

UNITED STATES OF AMERICA 107 FERC ¶ 62,043
FEDERAL ENERGY REGULATORY COMMISSION

Dairyland Power Cooperative

Project No. 1960-002

ORDER ISSUING NEW LICENSE

(April 15, 2004)

INTRODUCTION

1. On February 24, 1999, Dairyland Power Cooperative (Dairyland) filed an application for a new license pursuant to Sections 4(e) and 15 of the Federal Power Act (FPA)¹ to continue operation and maintenance of the 16.32-megawatt (MW) Flambeau Hydroelectric Project No. 1960. The project is located on the Flambeau River² near the City of Ladysmith, in Rusk County, Wisconsin. The project does not occupy any federal lands. As discussed below, I am issuing a new license for the project.

BACKGROUND

2. The original license for the project was issued on March 1, 1951, and expired on February 28, 2001. Project operation has continued pursuant to annual licenses, pending disposition of Dairyland's application for a new license.

3. Public notice of the license application was issued on February 25, 2003. A motion to intervene was filed by the Wisconsin Department of Natural Resources (WDNR).³

4. On May 2, 2003, the Commission issued a notice indicating that the project was ready for environmental analysis and soliciting comments, recommendations, and terms and conditions. In a letter filed July 31, 2003, WDNR provided comments and recommendations.

5. On December 30, 2003, the Commission staff issued for public comment an

¹16 U.S.C. ' 808.

² The Flambeau River is a navigable waterway of the United States. See 8 FPC 1276.

³ The motion, which was timely and unopposed, was granted automatically pursuant to Rule 214(c)(1) of the Commission's Rules of Practice and Procedure.

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environmental assessment (EA). U.S. Fish and Wildlife Service (USFWS) and WDNR provided comments on the EA. All motions to intervene, protests, and comments have been fully considered in determining whether, and under what conditions, to issue this license.

PROJECT DESCRIPTION

6. The project is located on the Flambeau River, a tributary of the Chippewa River, located in north-central Wisconsin. There are eight existing hydroelectric projects within the 1,860-square-mile Flambeau River Basin. Five of these projects are located upstream of the Flambeau Project: the Upper Project (P-2640), the Lower Project (P-2421), the Pixley Project (P-2395), the Crowley Project (P-2473), and the Big Falls Project (P-2390). The Ladysmith Project (P-2430) and the Thornapple Project (P-2475) are located downstream of the Flambeau Project. The Upper, Lower, Pixley and Crowley Projects are owned by the Flambeau Paper Company, and the Big Falls, Thornapple, and Ladysmith Projects are owned by Northern States Power Company.

7. The Flambeau Project was constructed in 1951 and has been owned and operated by Dairyland since its construction. The project consist of a 2,570-foot-long North Dike and 2,130-foot-long South Dike, a 138-foot-long concrete gated spillway, an impoundment with a maximum surface area of 1,900 acres, and a powerhouse containing three turbine generators with a total rated capacity of 16,320 kilowatts (kW). A more detailed project description is contained in ordering paragraph (B)(2).

8. The Flambeau Project is operated as a daily modified peaking facility to maximize generation when electrical demand is highest, which typically occurs during the early morning and early evening hours. Headwater levels are maintained within approximately 0.5 feet of the normal full elevation of 1,183.48 feet NGVD. Dairyland does not propose any new construction or additional capacity at the project.

WATER QUALITY CERTIFICATION

9. Under Section 401(a)(1) of the Clean Water Act (CWA)⁴ the Commission may not issue a license for a hydroelectric project unless the state water quality certifying agency either has issued a water quality certification (WQC) for the project or has waived certification by failing to act on a request for certification within a reasonable period of time, not to exceed 1 year. Section 401(d) of the CWA provides that state certification

⁴33 U.S.C. ' 1341(a)(1).

shall become a condition on any federal license or permit that is issued.⁵ Only a reviewing court can revise or delete these conditions.⁶

10. Dairyland initially requested a WQC from the WDNR by letter dated April 3, 1998. WDNR denied the certification request by letter dated May 1, 1998, requiring that additional information be provided. The WDNR received Dairyland's second request for a WQC along with additional information on January 13, 1999. The WDNR again denied the certification request by letter dated January 12, 2000, stating that the applicant provided insufficient information. Dairyland filed a request for a hearing regarding the WDNR's denial of the WQC with the WDNR on February 9, 2000, and the WDNR granted the request on February 24, 2000. The hearing culminated in the WDNR issuing a WQC for the Flambeau Project on October 22, 2002.

11. The conditions of the WQC, set forth in Appendix A, are incorporated in the license by ordering paragraph D. The WQC includes requirements for reservoir drawdown management, water level management, spill prevention, water quality and bank erosion monitoring, exotic species control, and various administrative responsibilities. The WQC requires the licensee to operate the project with specific requirements, develop plans, and implement programs and report the results of monitoring studies without prior Commission approval. Article 401 requires the licensee to submit these plans to the Commission for approval.

SECTION 18 FISHWAY PRESCRIPTIONS

12. Section 18 of the FPA⁷ provides that that the Commission shall require the construction, maintenance, and operation by a licensee of such fishways as may be prescribed by the Secretary of the Interior or the Secretary of Commerce, as appropriate.

13. By letter dated June 29, 1998, Interior requested that the Commission reserve Interior's authority to prescribe fish passage facilities for the project. Consistent with the Commission's policy, Article 403 of this license reserves the Commission's authority to require fishways that may be prescribed by Interior for the Flambeau Project.

⁵33 U.S.C. ' 1341(d).

⁶See *American Rivers v. FERC*, 129 F.3d 99 (D.C. Cir. 1997).

⁷16 U.S.C. ' 811.

THREATENED AND ENDANGERED SPECIES

14. Section 7(a) of the Endangered Species Act of 1973 (ESA)⁸ 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.

15. By letter dated June 29, 1998, Interior indicated that the bald eagle (*Haliaeetus leucocephalus*) and the gray wolf (*Canus lupus*), both threatened species, are or may be present in the project area. In the EA, staff determined that the project “is not likely to adversely affect” the federally listed bald eagle or gray wolf, and recommended developing and implementing a bald eagle monitoring plan which will, among other things, ensure that future project operation does not impact this species. Staff additionally noted by letter, dated March 15, 2004, that Interior would be a consulted entity in the development of the proposed project land management plan, and that specific measures to protect shoreline bald eagle and gray wolf habitat could be incorporated into the plan during such consultation. In a letter dated March 22, 2004, Interior stated that they concur with staff’s not likely to adversely effect determination. Article 404 requires the bald eagle monitoring plan and Article 405 requires the land management plan.

RECOMMEDATIONS OF FEDERAL AND STATE FISH AND WILDLIFE AGENCIES

16. Section 10(j) of the FPA⁹ requires the Commission, when issuing a license, to include conditions based on the recommendations of federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act,¹⁰ for protection and enhancement of fish and wildlife and their habitat affected by the project.

17. WDNR filed recommendations for license conditions pursuant to Section 10(j) of the FPA.¹¹ Interior did not file Section 10(j) recommendations.

⁸16 U.S.C. ' 1536(a).

⁹16 U.S.C. ' 803(j)(1).

¹⁰ 16 U.S.C. § 661 et seq.

¹¹ See letter dated July 31, 2003, for WDNR recommendations submitted under Section 10(j) of the FPA.

18. Staff determined that WDNR's recommendations, to develop and implement a land management plan, and to expand the project boundary, were outside the scope of section 10(j) because the recommendations were not specific measures to protect fish and wildlife. These recommendations have been considered under Section 10(a) of the FPA and discussed in detail below.

OTHER ISSUES

A. Land Management Plan

19. Dairyland owns land around the project reservoir and immediately adjacent to the project boundary. Dairyland included a Land Management Plan for land located inside the project boundary in their application that it proposes to implement during the license term. Dairyland indicates that it has no intention of developing any of its land either in or outside of the project boundary other than for public use. By letter dated July 31, 2003, the WDNR states that management of lands within the project boundary should follow the principles and practices included in the Land Management Plan. WDNR recommended that all of Dairyland's adjacent land be incorporated into the project boundary. WDNR further recommends that within one year of license issuance, Dairyland file with the Commission revised Exhibit G maps to include within the project boundary 1,083 acres of land adjacent to the project currently owned by Dairyland.

In the EA (Section V.C.3.), staff found that the current project boundary around the impoundment, which in some places consists of a very narrow strip of land, limits Dairyland's ability to protect, supervise and control shoreline uses and future developmental activities. The EA concludes that adding lands to expand the shoreline, up to a 200-foot buffer, would be beneficial. However, rather than including all of Dairyland's land adjacent to the project shoreline within the project boundary, staff recommended that Dairyland include shoreline management measures as a component of the proposed land management plan and that it consult with the WDNR to determine what lands Dairyland owns adjacent to the project boundary are necessary and appropriate to include in the boundary for shoreline protection purposes. Article 405 requires these shoreline management measures as a component of the land management plan filed with the application. Article 405 also requires that the licensee, in the event that the project boundary is changed, to file revised exhibit G drawings.

B. Recreational Resources

20. In the EA (Section V.C.3.), staff determined that a recreation plan needs to be developed for the Flambeau Project. A comprehensive recreation plan would document (via text and drawings) existing and proposed recreation opportunities at the project as well as provide a process for Dairyland to evaluate the effectiveness of existing recreation facilities and the need for future facilities. The EA also noted that it does not appear that all the Dairyland-owned and operated project recreation facilities are included in the project boundary. Article 405 requires the licensee to file revised Exhibit G drawings that include these recreational areas. Article 406 requires the development of this recreation plan.

C. Statewide Programmatic Agreement

21. On December 30, 1993, the Wisconsin State Historic Preservation Officer, the Michigan State Historic Preservation Officer, the Advisory Council on Historic Preservation, and the Commission executed a Programmatic Agreement (PA) for managing historic properties that may be affected by relicensing projects in the state of Wisconsin and adjacent portions of Michigan. Article 407 requires the PA to be implemented. This satisfies the Commission's responsibilities under Section 106 of the National Historic Preservation Act.¹²

D. Cultural Resources

22. The Wisconsin statewide programmatic agreement assigns licensees' responsibilities to "ensure that historic properties are considered in the continued operation and maintenance of hydroelectric facilities during the term of their licenses." To further this purpose, licensees are required to develop Historic Resource Management Plans (HRMP). Article 408 of this license requires the development and implementation of a HRMP and also provides protection for archeological or historic resources that could be discovered during: (1) upgrading recreation facilities; and (2) future operation and maintenance of the project.

¹² 16 U.S.C. § 470(f).

ADMINISTRATIVE CONDITIONS

A. Annual Charges

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

B. Exhibit G Drawings

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

C. Amortization Reserve

25. The Commission requires that for new major licenses, licensees must set up and maintain an amortization reserve account upon license issuance. Article 203 requires the establishment of the account.

D. Headwater Benefits

26. 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.

E. Use and Occupancy of Project Lands and Waters

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

COMPREHENSIVE PLANS

28. Section 10(a)(2)(A) of the FPA¹³ requires the Commission to consider the extent to which a hydroelectric project is consistent with federal and state comprehensive plans for improving, developing, or conserving waterways affected by the project.¹⁴ Under section 10(a)(2)(A), federal and state agencies filed a total of 68 qualifying comprehensive plans of which staff identified nine plans to be applicable.¹⁵ No conflicts were found.

APPLICANT'S PLANS AND CAPABILITIES

29. In accordance with Sections 10(a)(2)(C) and 15(a) of the FPA, Commission staff have evaluated Dairyland's record as a licensee with respect to the following: (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. I accept the staff's findings in each of the following areas.

A. Conservation Efforts

30. 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 Dairyland. Dairyland is

¹³16 U.S.C. ' 803(a)(2)(A).

¹⁴Comprehensive plans for this purpose are defined at 18 C.F.R. ' 2.19 (2003).

¹⁵Wisconsin Department of Natural Resources: (1) Upper Chippewa River Basin areawide water quality management plan, 1980; (2) Wisconsin water quality assessment report to Congress, April 1992; (3) Wisconsin statewide comprehensive outdoor recreation plan for 1991-1996, October 1991; (4) Wisconsin peregrine falcon recovery plan, January 1987; (5) Wisconsin's forestry best management practices for water quality, March 1995; (6) Wisconsin's biodiversity as a management issue, May 1995; (7) Upper Chippewa River basin water quality management plan, February 1996; Federal: (8) Fisheries USA; the recreational fisheries policy of the U.S. Fish and Wildlife Service, U.S. Fish and Wildlife Service, undated; and (9) The nationwide rivers inventory, National Park Service, January 1982.

actively involved in promoting cost-effective conservation and load management programs for residential, commercial, and industrial customers. The Conservation Improvement Program is detailed in Section K of Exhibit H in the license application.

31. This program shows that Dairyland has made an effort to conserve electricity and promote energy efficient homes. The staff concludes that Dairyland 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

32. Staff has reviewed Dairyland's compliance with the terms and conditions of the existing license. Staff finds that Dairyland's overall record of making timely filings and compliance with its license is satisfactory. The staff also reviewed Dairyland's license application and other submissions in an effort to judge its ability to comply with the articles, terms, and conditions of any license issued, and with other applicable provisions of this part of the FPA. The staff concludes that Dairyland has or can acquire the resources and expertise necessary to carry out its plans and comply with all articles and terms and conditions of a new license.

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

33. Dairyland owns and operates the Flambeau Project. The project dam and appurtenant facilities are subject to Part 12 of the Commission's regulations concerning project safety. The staff reviewed Dairyland's management, operation, and maintenance of the project pursuant to the requirements of Part 12 and the associated Engineering Guidelines, including all applicable safety requirements such as warning signs and boat barriers, the Emergency Action Plan, and the Independent Consultant's Safety Inspection Reports. The applicant's record of managing, operating, and maintaining the facilities present no reason not to issue a new license.

34. However, limiting reservoir drawdowns for the Flambeau development with Dairyland's proposed project operation may affect upstream flooding and the spillway adequacy of the project dam. Article 301 of this order requires Dairyland to prepare and file a report describing effects of limiting the reservoir drawdowns on upstream flooding and evaluate the ability of the project to safely pass flood flows. This report must be accepted by the Commission and the construction of any remedial measures completed, if necessary, before the drawdown scenarios are implemented. These conditions would ensure continuing safe operation of the project.

D. Ability to Provide Efficient and Reliable Electric Service

35. The staff reviewed Dairyland's plans and its ability to operate and maintain the project in a manner most likely to provide efficient and reliable electric service. Dairyland has trained operating and maintenance personnel assigned to its hydropower operations. Staff concludes that Dairyland has been operating the project in an efficient manner within the constraints of the existing license and that it would continue to provide efficient and reliable electric service in the future.

E. Need for Power

36. The Flambeau Project generates about 73,067 megawatt-hours (MWh) of electricity annually. Without the Flambeau Project, Dairyland would have to either: (1) purchase power; (2) install additional fossil-fuel generators; or (3) purchase other hydroelectric facilities. Staff concludes that there is a need for power generated by the project.

F. Transmission Services

37. If Dairyland does not receive a new license for the project, any new licensee would likely use Dairyland's transmission system to transmit the power for its uses. Dairyland's transmission system is the most effective means currently available to transmit the project's power because it is an existing system that is designed to accommodate the project's output. Licensing the project will have no significant effect on existing or planned transmission systems because the license to be issued will authorize the project to operate with the same installed capacity as the previous license.

G. Cost-Effectiveness of Plans

38. Dairyland proposes no new construction. Dairyland does propose to change project operation from modified peaking to modified run-of-river (ROR). The project, under a new license would operate as a modified ROR facility, matching discharge from the Flambeau Project to the inflow into the upstream Big Falls Project, and would continue to be a valuable source of economical electric power. If licensed as proposed with staff's recommended measures, the project would produce about 71,820 MWh of power annually. Staff concludes that the plans of Dairyland would be achieved, to the extent possible, in a cost effective manner.

H. Actions Affecting the Public

39. The Flambeau Project generates electricity that is used to serve Dairyland and its customers. Dairyland pays taxes annually to local and state governments, and the project provides employment opportunities and attracts those interested in various forms of available recreation. Staff concludes that the various environmental and recreational enhancement measures approved in this license would benefit the public.

PROJECT ECONOMICS

40. 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 a number of public interest factors, including the economic benefit of the project power.

41. Under the Commission's approach to evaluating the economics of hydropower projects, as articulated in *Mead Corp.*,¹⁶ 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.

42. If licensed as proposed by Dairyland, and with additional staff-recommended measures, the Flambeau Project would produce an average of 71,820 MWh of energy annually at a cost of about \$1,453,400 or 19.89 mills/kWh. The annual value of the project's power would be about \$2,236,600 or 31.14 mills/kWh. The resulting annual net benefit would be \$783,200 or 11.25 mills/kWh.

43. 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.

¹⁶72 FERC & 61,027 (1995).

44. 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.

COMPREHENSIVE DEVELOPMENT

45. Sections 4(e) and 10(a) of the FPA,¹⁷ respectively, 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 would 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.

46. Based on my independent review and evaluation of the Flambeau Project, recommendations from the resource agencies and other stakeholders, and the no-action alternative, as documented in the EA, I have selected the Flambeau Project, with the staff-recommended measures, as the preferred alternative.

47. I 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 historic properties; and (3) the 16.32 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.

¹⁷16 U.S.C. §§ 797(e) and 803(a)(1).

LICENSE TERM

48. Section 15(e) of the FPA,¹⁸ 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. The Commission's general policy is to establish 30-year terms for projects with little or no redevelopment, new construction, new capacity, or environmental 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. Also, it is the Commission's policy to coordinate to a reasonable extent the license expiration dates of projects in a river basin, in order that subsequent relicensing proceedings can also be coordinated.¹⁹

49. There are five licensed projects located upstream of the Flambeau Project.²⁰ Without coordination, the Flambeau Project would receive a 30-year license. However, the expiration of this license with the other five projects would facilitate the Commission's future coordinated treatment of other projects in the Flambeau Basin. Additionally, the amount of proposed new investment in environmental measures at the Flambeau Project is modest. For the above reasons, I will specify that the new license will expire January 31, 2037.

SUMMARY OF FINDINGS

50. The EA for the Flambeau Project contains background information, analysis of effects, support for related license articles, and the basis for a finding that the project will not result in any major, long-term adverse environmental effects. The project would be safe if operated and maintained in accordance with the requirements of this license.

¹⁸16 U.S.C. ' 808(e).

¹⁹ In issuing new and original licenses, the Commission will coordinate the expiration dates of licenses to the maximum extent possible, to maximize future consideration of cumulative impacts at the same time in contemporaneous proceedings at relicensing. See 18 C.F.R. § 2.23(2003).

²⁰ Licenses for the Upper (P-2640), Lower (P-2421), Pixley (P-2395), Crowley (P-2473), Big Falls (P-2390), and the Thornapple (P-2475) Projects expire January 31, 2037.

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51. Based on the review and evaluation of the project, as proposed by the applicant including the staff-recommended environmental measures, I conclude that the continued operation and maintenance of the project in the manner required by the license would protect and enhance fish and wildlife resources, water quality, recreation, and historic resources. The electricity generated from this renewable water power resource would be beneficial because it would continue to offset the use of fossil-fueled generating stations, thereby conserving non-renewable resources and reducing atmospheric pollution. I conclude that the Flambeau Project, with the conditions set forth below, will be best adapted to the comprehensive development of the Flambeau River Basin for beneficial public uses.

The Director orders:

(A) This license is issued to Dairyland Power Cooperative (licensee), effective the first day of the month in which this order is issued and to expire on January 31, 2037, to operate and maintain the Flambeau 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 those lands, enclosed by the project boundary shown by Exhibit G filed February 24, 1999:

<u>Exhibit G Drawings</u>	<u>FERC No. 1960-</u>	<u>Description</u>
G-1	1001	Project Boundary Map
G-2	1002	Project Boundary Map

(2) Project works consisting of: (1) two earthen embankments that include: (a) the 2,570-foot-long North Dike and 2,130-foot-long South Dike, both with a crest elevation of 1,192 feet National Geodetic Vertical Datum (NGVD); (2) a 138-foot-long concrete gated spillway with a crest elevation of 1,157 feet NGVD equipped with three 26-foot-high, 40-foot-wide steel Taintor gates with a top elevation of 1,183.8 feet NGVD; (3) an impoundment with a maximum surface area of 1,900 acres at a normal water surface elevation of 1,183.48 feet NGVD, with 43,500 acre-feet of gross storage; (4) a powerhouse containing three turbine generators with a total rated capacity of 16,320 kilowatts (kW); and (5) appurtenant facilities.

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

Exhibit A: Pages A-1 through A-5 filed on February 24, 1999.

Exhibit F: The following sections of Exhibit F filed on February 24, 1999:

<u>Exhibit F Drawings</u>	<u>FERC No. 1960-</u>	<u>Description</u>
F-1	1003	Project Site Plan
F-2	1004	Plan of Project Structures
F-3	1005	Upstream and Downstream Elevations
F-4	1006	Intake/Powerhouse Cross Section
F-5	1007	Intake/Powerhouse Sectional Plan
F-6	1008	Spillway and South Bulkhead Sections
F-7	1009	Embankment Cross Sections
F-8	1010	Embankment Profiles/Wingwall Sections

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

(C) The Exhibits A, F, and G described above are approved and made part of the license.

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(D) This license is subject to the conditions of the water quality certification issued by the Wisconsin Department of Natural Resources pursuant to Section 401(a) of the Clean Water Act, as those conditions are set forth in Appendix A to this order.

(E) 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 annual charges, effective the first day of the month in which the license is issued, for the purposes of reimbursing the United States for the cost of administration of Part I of the Federal Power Act, as determined in accordance with provisions of the Commission's regulations in effect from time to time. The authorized installed capacity for that purpose is 16,320 kilowatts.

Article 202. *Exhibit 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 (e.g., P-1960-1001 through P-1960-1010) 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. The drawings must be identified as (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 [e.g., P-1960-1001, G-1, Project Boundary, MM-DD-YYYY.TIF]. Electronic drawings shall meet the following format specification:

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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. The latitude and longitude coordinates, or state plane coordinates, of each reference point must be shown and identified on the drawing.

c) The licensee shall file three separate sets of the project boundary data in a geo-referenced vector electronic file format (such as ArcView shape files, GeoMedia files, MapInfo files, or any similar 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 [e.g., P-1960, boundary vector data, MM-DD-YYYY.SHP]. The geo-referenced 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 include 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 [e.g., P-1960, 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

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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. Within 60 days of license issuance, the licensee shall submit one copy to the Division of Dam Safety and 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), of a report describing the effects of limiting the reservoir drawdowns on upstream flooding and spillway adequacy of the project dam.

The report shall include a flood routing study that evaluates the ability of the project to safely pass flows up to the Inflow Design Flood. The frequency that the non-overflow structures would be overtopped under the historical and limited drawdowns should be compared. The report should discuss if there would be an increased likelihood of low-lying lake front structures being flooded under the new operating scenario. If necessary, the report should include a plan and schedule for performing any remedial measures necessary to ensure the continued safe operation of the project during high flows.

The licensee shall not implement the water level scenarios described in the water quality certification until the Division of Dam Safety and Inspections' Chicago Regional Engineer determines that these altered project operations have no adverse impact on project safety and issues a letter indicating such.

Article 401. Commission Approval and Reporting.

(a) Requirement to File Plans and Reports with the Commission

The Wisconsin Department of Natural Resources (WDNR) water quality certification (Appendix A) requires the licensee to develop or implement certain plans without prior Commission approval, and to provide certain reports and notifications to the WDNR, but not to the Commission. Within 3 months of issuance of this license, the licensee, after consultation with the WDNR, shall file with the Commission, for approval, a schedule for submitting each of these plans and reports, and for providing notification to the Commission, as identified below. The Commission reserves the right to make changes to the schedule.

WDNR Condition (Appendix A)	Plan Name
D	Exceptions to normal operations notification
G	Reservoir drawdown management plan
H	Scheduled changes to operation notification
I	Outage response plan
M	Operations compliance report
P	Spill prevention, control, and countermeasures monitoring plan
Q	Purple loosestrife monitoring report
U	Erosion control plan

As to each plan, the licensee shall submit to the Commission documentation of its consultation with the WDNR, copies of comments and recommendations made in connection with the plan, and a description of how the plan accommodates the comments or recommendations. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

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The Commission reserves the right to make changes to the plans. Upon Commission approval, the plans become a requirement of the license, and the licensee shall implement the plans, including any changes required by the Commission.

Article 402. *Water Levels.* The licensee shall maintain water level elevation according to the water quality certification condition C within 60 days of Commission approval of the monitoring plan stipulated in condition K. This approval is contingent on the Division of Dam Safety and Inspections' Chicago Regional Engineer determination that these altered project operations have no adverse impact on project safety and issuance of a letter indicating such as set forth in Article 301 of this license order.

Article 403. *Reservation of Authority-Fishways.* Authority is reserved by the Commission to require the licensee to construct, operate, and maintain, or to provide for construction, operation, and maintenance of, such fish passage facilities as may be prescribed by the Secretary of the Interior under Section 18 of the Federal Power Act.

Article 404. *Bald Eagle Monitoring.* Within 6 months of license issuance, the licensee shall file with the Commission, for approval, a bald eagle monitoring plan for the Flambeau Project. The licensee shall prepare the bald eagle monitoring plan in consultation with the Wisconsin Department of Natural Resources (WDNR) and U.S. Fish and Wildlife Service (USFWS). The licensee shall include with the plan documentation of consultation, and copies of comments and recommendations on the completed plan after it is prepared. In addition, the licensee shall include with the plan specific descriptions of how comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for WDNR and USFWS to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt WDNR or USFWS recommendations, the filing shall state the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. No ground-disturbing or land-clearing activities shall begin until the licensee is notified the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 405. *Land Management Plan.* Within 6 months of license issuance, the licensee shall file with the Commission, for approval, a revised Land Management Plan for the Flambeau Project. The revised Land Management Plan must consider the appropriate location of the project boundary to create a protective buffer zone

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immediately adjacent to the existing boundary. In the process of locating the appropriate width of buffer zone land to be included in the project boundary, the licensee must comply with the Commission's regulations at Section 4.41(h)(2). In addition, the plan shall include: (1) a description of allowable uses for the buffer zone; (2) conditions to be specified for such allowable uses; and (3) any proposed permit system.

The licensee shall prepare the land management plan in consultation with the Wisconsin Department of Natural Resources (WDNR) and U.S. Fish and Wildlife Service (USFWS). The licensee shall include with the plan documentation of consultation, and copies of comments and recommendations on the completed plan after it is prepared. In addition, the licensee shall include with the plan specific descriptions of how comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for WDNR and USFWS to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt WDNR or USFWS recommendations, the filing shall state the licensee's reasons, based on project-specific information.

The licensee shall file revised project boundary drawings showing the expanded project boundary. All project recreation areas identified in Article 405 shall be included in the project boundary.

The Commission reserves the right to require changes to the plan. No ground-disturbing or land-clearing activities associated with this Land Management Plan shall begin until the licensee is notified the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 406. Recreation Plan. Within 6 months of license issuance, the licensee shall file with the Commission, for approval, a Recreation Plan for the Flambeau Project. The plan shall include but not be limited to a detailed: (1) description of the type and location of all existing and proposed recreation facilities and maps showing their location in relation to the revised project boundary (required by Article 404); (2) description of how the licensee gave consideration to the needs of the disabled and any such existing or proposed accommodations; (3) description of how the licensee will monitor and evaluate the effectiveness of existing recreation facilities and the potential need for future facilities (this may include using the FERC Form 80 data collection process); and (4) construction schedule for any proposed recreation facilities.

The licensee shall prepare the recreation plan in consultation with the Wisconsin Department of Natural Resources (WDNR), and the U.S. Fish and Wildlife Service (USFWS). The licensee shall include with the plan documentation of consultation, and copies of comments and recommendations on the completed plan after it is prepared and provided to the signatory parties. In addition, the licensee shall include with the plan specific descriptions of how comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for WDNR and the USFWS to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt recommendations of the consulted parties, the filing shall state the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. No ground-disturbing or land-clearing activities related to this recreational resource plan shall begin until the licensee is notified the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 407. Programmatic Agreement. Upon the issuance date of this license, the Licensee shall implement the "*Programmatic Agreement Among the Federal Energy Regulatory Commission, the Advisory Council on Historic Preservation, and 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 Issuing 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, including but not limited to filing, for Commission approval, within one year of the effective date of this license the Historic Resources Management Plan (HRMP) for the project. In the event that the Programmatic Agreement is terminated, the Licensee shall 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. If the Programmatic Agreement is terminated prior to Commission approval of the HRMP, the Licensee shall obtain approval before engaging in any ground-disturbing activities or taking any other action that may affect any Historic Properties within the project's Area of Potential Effect.

Article 408. Historic Resource Management Plan. The Wisconsin statewide Programmatic Agreement requires the preparation of a Historic Resources Management Plan (HRMP). The HRMP will contain further measures aimed at the protection of

cultural resources at the project, and focus on protection measures at the sites already identified as being affected or potentially affected by project operation.

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, or if the licensee plans any future modifications, other than routine maintenance, the licensee shall: (1) consult with the Wisconsin 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 409. 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

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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.

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

(G) This order is issued under authority delegated to the Director and is final unless a request for rehearing is filed within 30 days from the date of its issuance, as provided in Section 313(a) of the FPA. The filing of a request for rehearing does not

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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 of this order shall constitute acceptance of this license.

J. Mark Robinson
Director
Office of Energy Projects

APPENDIX A

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
CERTIFICATION UNDER SECTION 401 OF THE
FEDERAL CLEAN WATER ACT

- A. The applicant shall comply with all federal, state, and local permit requirements.
- B. The applicant 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.
- C. Normal Operations. The Flambeau Reservoir surface elevation will be maintained between 1182.48 and 1183.48 feet MSL at all times, except as authorized in Paragraphs D and F below. The reservoir volume in that 1-foot operating band will be used to match discharge from the Flambeau Station with inflow to the Big Falls Hydro Project on a real-time basis. The applicant shall act at all times to minimize fluctuations in reservoir elevation between the authorized levels.
- D. Exceptions to Normal Operations. The following are authorized exceptions to normal operation. In such circumstances, the applicant shall first utilize all other sources of generation, including purchased capacity, consistent with Dairyland's historical operating practices²¹ and Good Utility Practice,²² prior to modifying

²¹ Historically, Dairyland has operated the Flambeau Hydroelectric Project in accordance with the operating regime for the Project. From June 1997 to June 2001, Dairyland has not altered the operation of the Project in response to a MAPP request for reserves and to address operating emergencies, Dairyland has, utilizing Good Utility Practice, called on other sources of generation, including purchased capacity or energy, prior to deviating from the operating regime for the Project.

²² "Good Utility Practice" is defined as any of the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result consistent with good business practices, reliability, safety, and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

Flambeau Hydro Station operations. If normal operation is temporarily modified, the applicant must make all reasonable attempts to restore normal operation as soon as possible. Before modifying normal operations by increasing discharge, the applicant will employ warning procedures approved by the Federal Energy Regulatory Commission. During modified operations Dairyland will maintain a minimum discharge of 750 cfs or inflow to the Big Falls Hydro Project, whichever is less.

Following periods of peak generation, Dairyland will gradually decrease discharge through at least four intermediate increments that are spaced as equally as practicable between the generation flow and the flow maintained during the reservoir refill period. Each intermediate discharge will be maintained for at least 10 minutes. Dairyland will notify the Department's office in Park Falls, Wisconsin as soon as possible, and in any event no later than 5 business days after each incident, of any exceptions to normal operations. Notice shall be provided as a written report which describes in detail the circumstances that led to the modification, the duration of the modification, the alternatives considered before using the Flambeau Hydro Station in response to MAPP or DPC system emergencies and the reasons for discounting those alternatives, a continuous record of discharge and reservoir elevation during the modification, and the steps taken to restore normal operation.

1. Emergency at the Flambeau Hydro Station: The normal operating regime may be temporarily modified if required by operating emergencies at the Flambeau Hydro Station beyond the applicant's control, or for short periods with the Department's approval.
2. Emergency within Dairyland's system: The normal operating regime may be temporarily modified where Flambeau Hydro Station generation is necessary to prevent a system brown-out or black-out due to any emergency condition²³ on Dairyland's system. The intent of this paragraph is to allow

²³ "Emergency" means any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any curtailment, order, regulation or restriction imposed by governmental military or lawfully established civilian authorities, or any other cause beyond Dairyland's control which requires Dairyland to operate the Flambeau Hydroelectric Project outside of nominal operating parameters. Mere economic hardship or opportunity does not

Dairyland Power to meet Emergencies within Dairyland's system only after all other sources of power are utilized.

3. MAPP accreditation: The normal operating regime may be temporarily modified to generate at maximum capacity, for up to 500 hours annually, at the applicant's discretion. During such operations the reservoir elevation shall be maintained between 1179.00 and 1183.48 feet MSL. The intent of this paragraph is to enable Dairyland to meet the capacity accreditation standards for MAPP or any successor agency. If accreditation requirements change, Dairyland shall have the right to reopen this term to preserve capacity accreditation under such new requirements.
- E. If the Department believes that exceptions to normal operations are adversely affecting water quality, the Department and DPC shall jointly revisit the issue and attempt to find a mutually acceptable resolution. In the event that Dairyland seeks to transfer the license for the Flambeau Hydro Station, the Department may reopen and modify the authorized exceptions to normal operations on its own motion. The Department's right to modify this condition shall not apply:
1. To the pledge of the Flambeau Hydro Station as security under any mortgage, trust indenture, or other security agreement.
 2. To a transfer of the Flambeau Hydro Station to a successor entity that owns or has under contract total generation at least comparable to that owned by Dairyland, (i.e. approximately 1000 MW); or
 3. To a transfer of the Flambeau Hydro Station to a successor entity that owns all or substantially all of Dairyland's generating units following a merger or reorganization.
- F. After February 1 of each year, the applicant may at its discretion draw down the reservoir to a minimum elevation of 1180.48 feet MSL to prevent the accumulation of ice on the spillway gates. The applicant shall lower the reservoir gradually, and the drawdown rate shall not exceed 1 inch in a 6-hour period and 4
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- constitute an Emergency.

inches in a 24-hour period. The applicant shall refill the reservoir to normal elevation by May 1 each year.

- G. The applicant shall submit to the Department a reservoir drawdown management plan at least 60 days in advance of all non-emergency reservoir drawdowns scheduled for any activity which requires that the reservoir elevation is lowered below 1182.48 feet MSL, including maintenance, inspection, renovation, resource management, etc. Discretionary winter drawdowns authorized in Paragraph F are excluded from this requirement. The drawdown management plan, as outlined in Flambeau Hydroelectric Station Procedure #005 (revised October 1, 1998), shall include detailed information on the objectives of the drawdown, seasonal timing, scheduled dates for drawdown and refill, drawdown and refill rates, minimum pool elevation, duration at drawdown level, minimum discharge during reservoir refill, agency and public notification procedures, and a discussion of the alternatives that the applicant evaluated to avoid a reservoir drawdown.
- H. The applicant shall notice the Department and the public at least two weeks in advance of any scheduled activity that will substantially change reservoir elevation or discharge from routine project operations, including the full-range gate tests that FERC requires.
- I. Within six months of license issuance, the applicant shall prepare an Outage Response Plan in consultation with the Department to ensure that discharge is promptly restored following unexpected outages that interrupt flow through the turbines. The applicant should incorporate the approved outage response procedures into the Emergency Action Plan.
- J. The applicant shall demonstrate compliance with the discharge requirements in Paragraphs C and D in the following manner. The inflow to the Big Falls reservoir will be monitored through calculation of the headwater level, the generation, and the gate position of any open gates at the Big Falls dam. The discharge through the Flambeau dam will be determined by direct flow measurement through the turbines and calculated flow from the gate position of any open gates. The inflow and discharge information would then be transmitted to Dairyland's energy management system. A cumulative record of all level and flow data from both projects will be made available to the Department in real time on the Dairyland Power Cooperative website with values from the most recent 14 days presented as USGS-type graphs. Discharge from the Flambeau Hydro Project shall differ no

more than $\pm 10\%$ from inflow to the Big Falls Hydro Project in concurrent determinations, at one-hour intervals, after appropriate corrections for travel time, gains and losses between these projects, and measurement error. Within 90 days from the issuance date of the new license, the applicant shall consult with the Department to develop the algorithms, input data, and correction factors for the flow comparison. These consultations shall address the frequency of flow measurement, calculation, and comparison as well as the threshold difference that would trigger an adjustment to discharge from the Flambeau Hydro Station. If the Department determines, at the end of the 3-year test period required by Condition M below, that the applicant has not documented its ability to meet the operational compliance standard of this condition, and that the applicant has not proposed acceptable alternatives to achieve the compliance standard, then the applicant shall consult with the U.S. Geological Survey (USGS) to install and maintain two USGS gages in the Flambeau River, one upstream of the Big Falls reservoir (the "Upstream Gage") and one in the riverine tailwaters immediately downstream of the Flambeau Hydro Station ("the Downstream Gage"). These gages must be operational within one year from the end of the 3-year test period. The gages shall be equipped with the "telemark" type system, with sufficient memory to allow instantaneous and short-term data retrieval via phone lines or the Internet. Discharge from the Flambeau Hydro Project as measured by the Downstream Gage shall differ no more than $\pm 10\%$ from inflow to the Big Falls Hydro Project as measured by the Upstream Gage in concurrent measurements at one-hour intervals after appropriate corrections for travel time, gains and losses between these projects, and measurement error. Appropriate factors for corrections shall be determined in consultation with the Department and USGS within one year following activation of the new gages.

- K. The applicant shall demonstrate compliance with the water level requirements in Paragraphs C, D, F, and G in the following manner. The applicant shall continue to maintain automatic water level sensors that continuously measure and record headwater and tailwater elevation. The applicant shall also maintain staff gauges that are visible to the public in the impoundment and tailwaters along with a daily log record of project operation. Information recorded in the project log should include daily staff gauge readings, turbine operations, flow releases through the powerhouse and spillway updated whenever changes are made, and a detailed description of the duration and circumstances of unexpected outages that interrupt flow through the turbines.

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- L. The applicant shall maintain all operational monitoring equipment in serviceable condition and calibrate, repair, or replace it as necessary. The applicant shall retain all electronic and paper records of project operations for the life of the project.
- M. A three-year test period shall be used to determine the applicant's ability to maintain compliance with the above conditions. The applicant shall prepare and submit annual reports to the Department documenting its ability to maintain operational compliance standards and, if necessary, its proposals to achieve the compliance standards.
- N. The applicant shall allow the Department to access the project and its operational records at any time to monitor compliance with certification conditions.
- O. At least 60 days before undertaking any proposed change to the project or its operation, which would have a significant or material effect on the findings, conclusions, or conditions of this certification, the applicant shall submit the proposal to the Department for review and written approval.
- P. The applicant shall implement the measures outlined in the Spill Prevention, Control, and Countermeasures Plan for the Flambeau Hydroelectric Station.
- Q. The applicant shall annually inspect the entire shoreline of the project waters for purple loosestrife (*Lythrum salicaria*) and map its distribution and relative abundance. Inspections should be scheduled in August after the plant's flowers have developed so purple loosestrife can be readily identified. The applicant should submit a report of the monitoring results to the Department by December 31 each year. The applicant shall continue its efforts to control the spread of purple loosestrife on its landholding near the project. If at any time the Department deems it necessary to expand efforts to control or eliminate purple loosestrife in the Flambeau river system, the applicant shall cooperate in this measure.
- R. The applicant shall monitor water quality of the reservoir four times annually within 3 weeks of ice-out and in June, July, and August. Water samples should be collected from the lower portion of the reservoir near Station 3 (see Norrnandean Associates, 1996) at a depth of 1.0 meter. Secchi disk depth should be measured with each sample collection, and water samples should be analyzed for total

phosphorus, chlorophyll a, and true color (Pt-Co units) using procedures approved by the U.S. Environmental Protection Agency. The detection limit for the total phosphorus analysis should be no more than 5 µg/l as specified in EPA Procedure 365.1.

- S. The licensee shall cooperate with the Department to implement reasonable resource management practices, including but not limited to measures for controlling exotic populations, restoring endangered or threatened populations, and protecting or enhancing water quality, fish and wildlife populations, and their habitat.
- T. Before engaging in any activity that may introduce zebra mussels into project waters, the applicant shall provide or demand (through contract clause or other binding agreement) evidence of effective decontamination of barges, tools, boats, construction equipment, or other items capable of transferring water containing larval zebra mussels. Effective decontamination may include steam-cleaning, chemical treatment, physical treatment, or other suitable procedures.
- U. The applicant shall monitor the shoreline of the impoundment and tailwaters for erosion, and if necessary, prepare an erosion control plan in consultation with the Department. Inspections should be conducted at three-year intervals in spring before vegetation develops, so eroded areas can be readily identified from a boat or an airplane.
- V. The Department may request, at any time, that FERC consider modifications to the license to assure compliance with Wisconsin Water Quality Standards.
- W. On the date of submittal to the Commission, the applicant shall provide to the Department a complete copy of any application to transfer or amend the license for the Flambeau Hydro Station, including all attachments and schedules.