S. Department of the Interior. If project operation is so modified, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident.

Article 403. *Minimum Flow Release.* The licensee shall release a continuous minimum flow of 20 cubic feet per over the dam into the bypassed reach to protect the aquatic environment in the bypassed reach.

The minimum flow release may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for short periods upon mutual agreement between the licensee and the Illinois Department of Natural Resources and the

U.S. Department of the Interior. If the flow is so modified, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident.

Article 404. *Water Quality Monitoring Plan.* Within six months of license issuance, the licensee shall file for Commission approval, a plan to monitor water quality in the project bypassed reach to ensure maintenance of state water quality standards and aquatic life. The plan shall be prepared after consultation with the Illinois Department of Natural Resources (Illinois DNR), the Illinois Environmental Protection Agency (Illinois EPA), and the U.S. Department of the Interior (Interior).

The plan shall include: (1) the location and type of water quality monitoring devices that will be used; (2) the frequency of required maintenance or calibration of the devices; (3) a list of the water quality parameters that will be monitored to include dissolved oxygen and water temperature; (4) the frequency of monitoring; (5) the frequency of reporting the results of water quality monitoring to Illinois DNR, Illinois EPA, and Interior; (6) provisions for filing annual reports of monitoring data which shall also be provided to the Illinois DNR, Illinois EPA, and Interior; and (6) a schedule for implementing the monitoring plan after approval by the Commission

The licensee shall include with the water quality monitoring plan documentation of agency consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. The final water quality monitoring plan shall not be implemented until the licensee is notified that the plan is approved. Upon approval, the licensee shall implement the plan according to the approved schedule, 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 aquatic life or meet state standards, the Commission may direct the licensee to modify project structures or operations.

Article 405. Compliance Monitoring Plan. Within six months of license issuance, the licensee shall file for Commission approval a plan to monitor run-of-river operation specified in Article 402 and the continuous flow release specified in Article 403. The plan shall be prepared after consultation with the Illinois Department of Natural Resources (Illinois DNR) and the U.S. Department of the Interior (Interior).

The plan shall include: (1) the location of United States Geological Survey gages and staff gages; (2) the frequency of required maintenance or calibration of these gages; (3) the frequency of reporting of water levels to Illinois DNR and Interior; (4) provisions to file annual reports of all summary data, which shall also be provided to the Illinois DNR and Interior; and (5) a schedule for implementation.

The licensee shall include with the plan documentation of agency consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. The final compliance monitoring plan shall not be implemented until the licensee is notified that the plan is approved. Upon approval, the licensee shall implement the plan according to the approved schedule, including any changes required by the Commission.

Article 406. Woody Debris Management Plan. Within six months of license issuance, the licensee shall file for Commission approval a plan to pass downstream woody debris downstream that mimics the natural rate of accumulation, and to dispose of non-vegetative material not suitable for downstream passage. The plan shall be prepared after consultation with the Illinois Department of Natural Resources and the U.S. Department of the Interior.

The licensee shall include with the plan documentation of agency consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the

Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. The plan shall not be implemented until the licensee is notified that the plan is approved. Upon approval, the licensee shall implement the plan according to the approved schedule, including any changes required by the Commission.

Article 407. American Eel Monitoring. Within six months of license issuance, the licensee shall file for Commission approval a plan to monitor American eel. The plan shall be prepared after consultation with the Illinois Department of Natural Resources (Illinois DNR) and the U.S. Department of the Interior (Interior).

The plan shall include: (1) the location, method, and schedule for annually monitoring for eel presence at the project; (2) provisions for filing annual reports on the monitoring data to the Illinois DNR, Interior, and the Commission; (3) a schedule for implementing the monitoring plan after approval by the Commission. The sampling season for the eel monitoring shall include the months of June through August and shall consider using methods such as eel pots and a dead-end eel pass for determining eel presence and abundance.

The licensee shall include with the monitoring plan documentation of agency consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. The monitoring plan shall not be implemented until the licensee is notified that the plan is approved. Upon approval, the licensee shall implement the plan according to the approved schedule, including any changes required by the Commission.

Article 408. American Eel Passage. If the annual monitoring report required in Article 407 demonstrates the presence of American eel at the project, the licensee shall, within 3 months of filing such report, file for Commission approval a plan designed to evaluate the effectiveness of the project in facilitating upstream and downstream eel

passage. The plan shall be prepared after consultation with the Illinois Department of Natural Resources (Illinois DNR) and the U.S. Department of the Interior (Interior), and shall include reporting the results of the effectiveness monitoring with the consulted agencies and the Commission.

The licensee shall include with the passage monitoring plan documentation of agency consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. The monitoring plan shall not be implemented until the licensee is notified that the plan is approved. Upon approval, the licensee shall implement the plan according to the approved schedule, including any changes required by the Commission. The Commission will determine the need for additional passage facilities based on the results of the effectiveness monitoring.

Article 409. Flashboards. Within six months of license issuance, the licensee shall file for Commission approval a flashboard management plan for installation (and re-installation in the event of flashboard failure) of a flashboard system designed to provide a uniform distribution of flow across the entire length of the spillway. The plan shall be prepared after consultation with the Illinois Department of Natural Resources (Illinois DNR) and the U.S. Department of the Interior (Interior).

The plan shall include: (1) a schedule for the initial installation of the flashboard system such that any potential environmental and public access effects on the reservoir and within the bypassed reach are minimized; and (2) procedures for timing the reinstallation of the flashboards after failures such that any environmental effects on reservoir and bypassed reach resources are minimized.

The licensee shall include with the plan documentation of agency consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the

Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. The flashboard management plan shall not be implemented until the licensee is notified that the plan is approved. Upon approval, the licensee shall implement the plan according to the approved schedule, including any changes required by the Commission.

Article 410. Threatened and Endangered Species Monitoring Plan. Within six months of license issuance, the licensee shall file for Commission approval, a plan to monitor threatened and endangered species. The plan shall be prepared after consultation with the Illinois Department of Natural Resources (Illinois DNR) and the U.S. Department of the Interior (Interior).

The plan shall include: (1) provisions to monitor potential bald eagle roosting and nesting trees, potential Indiana bat roosting and maternity habitat, and potential decurrent false aster habitat at the project; (2) a schedule and provisions to file annual reports of all summary data, which shall also be provided to the Illinois DNR and Interior; (3) if any threatened and endangered species is found on project lands, a plan designed to protect the species and its habitat; and (4) a schedule for implementing the monitoring plan after approval by the Commission.

The licensee shall include with the plan documentation of agency consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. The final plan shall not be implemented until the licensee is notified that the plan is approved. Upon approval, the licensee shall implement the plan according to the approved schedule, including any changes required by the Commission.

Article 411. Recreation Plan. Within six months of license issuance, the licensee shall file for Commission approval, a recreation plan for the project. The plan shall be

prepared after consultation with the Illinois Department of Natural Resources (Illinois DNR), the U.S. Department of the Interior (Interior), and the National Park Service.

At a minimum, the plan shall include the following:

- (1) operation and maintenance of the existing tailrace parking, tailrace fishing access trails, bypassed reach access areas, campsites, picnic sites, and signage at the project, as noted in Appendix J of additional information filed February 21, 2003;
- (2) design drawings for an improved and shortened canoe portage for the project as proposed in Appendix H, item No. 11 of additional information filed February 21, 2003;
- (3) a map that clearly identifies all existing and proposed recreational access facilities located within the project boundary, the facility capacity, and the entity responsible for operation and maintenance;
- (4) a discussion of the results of consultation with the above entities on the feasibility of connecting project recreational access trails with other nearby public trails; and design drawings for any proposed trail extension.

The licensee shall include with the recreation plan documentation of agency consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, specific descriptions of how the agencies' comments are accommodated by the plan, and a revised project boundary map, if needed, to enclose any proposed recreation facilities expansion. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. The final recreation plan shall not be implemented until the licensee is notified that the plan is approved. Upon approval, the licensee shall implement the plan according to the approved schedule, including any changes required by the Commission.

Article 412. *Historic Properties.* If archeological or historic sites are discovered during any future project modifications or construction that require land-disturbing activities, or during project operation or maintenance, other than routine maintenance, the licensee shall: (1) consult with the Illinois State Historic Preservation Officer (SHPO) about the discovered sites; (2) prepare a site-specific plan, including a schedule, to evaluate the significance of the sites and to avoid or mitigate any impacts to sites found eligible for inclusion in the National Register of Historic Places; (3) base the site-specific plan on recommendations of the SHPO and the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation; (4) file the site-specific plan for Commission approval, together with the written comments of the SHPO; and (5) take the necessary steps to protect the discovered archeological or historic sites from further impact until notified by the Commission that all of these requirements have been satisfied.

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

Article 413. *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 types of use and occupancy of project lands and waters for which the licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 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 reservoir shoreline. To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

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

(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 exhibit R or approved report on recreational resources of an exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is 5 acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from project waters at normal surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 60 days before conveying any interest in project lands under this paragraph (d), the licensee must file a letter with the 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 exhibit R or approved report on recreational resources of an Exhibit E; or, if the project does not have an approved exhibit R or approved report on recreational resources, that the lands to be conveyed do not have recreational value.

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

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

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

(g) The authority granted to the 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.

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

(F) This order is final unless a request for rehearing is filed within 30 days from the date of its issuance, as provided in section 313(a) of the FPA. The filing of a request for rehearing does not operate as a stay of the effective date of this license or of any other

date specified in this order, except as specifically ordered by the Commission. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

By the Commission.

(S E A L)

Linda Mitry,
Deputy Secretary.