

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

)	Project Nos.	10809-__
Boyce Hydro Power, LLC)		10810-__
)		2785-__

APPLICATION FOR UNCONDITIONAL SURRENDER OF LICENSES

Pursuant to Section 6 of the Federal Power Act (“FPA”), 16 U.S.C. § 799 (2018), and 18 C.F.R. § 6.1 (2020), Boyce Hydro Power, LLC (“Boyce Hydro”), licensee of the Secord Project No. 10809, Smallwood Project No. 10810, and Sanford Project No. 2785 (collectively, “Boyce Projects” or “Projects”), hereby applies to surrender its Federal Energy Regulatory Commission (“FERC” or “Commission”) licenses for the Projects.¹ As discussed herein, and as the Commission already is aware, Boyce Hydro no longer owns any property interests in the Projects as a result of condemnation actions by local governmental authorities. Because it has no ability to take any actions with respect to the Projects, Boyce Hydro is filing for an unconditional surrender of the licenses. Boyce further requests that the Commission make the license surrenders effective July 31, 2020, the effective date of the condemnation actions.

I. COMMUNICATIONS

All inquiries and correspondence regarding this surrender application should be sent to the persons listed below, and such persons should be placed on the official service lists to be established by the Commission’s Secretary in these proceedings:

¹ Pursuant to 18 C.F.R. § 6.1, the license orders and amendments are attached hereto as Appendices A-C.

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II. BACKGROUND

On January 8, 2021, Boyce Hydro filed a letter requesting the Commission either: (1) find that the licenses for the Boyce Projects had been terminated by condemnation actions of local governmental authorities, (2) find that the condemnations had resulted in implied surrender of the licenses, or (3) revoke the licenses on the basis that Boyce Hydro no longer holds the property rights necessary to operate and maintain the Projects.² Commission Staff has subsequently communicated that Boyce Hydro should file a formal application for surrender. Boyce Hydro is doing so with this filing, but continues to believe the Commission could find an implied surrender of the Boyce Projects' licenses based on the facts and circumstances of the case even in the absence of an application for surrender. However, Boyce is not opposed to the Commission issuing an order authorizing surrender of the Boyce Project licenses in response to this application, provided that the order contains no conditions regarding disposition of the Projects that Boyce Hydro would have to satisfy in order to make the surrender effective.

III. REASONS FOR SURRENDER

As explained in Boyce Hydro's January 8 Letter, on July 31, 2020, Midland and Gladwin Counties, Michigan, acting through their delegated authority, the Four Lakes

² Response to Order to Show Cause and Notice of Proposed Penalty of Boyce Hydro Power, LLC, Project Nos. 10809-050 et al. (filed Jan. 8, 2021) ("January 8 Letter").

Task Force (“FLTF,” and together with the Counties, the “Governmental Plaintiffs”), filed condemnation complaints (the “Condemnation Actions”) against Boyce Hydro and all other entities that owned property rights within the licensed project boundaries for the Boyce Projects (“Project Properties”). By the Condemnation Actions, the Governmental Plaintiffs sought to involuntarily obtain ownership, retroactive to the filing of the Condemnation Actions on July 31, 2020 (in accordance with the Michigan Uniform Condemnation Act), of the Project Properties and other properties in their vicinities. On December 23, 2020 and December 28, 2020 respectively, the Circuit Court judges presiding over the Condemnation Actions entered orders (the “Condemnation Orders”) that, together, resulted in the transfer of all Project Properties (and other properties) to the respective Governmental Plaintiffs as of July 31, 2020.³

As a result of the Condemnation Actions, and the subsequent entry of the Condemnation Orders, the Project Properties have been involuntarily transferred from Boyce Hydro and affiliated entities to Gladwin and Midland Counties as of July 31, 2020. Boyce Hydro consequently no longer has any interest – whether an ownership or lease interest or otherwise – in the Project Properties, or any ability to take action with respect to them.

Accordingly, the Commission should find that the Condemnation Actions have resulted in the constructive abandonment and implied surrender of the Boyce Project licenses.⁴ The Boyce Project licenses each contain the “implied surrender” standard article, which provides, in pertinent part:

³ See *id.*, Att. 1 at 3; *id.*, Att. 2 at 3.

⁴ See, e.g., *Fourth Branch Assocs. (Mechanicville) v. Niagara Mohawk Power Corp.*, 89 FERC ¶ 61,194 (1999), *reh’g denied*, 90 FERC ¶ 61,250 (2000), *affirmed*, *Fourth Branch Assocs. v. FERC*, 253 F.3d 741

If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of the license and the lawful orders of the Commission. . . the Commission will deem it to be the intent of the Licensee to surrender the license. . . . In addition, the Commission in its discretion, after notice and opportunity for hearing, may also agree to the surrender of the license when the Commission, for the reasons recited herein, deems it to be the intent of the Licensee to surrender the license.⁵

There is no question here that Boyce Hydro has “suffered” a loss of essential project property – indeed all the Project Properties have been removed from its control and transferred to governmental entities with no possibility of replacement. Although Boyce Hydro did not cause or desire this loss of essential project property and did not invite the condemnation of its properties, the effect of the Condemnation Actions and Condemnation Orders on its ability to operate the Boyce Projects is a type of event contemplated by the “implied surrender” provisions of the licenses. Further, the condemnations have made it legally impossible for Boyce Hydro to comply with the Standard License Article 5 ownership requirements of the licenses.⁶

(D.C. Cir. 2001); *Merrimac Paper Co. Inc.*, 140 FERC ¶ 62,082 (2012) (finding implied surrender where licensee filed for bankruptcy and project sold to a third party).

⁵ *Wolverine Power Corp.*, 41 FERC ¶ 62,192 at Ordering Paragraph D (1987) (incorporating Form L-3, 54 FPC 1817 at Article 26 (1975) into the Sanford license); *Wolverine Power Corp.*, 85 FERC ¶ 61,065 at Ordering Paragraph E (1998) (incorporating Form L-9, 54 FPC 1852 at Article 17 (1975) into the Sanford license); *Wolverine Power Corp.*, 85 FERC ¶ 61,064 at Ordering Paragraph E (1998) (incorporating Form L-9 at Article 17 into the Second license).

⁶ *See Wolverine Power Corp.*, 41 FERC ¶ 62,192 at Ordering Paragraph D (incorporating Form L-3, 54 FPC 1817 at Article 5 (1975) into the Sanford license); *Wolverine Power Corp.*, 85 FERC ¶ 61,065 at Ordering Paragraph E (incorporating Form L-9, 54 FPC 1852 at Article 5 (1975) into the Sanford license); *Wolverine Power Corp.*, 85 FERC ¶ 61,064 at Ordering Paragraph E (incorporating Form L-9 at Article 5 into the Second license).

As the Commission is aware,⁷ Boyce Hydro filed for Chapter 11 bankruptcy protection⁸ on July 31, 2020 (after the Condemnation Actions were filed), and both the Condemnation Actions and the bankruptcy filing resulted from a major flooding event on May 19, 2020 that resulted in a breach of the unlicensed Edenville Dam and the subsequent overtopping and breach of the downstream licensed Sanford Dam (P-2785). Boyce Hydro is very close to confirmation (court approval) of a consensual plan (the confirmation hearing is scheduled for February 19, 2021). Pursuant to the plan, all of Boyce Hydro's assets, as well as numerous assets being contributed by related entities, will be transferred to a liquidating trust for the benefit of creditors, including, significantly, persons and entities whose properties were damaged by the flooding. Once the plan has been administered, the liquidating trustee will wind up and dissolve Boyce Hydro and it will cease to exist.

Because Boyce Hydro has no ownership or control over the Boyce Project properties, the licenses merely exist in a vacuum with no ability of Boyce Hydro to implement the licenses. Further, the bankruptcy will soon result in the dissolution of Boyce Hydro itself. Moreover, the FLTF has stated it will be decommissioning the existing powerhouses and so clearly does not intend to operate the Projects as hydroelectric generating facilities under FERC's jurisdiction in the near future.⁹ The continued existence of the licenses serves no public purpose.

⁷ See *Boyce Hydro Power, LLC*, 173 FERC ¶ 61,217 at P 45 (2020).

⁸ See *In re: Boyce Hydro, LLC, et al.*, Joint Case No. 20-21214 pending in the U.S. Bankruptcy Court for the Eastern District of Michigan.

⁹ See Four Lakes Task Force, Recovery and Restoration Plan, 2020-2021 Action Plan at 7-8 (Sept. 10, 2020), available at https://www.four-lakes-taskforce-mi.com/uploads/1/2/3/1/123199575/fltf_recovery_restoration_plan_9.10.2020.pdf.

Therefore, the Commission should find that the condemnations, together with the bankruptcy which will result in the dissolution of Boyce Hydro, constitute an implied surrender of the licenses. The doctrine of implied surrender

has typically been invoked where . . . a licensee, by action or inaction, has clearly indicated its intent to abandon the project, but has not filed a surrender application (e.g., the licensee has physically abandoned the project property, sold the project property without Commission authorization, dissolved its corporate or other legal identity, or has failed for several years to operate or maintain the project with no indication of doing so in the reasonably foreseeable future).¹⁰

Alternatively, the Commission should grant surrender of the licenses in response to this application for surrender.

Boyce Hydro is aware that when granting surrenders of license, FERC typically attaches conditions to ensure proper disposition of project works.¹¹ However, the circumstances of this case are unique in that Boyce Hydro no longer has any control of the Project works or properties. In any order granting surrender, the order should be unconditional since Boyce Hydro would have no way to meet any conditions having to do with disposition of the Projects. In fact, because Boyce Hydro's assets are being contributed to a liquidating trust pursuant to the bankruptcy plan, any requirements or litigation required to terminate the licenses would just negatively impact creditor recoveries. FERC cannot require the FLTF, "a non-licensee, to undertake actions or implement measures with respect to [the projects], nor would it be able to enforce such requirements."¹² Moreover, the Commission should stipulate that the surrenders are

¹⁰ *James B. Boyd*, 136 FERC ¶ 62,119 at P 19 (2011) (citations omitted), *order denying reh'g*, 138 FERC ¶ 61,085 (2012).

¹¹ *See* 18 C.F.R. § 6.2.

¹² *James B. Boyd*, 136 FERC ¶ 62,119 at P 27.

effective as of July 31, 2020, the effective date on which Boyce Hydro lost ownership and control of the Project Properties. In these circumstances, terminating the licenses by implied surrender and leaving the project facilities in place will not authorize any action or alter the current condition of the projects or surrounding environment. Rather, it is an administrative action designed to terminate an authorization for licenses that are, for all practical purposes, no longer in effect. As such, “it has no effect on the environment and an environmental analysis is not required.”¹³

IV. CONCLUSION

Based on the considerations above, Boyce Hydro respectfully requests that the Commission find implied surrender of the Project licenses, or alternatively issue an unconditional order authorizing Boyce Hydro to surrender the licenses, and that the surrenders be effective July 31, 2020, the effective date of the Condemnation Actions.

Respectfully submitted,

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Dated: February 5, 2021

Enclosure

¹³ *Id.* (citing 18 C.F.R. § 380.4(a)(1)).

APPENDIX A

Secord Project No. 10809 License Order

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: James J. Hoecker, Chairman;
Vicky A. Bailey, William L. Massey,
Linda Breathitt, and Curt Hébert, Jr.

Wolverine Power Corporation)

Project No. 10809-000

ORDER ISSUING MINOR LICENSE

(Issued October 16, 1998)

BACKGROUND

Wolverine Power Corporation (Wolverine) filed applications under Part I of the Federal Power Act (FPA) for original licenses for the continued operation and maintenance of four unlicensed hydroelectric projects located on the Tittabawassee River in Gladwin and Midland Counties, Michigan. Beginning furthest downstream, the projects are: the 3.3-megawatt (MW) Sanford Hydroelectric Project No. 2785, the 4.8-MW Edenville Project No. 10808, the 1.2-MW Smallwood Project No. 10810, and the 1.2-MW Secord Project No. 10809.

We issued a license for the Sanford Project No. 2785 in 1987. 1/ Rehearing requests of the license order have been held in abeyance while we analyzed all four projects together. 2/ We stayed parts of the license order for the same reason. In 1989, Wolverine filed license applications for its Edenville, Smallwood, and Secord Projects.

Notice of the applications was issued, and the State of Michigan Department of Natural Resources (Michigan DNR), the U.S. Department of the Interior (Interior), Donald J. Maladecki, and Terry Whittington filed timely motions to intervene in the three licensing proceedings. Maladecki and Whittington, local residents and recreational users of the project reservoirs, state that large fluctuations of reservoir levels adversely affect boaters and lake-front residences, and ask that any license issued limit such fluctuations.

The Commission staff prepared an Environmental Assessment (EA) that evaluates the impacts of all four projects on the

1/ 41 FERC ¶ 62,192.

2/ The four projects comprise a single unit of development. See Section 3(11) of the FPA, 16 U.S.C. § 796(11).

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environmental resources of the area. 3/ We are concurrently issuing an order on rehearing of the Sanford Project license, and orders issuing licenses for the other three projects. This order issues the license for the Secord Project No. 10809.

The license order for the Edenville Project No. 10808 addresses, among other matters, issues of pertinence to all four projects, notably including mode of operation, fluctuation of reservoir levels, and fish entrainment. The discussion in the Edenville license order is incorporated by reference herein.

PROJECT DESCRIPTION

The Secord Project is the most upstream of the four projects. The Secord Dam, which has three sections totaling about 2,085 feet in length and has a maximum height of 55 feet, creates Secord Lake, a 1,100-acre reservoir with a 69-mile shoreline at full pool. There is a 47-foot-long intake leading to the powerhouse, which is located at the dam and has an installed capacity of 1.2 MW. The license application does not propose any new construction or redevelopment.

WATER QUALITY CERTIFICATION

The State of Michigan waived water quality certification for this project by its failure to act on Wolverine's certification request within one year. 4/

SECTION 18 FISHWAY PRESCRIPTION

As requested by Interior, we are including a condition in this license (Article 405) that reserves our authority to require such fishways as Interior may prescribe pursuant to Section 18 of the FPA. 5/

ENDANGERED SPECIES

Bald eagles (federally listed as threatened) are known to forage along the Tittabawassee River, Sanford Lake, and probably

3/ A draft EA was issued March 31, 1994; the final EA was issued August 14, 1998.

4/ See Order Issuing Original License for Project No. 10808.

5/ Id.

Smallwood Lake. As requested by FWS, Article 406 of the license requires Wolverine to prepare a bald eagle protection plan. 6/

RECOMMENDATIONS OF FEDERAL AND STATE FISH AND WILDLIFE AGENCIES

A. Section 10(j) Recommendations

Section 10(j)(1) of the FPA 7/ requires the Commission, when issuing a license, to include license conditions, based on recommendations of federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act, for the protection of, mitigation of adverse impacts to, and enhancement of fish and wildlife resources (including related spawning grounds and habitat) affected by the project. 8/

Michigan DNR and Interior submitted ten recommendations that we have considered under Section 10(j): (1) run-of-river operation of the projects; (2) continued flow releases through the project during project shut-downs; (3) a gaging plan to monitor project operation; (4) establishment of target reservoir elevations and limitation on reservoir fluctuations to +/-0.2 feet; (5) maintenance of state water quality standards for temperature and dissolved oxygen (DO), and development of a monitoring plan; (6) a bald eagle protection plan; (7) a habitat protection plan for state-listed threatened or endangered species; (8) a nuisance flora monitoring and control plan; (9) a wildlife management and land use plan; and (10) an erosion control plan. 9/

6/ Id.

7/ 16 U.S.C. § 803(j)(1).

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

9/ The agencies submitted five other recommendations that we do not consider under Section 10(j), because they are not specific measures to protect, mitigate damages to, or enhance fish and wildlife. See, e.g., Mead Corp., 72 FERC

(continued...)

We have included conditions in the Secord license consistent with five of the recommendations and portions of two others:

(1) a gaging plan to monitor project operation (Article 405); (2) establishment of target reservoir elevations (Article 403); (3) maintenance of state water quality standards for dissolved oxygen (DO) and temperature downstream of the project, and development of a related monitoring plan (Article 402); (4) a bald eagle protection plan (Article 406); (5) a nuisance flora monitoring and control plan (Article 407); (6) an erosion control plan (Article 401); and (7) a wildlife management and land use plan (Articles 403 and 406). 10/

As explained in the license order for Project No. 10808, we decline to adopt the Section 10(j) recommendations for (1) run-of-river operation, (2) continuous flows from the project during project shutdowns, (3) a temperature change standard, and (4) a habitat protection plan for listed species.

B. Other Recommendations and Resource Issues

As discussed in the Project No. 10808 license order, we decline to include in the Secord license conditions requiring the licensee: (1) to study the costs of project retirement; (2) to perform additional entrainment and mortality studies, evaluate potential protection devices, and provide compensation for fish losses at the project; and (3) to modify project operations or facilities or to install fish passage facilities when so ordered by Michigan DNR.

As proposed by both Wolverine and Michigan DNR, the license requires recreation facility improvements. 11/

In response to comments received, we are including a condition in the Secord Project license that requires Wolverine

2/ (...continued)

¶ 61,027. These recommendations are: (1) a turbine entrainment and mortality study; (2) a reservation of authority to Michigan DNR to order changes in project operations and facilities; (3) a reservation of authority to Michigan DNR to order preparation of an upstream fish passage plan; (4) a plan for recreation facilities; and (5) a plan for studying the costs of decommissioning and partial or complete project removal. We instead consider these recommendations under Section 10(a) of the FPA.

10/ See Order Issuing Original License for Project No. 10808.

11/ Id.; and EA at 60-70.

to draw down the projects' reservoirs in early-winter to no more than three feet below the target elevations. 12/

COMPREHENSIVE PLANS

Pursuant to Section 10(a)(2)(A) of the FPA 13/ we reviewed the comprehensive plans relevant to this project and found no conflicts. 14/

COMPREHENSIVE DEVELOPMENT

Sections 4(e) and 10(a)(1) of the FPA require the Commission, in acting on applications for license, to give equal consideration to the power and 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 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.

The EA analyzed the effects associated with the issuance of an original license for the existing Secord Project. It recommends a number of measures to protect and mitigate environmental resources, which we adopt, as discussed herein and in the companion order issuing license for the Edenville Project No. 10808. These measures will establish target reservoir levels, limit reservoir fluctuations, and enhance recreational resources in the project area.

The electricity generated from renewable water power resources will be beneficial, because it will continue to offset the use of fossil-fueled, steam-electric generating plants, thereby conserving nonrenewable resources and reducing atmospheric pollution.

One of the public interest factors the Commission considers is the economic benefits of project power. Under our approach to evaluating the economics of hydropower projects, as articulated

12/ See Order Issuing Original License for Project No. 10808; and EA at 35-36, 48-51, 69-70, and 75.

13/ 16 U.S.C. § 803(a)(2)(A).

14/ See Order Issuing Original License for Project No. 10808.

in Mead Corp., 15/ we employ an analysis that uses current costs to compare the costs of the project and likely alternative power, with no forecasts beyond the license issuance date concerning potential future inflation, escalation, or deflation. The basic purpose of the analysis is to provide a general estimate of the potential power benefits and the costs of a project, and 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.

In making our decision, we consider the project power benefits both with the applicant's proposed mitigation measures and with the Commission's proposed recommendations to the applicant's proposal. In addition, certain economic factors related to project decommissioning impinge on the decision to issue original licenses for existing projects that are not present in the licensing of unconstructed projects. If an existing project is not issued a license, or if its licensee declines to accept the license, the project generally will have to be retired in one form or another. This could range from simply removing the generator at the powerhouse to major environmental restoration varying from minor measures to dam removal.

As licensed by the Commission, the Second Project will produce an average of about 4.0 GWh of energy, at an annual cost of about \$104,000 (26.0 mills/kWh). The current annual value of the project's power would be \$176,000 (44.0 mills/kWh). 16/ To determine whether the project is currently economically beneficial, we subtract the project's cost from the value of the project's power. Thus, the project, as licensed by the Commission would have a net benefit of about \$72,000 (about 18.0 mills/kWh).

As explained in Mead, the economic analysis is by necessity inexact, and project economics is only one of many public interest factors considered in determining whether or not, and under what conditions, to issue a license. Wolverine is ultimately responsible and best able to determine whether continued operation of the existing project, with the conditions adopted herein, is a reasonable decision in these circumstances.

15/ 72 FERC ¶ 61,027 (1995).

16/ We base this value on the cost of alternative resources, which in this case is the cost of a new combined cycle and simple cycle combustion turbine plants, the regional cost of natural gas, and peak and off-peak energy values. The estimate of the value of project power is more completely described in the EA.

Based on our review of the comments on this project filed by agencies and the public, our review of the staff's evaluation of the environmental and economic effects of the project and its alternatives, and our analysis pursuant to Sections 4(e) and 10(a)(1), we find that the Secord Project, with our mitigative measures, will be best adapted to the comprehensive development of the Tittabawassee River for beneficial public uses.

LICENSE TERM AND ANNUAL CHARGES

The license for the Secord Project will be issued for a prospective 30-year term. ^{17/} In addition, the license will be conditioned upon payment of an additional amount equivalent to the charges that would have been collected, had Wolverine obtained a license for this project in a timely manner, to when it first was required, i.e., from April 1, 1962. ^{18/}

The Commission orders:

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

(B) The Secord Project consists of:

(1) All lands, to the extent of the Licensee's interest in those lands shown by exhibit G:

<u>Exhibit G-</u>	<u>FERC No. 10809-</u>	<u>Showing</u>
1	6	Secord Project Map

(2) Project works consisting of: (a) Secord Lake, an 1,100-acre reservoir with a gross storage of approximately 15,000 acre-feet at the normal pool elevation of 750.8 feet National Geodetic Vertical Datum; (b) a 1,400-foot-long earth embankment

^{17/} See Order Issuing Original License for Project No. 10808.

^{18/} Id. As of October 1, 1994, the Commission is not assessing annual charges for projects, like the Secord, with less than 1.5-MW authorized installed capacity. Therefore, the Secord Project will be assessed annual charges for the period April 1, 1962, through September 30, 1994.

section of the dam (maximum height of 55.0 feet) between the left abutment and the powerhouse; (c) a 600-foot-long earth embankment section of the dam between the spillway and the right abutment; (d) a reinforced concrete multiple arch spillway with an ogee crest and two Taintor gates; (e) a powerhouse integral with the dam, equipped with one Francis vertical-axis turbine-generator unit rated at 1.2 MW; (f) a 47-foot-long intake structure; and (g) appurtenant facilities.

The project works generally described above are more specifically shown and described by those portions of Exhibit A and F that also form a part of the application for license and that are designed and described as:

Exhibit A: The turbines and generators as described on page A-1 of the Exhibit A filed July 24, 1989.

<u>Exhibit F Drawing</u>	<u>FERC No.</u>	<u>Description</u>
F-1	10809-1	Second Survey Plan
F-2	10809-2	Second Plan View
F-3	10809-3	Second Spillway Section
F-4	10809-4	Second Powerhouse Section
F-5	10809-5	Second Embankment Section

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

(C) The Exhibits A, F, and G as designated in ordering paragraph (B) above are approved and made part of the license.

(D) The following sections of the FPA are waived and excluded from the license for this minor project:

4(b), except the second sentence; 4(e), insofar as it relates to approval of plans by the Chief of Engineers and the Secretary of the Army; 6, insofar as it relates to public notice and to the acceptance and expression in the license of terms and conditions of the Act that are waived here; 10(c), insofar as it relates to depreciation reserves; 10(d); 10(f); 14, except insofar as the power of condemnation is reserved; 15; 16; 19; 20; and 22.

(E) This license is subject to the articles set forth in Form L-9 (October 1975), entitled, "Terms and Conditions of License for Constructed Minor Project Affecting Navigable Waters of the United States," and the following additional articles.

Article 201. The Licensee shall pay the United States the following annual charges:

- (1) From April 1, 1962, through September 30, 1994, for the purpose of reimbursing the United States for the cost of administration of Part I of the Federal Power Act (FPA), 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 1,200 kilowatts (kW).
- (2) From October 1, 1998, through August 31, 2028, for the purpose of reimbursing the United States for the cost of administration of Part I of the FPA, as determined by the Commission, 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 1,200 kW. Under the regulations currently in effect, projects with authorized installed capacity of less than or equal to 1,500 kW will not be assessed an annual charge.

Article 401. Within six months of license issuance, the Licensee shall file for Commission approval a plan for erosion control in order to minimize shoreline erosion and bank instability occurring in the project reservoir and the river area downstream from the project dam and tailrace. Erosion control measures in the plan shall adhere to the most recent version of the Michigan Department of Transportation standards, and shall be designed to allow pedestrian access while providing long-term stability.

The plan shall include at a minimum:

- (1) a summary description of the existing erosion control program;
- (2) a description of measures to monitor shoreline erosion and bank instability caused by project operations;
- (3) descriptions, functional design drawings, and topographic map locations of proposed new and enhanced control measures;
- (4) a description of how the control measures will allow pedestrian access while providing long-term stability;
- (5) identification of the Michigan Department of Transportation standards used, and description of how the pertinent standards would be adhered to;

- (6) an implementation schedule;
- (7) provisions for the Licensee's periodic review and revision of the plan; and
- (8) provisions for provide the results of its monitoring program to the Michigan Department of Natural Resources, other agencies, and property owners upon request.

The Licensee shall prepare the plan after consultation with the Michigan Department of Natural Resources and the Natural Resources Conservation Service. The Licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan, and specific description 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. No land-disturbing or land-clearing activities shall begin until the Licensee is notified by the Commission that the plan is approved. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission.

Article 402. The Licensee must implement all reasonable and prudent measures to ensure that the following water quality standards are met whenever inflows to the projects are greater than or equal to the 95-percent-exceedance inflow:

- (1) Dissolved oxygen (DO) concentrations in the project's tailwaters of not less than 5 milligrams per liter (mg/l) at all times; and
- (2) monthly average temperatures downstream from the project of no greater than:

January -----	42°F
February -----	41°F
March -----	53°F
April -----	67°F
May -----	78°F
June -----	85°F
July, August -	86°F
September ----	80°F
October -----	69°F
November -----	56°F
December -----	44°F

These monthly average temperatures may be exceeded for short periods when natural water temperatures measured upstream of the project exceed the 90th percentile occurrence of water temperatures (i.e., the monthly average temperatures cited in item No. 2 minus 5°F).

Within six months of license issuance, the Licensee shall file for Commission approval a plan to monitor, and mitigate if necessary, DO and temperature levels of the Tittabawassee River downstream from the Secord Project. The plan shall include provisions for: (1) monitoring of DO and temperature above the Secord impoundment and downstream from Secord Dam with the sensor locations and monitoring frequency determined in consultation with the Michigan Department of Natural Resources (Michigan DNR) and the U.S. Fish and Wildlife Service (FWS); and (2) a description of operating procedures developed in consultation with Michigan DNR and FWS to alleviate water quality conditions which deviate from the above limits.

The Licensee shall prepare the plan after consultation with Michigan DNR and FWS. The monitoring plan shall include schedules for: (1) implementing the plan within 24 months of license issuance; (2) consulting with Michigan DNR and FWS on the results of monitoring; and (3) filing the results, agency comments, and Licensee's response to agency comments with the Commission.

The Licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan, and specific descriptions of how the agencies' comments are accommodated by the plan. The Licensee shall allow a minimum of thirty 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. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission.

Article 403. Within sixty days of the installation of reservoir level gages required by Article 405, the Licensee shall operate the Secord Project so that the project reservoir elevation does not fluctuate more than 0.4 foot below or 0.3 foot above the normal pool elevation of 750.8 feet National Geodetic Vertical Datum (NGVD) except during the winter drawdown. The Licensee shall begin the winter drawdown after December 15, and shall complete the winter drawdown by January 15 of each year. The Licensee shall complete the refill of the reservoir, thus ending the winter drawdown period, prior to the surface water

temperature of the reservoir reaching 39°F. During the winter drawdown, the Licensee shall operate the Secord Project so that the reservoir level does not fall below 747.8 feet NGVD, and so that the daily fluctuation in reservoir elevation does not exceed 0.7 foot.

The required reservoir elevations may be temporarily modified if required by operating emergencies beyond the control of the Licensee, and for short periods for project maintenance purposes, upon mutual agreement between the Licensee and the Michigan Department of Natural Resources. If the reservoir level fluctuation is so modified, the Licensee shall notify the Commission as soon as possible, but no later than ten days after each such incident.

Article 404. The Commission reserves the authority to require the Licensee to construct, maintain, and operate or to provide for the construction, maintenance, and operation of such fishways as may be prescribed by the Secretary of the U.S. Department of the Interior.

Article 405. To ensure compliance with the reservoir elevation requirements of Article 403, the Licensee, within 180 days of license issuance, shall file for Commission approval a reservoir level gaging plan to monitor water surface elevations in Secord Lake at intervals of no greater than 15 minutes.

The plan shall include, but not be limited to, (1) details on the location, design, and calibration of the monitoring equipment; (2) the method of data collection; (3) provisions for compiling and storing the data; and (3) provisions for supplying the data to the U.S. Fish and Wildlife Service (FWS), the U.S. Geological Survey (USGS), and the Michigan Department of Natural Resources (Michigan DNR) within thirty days of the agency's request.

The monitoring plan shall also include a schedule for: (1) implementation of the program; (2) consultation with the appropriate federal and state agencies concerning the data from the monitoring; and (3) filing the data, agency comments, and the Licensee's response to agency comments with the Commission.

The Licensee shall prepare the plan after consultation with Michigan DNR, FWS, and USGS. The Licensee shall include with the plan, documentation of consultation, copies of comments and recommendations on the completed plan, and specific descriptions of how the agencies' comments are accommodated by the plan. The Licensee shall allow a minimum of thirty days for the agencies to comment and to make recommendations prior to 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. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission.

Article 406. Within one year of license issuance, the Licensee shall file for Commission approval a Bald Eagle Management Plan to protect the federally listed as threatened bald eagle (Haliaeetus leucocephalus) and its habitat. The Commission reserves the right to require changes to the plan.

The plan shall be developed in consultation with the U.S. Fish and Wildlife Service (FWS) and the Michigan Department of Natural Resources (Michigan DNR), and include, but not be limited to the following:

- (1) The results of a winter and breeding season survey of bald eagles and a bald eagle habitat assessment of project lands and waters, including descriptive and mapped identification of any existing and potential future eagle perching, roosting, nesting, and foraging habitat areas;
- (2) A proposed protocol and an implementation schedule for an ongoing bald eagle monitoring program;
- (3) Specific measures to maintain and protect any existing and potential eagle habitat areas on project lands and waters, including an implementation schedule;
- (4) Specific measures to maintain and protect bald eagle perch and roost trees on project lands, including an implementation schedule; and
- (5) Procedures for notifying the Commission if potential adverse impacts to eagles or their habitats arise as a result of project operation or activities on project lands or waters.

The Licensee shall include in the plan documentation of consultation, copies of agency comments and recommendations on the completed plan, and specific descriptions of how the agencies' comments are accommodated by the plan. The Licensee shall allow a minimum of thirty 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.

Article 407. Within six months of license issuance, the Licensee shall, in consultation with the Michigan Department of Natural Resources (Michigan DNR), file for Commission approval a plan to monitor purple loosestrife and Eurasian watermilfoil in project waters. The Commission reserves the right to require changes to the plan.

The plan shall include, but not be limited to: (1) a description of the monitoring method; (2) a monitoring schedule; and (3) a schedule for providing the monitoring results to Michigan DNR; (4) documentation of agency consultation, including copies of comments and recommendations on the completed plan; and (5) specific descriptions of how the agencies' comments are accommodated by the plan. The Licensee shall allow a minimum of thirty 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.

If at any time during the period of license, Michigan DNR demonstrates that purple loosestrife or Eurasian watermilfoil is significantly affecting fish and wildlife populations at the project and that control measures are needed, and the Commission agrees with those determinations, the Commission may require the Licensee to cooperate with Michigan DNR and to undertake reasonable measures to control or eliminate the weeds in project waters.

Article 408. The Licensee, before starting any land-clearing or land-disturbing activities within the project boundary, including recreation developments at the project, shall consult with the State Historic Preservation Officer.

If the Licensee discovers previously unidentified archeological or historic properties during the course of constructing or developing project works or other facilities at the project, the Licensee shall stop all land-clearing and land-disturbing activities in the vicinity of the properties and consult with the State Historic Preservation Officer.

In these instances, the Licensee shall file for Commission approval a cultural resource management plan prepared by a qualified cultural resource specialist after having consulted with the State Historic Preservation Officer. The plan shall include the following items: (1) a description of each discovered property indicating whether it is listed, or eligible to be listed, on the National Register of Historic Places; (2) a description of the potential effect on each discovered property; (3) proposed measures for avoiding or mitigating effects; (4) documentation of the nature and extent of consultation; and

(5) a schedule for mitigating effects and conducting additional studies.

The Licensee shall include with the plan documentation of agency consultation, copies of agency comments and recommendations on the completed plan, and specific descriptions of how the agencies' comments are accommodated by the plan. The Licensee shall allow a minimum of thirty 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 site-specific information.

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

Article 409. Within one year of license issuance, the Licensee shall file for Commission approval a recreation plan for the Secord Project. The Commission reserves the right to make changes to the plan.

The plan shall be prepared in consultation with the Michigan Department of Natural Resources (Michigan DNR) and shall include the following:

- (1) A fishing access site at the Secord Project dam that shall include (a) directional signs; (b) a barrier-free restroom; (c) access paths to the tailwater and dike areas, restrooms, canoe portage, and parking areas; (d) parking for 15 vehicles with designated barrier-free parking spaces; (e) improved railed shoreline fishing pier at the tailwater; and (f) improved railed barrier-free fishing pier located on the dike shoreline near the dam;
- (2) A canoe portage;
- (3) Installation of signs that identify the project's recreational facilities;
- (4) functional design drawings, costs for the improvements to, or construction of, the required facilities; and
- (5) A schedule for completing construction of the required facilities within three years of license issuance.

The Licensee shall include with the plan documentation of agency consultation, copies of comments and recommendations on the completed plan, and specific descriptions of how the agencies' comments are accommodated by the plan. The Licensee

shall allow a minimum of thirty days for the agencies to comment 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.

No land clearing or land-disturbing activities shall begin until the Licensee is notified by the Commission that the plan is approved.

Article 410. (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 projects. 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 interest that it has conveyed, under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the Licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the Licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, canceling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The type of use and occupancy of project lands and waters for which the Licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 watercraft at a time and where said facility is intended to serve single-family type dwellings; and (3) embankments, bulkheads, retaining walls or similar structures for erosion control to protect the existing shoreline.

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 projects 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 and roads for which 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 or project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been

obtained; (5) private or public marinas that can accommodate no more than 10 watercraft at a time and are located at least one-half mile from any other private or public marina; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from the edge of the project reservoir at normal maximum surface elevation; and (iii) no more than 50 total acres of project lands for the project development are conveyed under this clause (d) (7) in any calendar year.

At least forty-five days before conveying any interest in project lands under this paragraph (d), the Licensee must submit a letter to the Director, Office of Hydropower Licensing, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked exhibit G or K map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within forty-five 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 covenants running with the land adequate to ensure that: (i) the use of the land conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; and (ii) the grantee shall take all reasonable precautions to insure 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.

- (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 that 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 thirty days of the date of its issuance pursuant to Section 313 of the Federal Power Act. The filing of a request for rehearing does not operate as a stay of the effective date of this order 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)

David P. Boergers
David P. Boergers,
Secretary.

APPENDIX B

Smallwood Project No. 10810 License Order

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: James J. Hoecker, Chairman;
Vicky A. Bailey, William L. Massey,
Linda Breathitt, and Curt Hébert, Jr.

Wolverine Power Corporation) Project No. 10810-000

ORDER ISSUING MINOR LICENSE

(Issued October 16, 1998)

BACKGROUND

Wolverine Power Corporation (Wolverine) filed applications under Part I of the Federal Power Act (FPA) for original licenses for the continued operation and maintenance of four unlicensed hydroelectric projects located on the Tittabawassee River in Gladwin and Midland Counties, Michigan. Beginning furthest downstream, the projects are: the 3.3-megawatt (MW) Sanford Hydroelectric Project No. 2785, the 4.8-MW Edenville Project No. 10808, the 1.2-MW Smallwood Project No. 10810, and the 1.2-MW Secord Project No. 10809.

We issued a license for the Sanford Project No. 2785 in 1987. 1/ Rehearing requests of the license order have been held in abeyance while we analyzed all four projects together. 2/ We stayed parts of the license order for the same reason. In 1989, Wolverine filed license applications for its Edenville, Smallwood, and Secord Projects.

Notice of the applications was issued, and the State of Michigan Department of Natural Resources (Michigan DNR), the U.S. Department of the Interior (Interior), Donald J. Maladecki, and Terry Whittington filed timely motions to intervene in the three licensing proceedings. Maladecki and Whittington, local residents and recreational users of the project reservoirs, state that large fluctuations of reservoir levels adversely affect boaters and lake-front residences, and ask that any license issued limit such fluctuations.

The Commission staff prepared an Environmental Assessment (EA) that evaluates the impacts of all four projects on the

1/ 41 FERC ¶ 62,192.

2/ The four projects comprise a single unit of development. See Section 3(11) of the FPA, 16 U.S.C. § 796(11).

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environmental resources of the area. 3/ We are concurrently issuing an order on rehearing of the Sanford Project license, and orders issuing licenses for the other three projects. This order issues the license for the Smallwood Project No. 10810.

Concurrently with this order, an Order Issuing Original License is being issued for the Edenville Project No. 10808 which addresses, among other matters, issues of pertinence to all four projects, notably including mode of operation, fluctuation of reservoir levels, and fish entrainment. The discussion in the Edenville licensing order is incorporated by reference herein.

PROJECT DESCRIPTION

The Smallwood Project, the third project as one travels upstream, of the four projects. The Smallwood Dam, which has three sections totaling about 1,095 feet in length and a maximum height of 38 feet, creates Smallwood Lake, a 500-acre reservoir with a gross storage of approximately 6,000 acre-feet and a 25-mile shoreline at normal pool elevation. There is a 25-foot-long intake leading to the powerhouse, which is located at the dam and has an installed capacity of 1.2 MW. The license application does not propose any new construction or redevelopment.

WATER QUALITY CERTIFICATION

The State of Michigan waived water quality certification for this project by its failure to act on Wolverine's certification request within one year. 4/

SECTION 18 FISHWAY PRESCRIPTION

As requested by Interior, we are including a condition in this license (Article 404) that reserves our authority to require such fishways as Interior may prescribe pursuant to Section 18 of the FPA. 5/

ENDANGERED SPECIES

Bald eagles (federally listed as threatened) are known to forage along the Tittabawassee River, Sanford Lake, and probably

3/ A draft EA was issued March 31, 1994; the final EA was issued August 14, 1998.

4/ See Order Issuing Original License for Project No. 10808.

5/ Id.

Smallwood Lake. As requested by FWS, Article 406 of the license requires Wolverine to prepare a bald eagle protection plan. 6/

RECOMMENDATIONS OF FEDERAL AND STATE FISH AND WILDLIFE AGENCIES

A. Section 10(j) Recommendations

Section 10(j)(1) of the FPA 7/ requires the Commission, when issuing a license, to include license conditions, based on recommendations of federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act, for the protection of, mitigation of adverse impacts to, and enhancement of fish and wildlife resources (including related spawning grounds and habitat) affected by the project. 8/

Michigan DNR and Interior submitted ten recommendations that we have considered under Section 10(j): (1) run-of-river operation of the projects; (2) continued flow releases through the project during project shut-downs; (3) a gaging plan to monitor project operation; (4) establishment of target reservoir elevations and limitation on reservoir fluctuations to +/-0.2 feet; (5) maintenance of state water quality standards for temperature and dissolved oxygen (DO), and development of a monitoring plan; (6) a bald eagle protection plan; (7) a habitat protection plan for state-listed threatened or endangered species; (8) a nuisance flora monitoring and control plan; (9) a wildlife management and land use plan; and (10) an erosion control plan. 9/

6/ Id.

7/ 16 U.S.C. § 803(j)(1).

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

9/ The agencies submitted five other recommendations that we do not consider under Section 10(j), because they are not specific measures to protect, mitigate damages to, or enhance fish and wildlife. See, e.g., Mead Corp., 72 FERC (continued...)

We have included conditions in the Smallwood license consistent with five of the recommendations and portions of two others: (1) a gaging plan to monitor project operation (Article 405); (2) establishment of target reservoir elevations (Article 403); (3) maintenance of state water quality standards for dissolved oxygen (DO) and temperature downstream of the project, and development of a related monitoring plan (Article 402); (4) a bald eagle protection plan (Article 406); (5) a nuisance flora monitoring and control plan (Article 407); (6) an erosion control plan (Article 401); and (7) a wildlife management and land use plan (Articles 403 and 406). 10/

As explained in the license order for Project No. 10808, we decline to adopt the Section 10(j) recommendations for (1) run-of-river operation, (2) continuous flows from the project during project shutdowns, (3) a temperature change standard, and (4) a habitat protection plan for listed species. 11/

B. Other Recommendations and Resource Issues

As discussed in the Project No. 10808 license order, we decline to include in the Smallwood license conditions requiring the licensee: (1) to study the costs of project retirement; (2) to perform additional entrainment and mortality studies, evaluate potential protection devices, and provide compensation for fish losses at the project; and (3) to modify project operations or facilities or to install fish passage facilities when so ordered by Michigan DNR. 12/

9/ (...continued)

¶ 61,027. These recommendations are: (1) a turbine entrainment and mortality study; (2) a reservation of authority to Michigan DNR to order changes in project operations and facilities; (3) a reservation of authority to Michigan DNR to order preparation of an upstream fish passage plan; (4) a plan for recreation facilities; and (5) a plan for studying the costs of decommissioning and partial or complete project removal. We instead consider these recommendations under Section 10(a) of the FPA.

10/ See Order Issuing Original License for Project No. 10808.

11/ Id.

12/ Id.

As proposed by both Wolverine and Michigan DNR, the license requires recreation facility improvements. 13/

In response to comments received, we are including a condition in the Smallwood Project license that requires Wolverine to draw down the projects' reservoirs in early-winter to no more than three feet below the target elevations. 14/

COMPREHENSIVE PLANS

Pursuant to Section 10(a)(2)(A) of the FPA 15/ we reviewed the comprehensive plans relevant to this project and found no conflicts. 16/

COMPREHENSIVE DEVELOPMENT

Sections 4(e) and 10(a)(1) of the FPA require the Commission, in acting on applications for license, to give equal consideration to the power and 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 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.

The EA analyzed the effects associated with the issuance of an original license for the existing Secord Project. It recommends a number of measures to protect and mitigate environmental resources, which we adopt, as discussed herein and in the companion order issuing license for the Edenville Project No. 10808. These measures will establish target reservoir levels, limit reservoir fluctuations, and enhance recreational resources in the project area.

The electricity generated from renewable water power resources will be beneficial, because it will continue to offset the use of fossil-fueled, steam-electric generating plants,

13/ Id.; and EA at 60-70.

14/ See Order Issuing original License for Project No. 10808; and EA at 35-36, 48-51, 69-70, and 75.

15/ 16 U.S.C. § 803(a)(2)(A).

16/ See Order Issuing Original License for Project No. 10808.

thereby conserving nonrenewable resources and reducing atmospheric pollution.

One of the public interest factors the Commission considers is the economic benefits of project power. Under our approach to evaluating the economics of hydropower projects, as articulated in Mead Corp., 17/ we employ an analysis that uses current costs to compare the costs of the project and likely alternative power, with no forecasts beyond the license issuance date concerning potential future inflation, escalation, or deflation. The basic purpose of the analysis is to provide a general estimate of the potential power benefits and the costs of a project, and 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.

In making our decision, we consider the project power benefits both with the applicant's proposed mitigation measures and with the Commission's proposed recommendations to the applicant's proposal. In addition, certain economic factors related to project decommissioning impinge on the decision to issue original licenses for existing projects that are not present in the licensing of unconstructed projects. If an existing project is not issued a license, or if its licensee declines to accept the license, the project generally will have to be retired in one form or another. This could range from simply removing the generator at the powerhouse to major environmental restoration varying from minor measures to dam removal.

As licensed by the Commission, the Smallwood Project will produce an average of about 2.650 GWh of energy, at an annual cost of about \$89,000 (33.6 mills/kWh). The current annual value of the project's power would be \$116,000 (43.8 mills/kWh). 18/ To determine whether the project is currently economically beneficial, we subtract the project's cost from the value of the project's power. Thus, the project, as licensed by the Commission would have a net benefit of about \$27,000 (about 10.2 mills/kWh).

17/ 72 FERC ¶ 61,027 (1995).

18/ We base this value on the cost of alternative resources, which in this case is the cost of a new combined cycle and simple cycle combustion turbine plants, the regional cost of natural gas, and peak and off-peak energy values. The estimate of the value of project power is more completely described in the EA.

As explained in Mead, the economic analysis is by necessity inexact, and project economics is only one of many public interest factors considered in determining whether or not, and under what conditions, to issue a license. Wolverine is ultimately responsible and best able to determine whether continued operation of the existing project, with the conditions adopted herein, is a reasonable decision in these circumstances.

Based on our review of the comments on this project filed by agencies and the public, our review of the staff's evaluation of the environmental and economic effects of the project and its alternatives, and our analysis pursuant to Sections 4(e) and 10(a)(1), we find that the Smallwood Project, with our mitigative measures, will be best adapted to the comprehensive development of the Tittabawassee River for beneficial public uses.

LICENSE TERM AND ANNUAL CHARGES

The license for the Smallwood Project will be issued for a prospective 30-year term. ^{19/} In addition, the license will be conditioned upon payment of an additional amount equivalent to the charges that would have been collected, had Wolverine obtained a license for this project in a timely manner, to when it first was required, i.e., from April 1, 1962. ^{20/}

The Commission orders:

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

(B) The Smallwood Project consists of:

(1) All lands, to the extent of the Licensee's interest in those lands shown by exhibit G:

^{19/} See Order Issuing Original License for Project No. 10808.

^{20/} Id. As of October 1, 1994, the Commission is not assessing annual charges for projects, like the Secord, with less than 1.5-MW authorized installed capacity. Therefore, the Secord Project will be assessed annual charges for the period April 1, 1962, through September 30, 1994.

<u>Exhibit G-</u>	<u>FERC No. 10810-</u>	<u>Showing</u>
1	6	Smallwood Project Map

(2) Project works consisting of: (a) a reinforced concrete hollow gravity spillway dam about 52 feet long, 25 feet high, and 50 feet wide at the base; (b) two steel Taintor gates on top of the spillway crest, each 25.3 feet wide and 10 feet high; (c) a right-side earth embankment about 100 feet long by a maximum of 40 feet high; (d) a left-side earth embankment about 550 feet long by a maximum of 40 feet high; (e) a reservoir named Smallwood Lake, with a surface area of about 500 acres and a normal pool elevation of 704.8 feet National Geodetic Vertical Datum; (f) a 55-foot-long, 27-foot-wide, and 65-foot-high reinforced concrete powerhouse integral with the spillway; (g) powerhouse equipment consisting of one vertical axis, open flume turbine-generator unit rated at 1,200 kilowatts; (h) transmission equipment; and (i) appurtenant facilities.

The project works generally described above are more specifically shown and described by those portions of Exhibit A and F that also form a part of the application for license and that are designed and described as:

Exhibit A: The turbines and generators as described on page A-1 of the Exhibit A filed July 24, 1989.

<u>Exhibit F Drawing</u>	<u>FERC No.</u>	<u>Description</u>
F-1	10810-1	Smallwood Survey Plan
F-2	10810-2	Smallwood Plan View
F-3	10810-3	Smallwood Spillway Section
F-4	10810-4	Smallwood Powerhouse Section
F-5	10810-5	Smallwood Embankment Section

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

(C) The Exhibits A, F, and G as designated in ordering paragraph (B) above are approved and made part of the license.

(D) The following sections of the FPA are waived and excluded from the license for this minor project:

4(b), except the second sentence; 4(e), insofar as it relates to approval of plans by the Chief of Engineers and the Secretary of the Army; 6, insofar as it relates to public notice

and to the acceptance and expression in the license of terms and conditions of the Act that are waived here; 10(c), insofar as it relates to depreciation reserves; 10(d); 10(f); 14, except insofar as the power of condemnation is reserved; 15; 16; 19; 20; and 22.

(E) This license is subject to the articles set forth in Form L-9 (October 1975), entitled, "Terms and Conditions of License for Constructed Minor Project Affecting Navigable Waters of the United States," and the following additional articles.

Article 201. The Licensee shall pay the United States the following annual charges:

- (1) From April 1, 1962, through September 30, 1994, for the purpose of reimbursing the United States for the cost of administration of Part I of the Federal Power Act (FPA), 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 1,200 kilowatts (kW).
- (2) From October 1, 1998, through August 31, 2028, for the purpose of reimbursing the United States for the cost of administration of Part I of the FPA, as determined by the Commission, 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 1,200 kW. Under the regulations currently in effect, projects with authorized installed capacity of less than or equal to 1,500 kW will not be assessed an annual charge.

Article 401. Within six months of license issuance, the Licensee shall file for Commission approval a plan for erosion control in order to minimize shoreline erosion and bank instability occurring in the project reservoir and the river area downstream from the project dam and tailrace. Erosion control measures in the plan shall adhere to the most recent version of the Michigan Department of Transportation standards, and shall be designed to allow pedestrian access while providing long-term stability.

The plan shall include as a minimum:

- (1) a summary description of the existing erosion control program;
- (2) a description of measures to monitor shoreline erosion and bank instability caused by project operations;

- (3) descriptions, functional design drawings, and topographic map locations of proposed new and enhanced control measures;
- (4) a description of how the control measures will allow pedestrian access while providing long-term stability;
- (5) identification of the Michigan Department of Transportation standards used, and description of how the pertinent standards would be adhered to;
- (6) an implementation schedule;
- (7) provisions for the Licensee's periodic review and revision of the plan; and
- (8) provisions for provide the results of its monitoring program to the Michigan Department of Natural Resources, other agencies, and property owners upon request.

The Licensee shall prepare the plan after consultation with the Michigan Department of Natural Resources and the Natural Resources Conservation Service. The Licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan, and specific description 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. No land-disturbing or land-clearing activities shall begin until the Licensee is notified by the Commission that the plan is approved. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission.

Article 402. The Licensee must implement all reasonable and prudent measures to ensure that the following water quality standards are met whenever inflows to the projects are greater than or equal to the 95-percent-exceedance inflow:

- (1) Dissolved oxygen (DO) concentrations in the project's tailwaters of not less than 5 milligrams per liter (mg/l) at all times; and
- (2) monthly average temperatures downstream from the project of no greater than:

January -----	42°F
February -----	41°F
March -----	53°F
April -----	67°F
May -----	78°F
June -----	85°F
July, August -	86°F
September ----	80°F
October -----	69°F
November -----	56°F
December -----	44°F

These monthly average temperatures may be exceeded for short periods when natural water temperatures measured upstream of the project exceed the 90th percentile occurrence of water temperatures (i.e., the monthly average temperatures cited in item No. 2 minus 5°F).

Within six months of license issuance, the Licensee shall file for Commission approval a plan to monitor, and mitigate if necessary, dissolved oxygen (DO) and temperature levels of the Tittabawassee River downstream from the Smallwood Project. The plan shall include provisions for: (1) monitoring of DO and temperature downstream from Smallwood Dam with the sensor locations and monitoring frequency determined in consultation with the Michigan Department of Natural Resources (Michigan DNR) and the U.S. Fish and Wildlife Service (FWS); and (2) description of operating procedures developed in consultation with Michigan DNR and FWS to alleviate water quality conditions which deviate from the above limits.

The Licensee shall prepare the plan after consultation with Michigan DNR and FWS. The monitoring plan shall include schedules for: (1) implementing the plan within 24 months of license issuance; (2) consulting with Michigan DNR and FWS on the results of monitoring; and (3) filing the results, agency comments, and Licensee's response to agency comments with the Commission.

The Licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan, and specific descriptions of how the agencies' comments are accommodated by the plan. The Licensee shall allow a minimum of thirty 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. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission.

Article 403. Within sixty days of the installation of reservoir level gages required by Article 405, the Licensee shall operate the Smallwood Project so that the project reservoir elevation does not fluctuate more than 0.4 foot below or 0.3 foot above the normal pool elevation of 704.8 feet National Geodetic Vertical Datum (NGVD) except during the winter drawdown. The Licensee shall begin the winter drawdown after December 15, and shall complete the winter drawdown by January 15 of each year. The Licensee shall complete the refill of the reservoir, thus ending the winter drawdown period, prior to the surface water temperature of the reservoir reaching 39°F. During the winter drawdown, the Licensee shall operate the Secord Project so that the reservoir level does not fall below 701.8 feet NGVD, and so that the daily fluctuation in reservoir elevation does not exceed 0.7 foot.

The required reservoir elevations may be temporarily modified if required by operating emergencies beyond the control of the Licensee, and for short periods for project maintenance purposes, upon mutual agreement between the Licensee and the Michigan Department of Natural Resources. If the reservoir level fluctuation is so modified, the Licensee shall notify the Commission as soon as possible, but no later than ten days after each such incident.

Article 404. The Commission reserves the authority to require the Licensee to construct, maintain, and operate or to provide for the construction, maintenance, and operation of such fishways as may be prescribed by the Secretary of the U.S. Department of the Interior.

Article 405. To ensure compliance with the reservoir elevation requirements of Article 403, the Licensee, within 180 days of license issuance, shall file for Commission approval a reservoir level gaging plan to monitor water surface elevations in Smallwood Lake at intervals of 15 minutes or less.

The plan shall include, but not be limited to, (1) details on the location, design, and calibration of the monitoring equipment; (2) the method of data collection; (3) provisions for compiling and storing the data; and (3) provisions for supplying the data to the U.S. Fish and Wildlife Service (FWS), the U.S. Geological Survey (USGS), and the Michigan Department of Natural Resources (Michigan DNR) within thirty days of the agency's request.

The monitoring plan shall also include a schedule for: (1) implementation of the monitoring program; (2) consultation with the appropriate federal and state agencies concerning the data from the monitoring; and (3) filing the data, agency comments, and the Licensee's response to agency comments with the Commission.

The Licensee shall prepare the plan after consultation with Michigan DNR, FWS, and USGS. The Licensee shall include with the plan, documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The Licensee shall allow a minimum of thirty days for the agencies to comment and to make recommendations prior to 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. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission.

Article 406. Within one year of license issuance, the Licensee shall file for Commission approval a Bald Eagle Management Plan to protect the federally listed as threatened bald eagle (Haliaeetus leucocephalus) and its habitat. The Commission reserves the right to require changes to the plan.

The plan shall be developed in consultation with the U.S. Fish and Wildlife Service (FWS) and the Michigan Department of Natural Resources (Michigan DNR), and include, but not be limited to the following:

- (1) The results of a winter and breeding season survey of bald eagles and a bald eagle habitat assessment of project lands and waters, including descriptive and mapped identification of any existing and potential future eagle perching, roosting, nesting, and foraging habitat areas;
- (2) A proposed protocol and an implementation schedule for an ongoing bald eagle monitoring program;
- (3) Specific measures to maintain and protect any existing and potential eagle habitat areas on project lands and waters, including an implementation schedule;
- (4) Specific measures to maintain and protect bald eagle perch and roost trees on project lands, including an implementation schedule; and

- (5) Procedures for notifying the Commission if potential adverse impacts to eagles or their habitats arise as a result of project operation or activities on project lands or waters.

The Licensee shall include in the plan documentation of consultation, copies of agency comments and recommendations on the completed plan, and specific descriptions of how the agencies' comments are accommodated by the plan. The Licensee shall allow a minimum of thirty 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.

Article 407. Within six months of license issuance, the Licensee shall, in consultation with the Michigan Department of Natural Resources (Michigan DNR), file for Commission approval a plan to monitor purple loosestrife and Eurasian watermilfoil in project waters. The Commission reserves the right to require changes to the plan.

The plan shall include, but not be limited to: (1) a description of the monitoring method; (2) a monitoring schedule; and (3) a schedule for providing the monitoring results to Michigan DNR; (4) documentation of agency consultation, including copies of comments and recommendations on the completed plan; and (5) specific descriptions of how the agencies' comments are accommodated by the plan. The Licensee shall allow a minimum of thirty 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.

If at any time during the period of license, Michigan DNR demonstrates that purple loosestrife or Eurasian watermilfoil is significantly affecting fish and wildlife populations at the project and that control measures are needed, and the Commission agrees with those determinations, the Commission may require the Licensee to cooperate with Michigan DNR and to undertake reasonable measures to control or eliminate the weeds in project waters.

Article 408. The Licensee, before starting any land-clearing or land-disturbing activities within the project boundary, including recreation developments at the project, shall consult with the State Historic Preservation Officer.

If the Licensee discovers previously unidentified archeological or historic properties during the course of

constructing or developing project works or other facilities at the project, the Licensee shall stop all land-clearing and land-disturbing activities in the vicinity of the properties and consult with the State Historic Preservation Officer.

In these instances, the Licensee shall file for Commission approval a cultural resource management plan prepared by a qualified cultural resource specialist after having consulted with the State Historic Preservation Officer. The plan shall include the following items: (1) a description of each discovered property indicating whether it is listed, or eligible to be listed, on the National Register of Historic Places; (2) a description of the potential effect on each discovered property; (3) proposed measures for avoiding or mitigating effects; (4) documentation of the nature and extent of consultation; and (5) a schedule for mitigating effects and conducting additional studies.

The Licensee shall include with the plan documentation of agency consultation, copies of agency comments and recommendations on the completed plan, and specific descriptions of how the agencies' comments are accommodated by the plan. The Licensee shall allow a minimum of thirty 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 site-specific information.

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

Article 409. Within one year of license issuance, the Licensee shall file for Commission approval a recreation plan for the Smallwood Project. The Commission reserves the right to make changes to the plan.

The plan shall be prepared in consultation with the Michigan Department of Natural Resources (Michigan DNR) and shall include the following:

- (1) A fishing access site at the project dam that shall include (a) directional signs; (b) a barrier-free restroom; (c) access paths to the tailwater and dike areas, restrooms, canoe portage, and parking areas; (d) parking for 15 vehicles with designated barrier-free parking spaces; (e) improved railed shoreline fishing pier at the tailwater; and (f) improved railed barrier-free fishing pier located on the dike shoreline near the dam;

- (2) A canoe portage;
- (3) Installation of signs that identify the project's recreational facilities;
- (4) Functional design drawings, costs for the improvements to, or construction of, the required facilities; and
- (5) A schedule for completing construction of the required facilities within three years of license issuance.

The Licensee shall include with the plan documentation of agency consultation, copies of comments and recommendations on the completed plan, and specific descriptions of how the agencies' comments are accommodated by the plan. The Licensee shall allow a minimum of thirty days for the agencies to comment 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.

No land clearing or land-disturbing activities shall begin until the Licensee is notified by the Commission that the plan is approved.

Article 410. (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 projects. 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 interest that it has conveyed, under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the Licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the Licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, canceling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The type of use and occupancy of project lands and waters for which the Licensee may grant permission without prior

Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 watercraft at a time and where said facility is intended to serve single-family type dwellings; and (3) embankments, bulkheads, retaining walls or similar structures for erosion control to protect the existing shoreline.

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 and roads for which 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 or project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 watercraft at a time and are located at least one-half mile from any other private or public marina; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from the edge of the project reservoir at normal maximum surface elevation; and (iii) no more than 50 total acres of project lands for the project development are conveyed under this clause (d) (7) in any calendar year.

At least forty-five days before conveying any interest in project lands under this paragraph (d), the Licensee must submit a letter to the Director, Office of Hydropower Licensing, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked exhibit G or K map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within forty-five 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 covenants running with the land adequate to ensure that: (i) the use of the land conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; and (ii) the grantee shall take all reasonable precautions to insure 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.
 - (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 that 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 thirty days of the date of its issuance pursuant to Section 313 of the Federal Power Act. The filing of a request for rehearing does not operate as a stay of the effective date of this order 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)


David P. Boergers,
Secretary.

APPENDIX C

Sanford Project No. 2785 License Order and Amendment

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Wolverine Power Corporation

Project No. 2785-001

ORDER ISSUING LICENSE
(Major Constructed Project - 5MW or Less)
(Issued December 1, 1987)

Wolverine Power Corporation has filed a license application under Part 1 of the Federal Power Act (Act) to operate and maintain the Sanford Water Power Project, located in Midland County, Michigan, on the Tittabawassee River, a navigable waterway of the United States.

Notice of the application has been published. No protests or motions to intervene were filed in this proceeding, and no agency objected to issuance of this license. Comments received from interested agencies and individuals have been fully considered in determining whether to issue this license, as discussed below.

Recommendations of Federal and State Fish and Wildlife Agencies

Section 10(j) of the Act, as amended by the Electric Consumers Protection Act of 1986 (ECPA), Public Law No. 99-495, requires the Commission to include license conditions, based on recommendations of federal and state fish and wildlife agencies, for the protection, mitigation, and enhancement of fish and wildlife. In the environmental assessment (EA) for the Sanford Water Power Project, the staff addresses the concerns of the federal and state fish and wildlife agencies, and makes recommendations consistent with those of the agencies.

Comprehensive Plans

Section 10(a)(2) of the Act, as amended by ECPA, requires the Commission to consider the extent to which a project is consistent with comprehensive plans (where they exist) for improving, developing, or conserving a waterway or waterways affected by the project. The plans must be prepared by an agency established pursuant to federal law that has the authority to prepare such a plan or by the state in which the facility is or will be located. The Commission considers plans to be within the scope of section 10(a)(2), only if such plans reflect the preparers' own balancing of competing uses of a waterway, based on their data and on applicable policy considerations (i.e., if the preparers consider and balance all relevant public use considerations). With regard to plans prepared at the state level, such

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plans are within the scope of section 10(a)(2), only if they are prepared and adopted pursuant to a specific act of the state legislature and developed, implemented, and managed by an appropriate state agency. 1/

The Commission has concluded that comprehensive planning under section 10(a)(2)(A) should, like comprehensive planning under section 10(a)(1), take into account all existing and potential uses of a waterway relevant to the public interest, including navigation, power development, energy conservation, fish and wildlife protection and enhancement, recreational opportunities, irrigation, flood control, water supply, and other aspects of environmental quality. In order that the Commission may fully understand or independently confirm the content and conclusions of a comprehensive plan, it provided general guidelines for developing such plans which should contain the following: (1) a description of the waterway(s) subject to the plan, including pertinent maps; (2) a description of the significant resources of the waterway(s); (3) a description of the various existing and planned uses for these resources; and (4) a discussion of goals, objectives, and recommendations for improving, developing, or conserving the waterway(s) in relation to these resources. The more closely a plan conforms to these guidelines, the more weight it will have on the Commission's decisions. However, the Commission will consider plans that do not meet the criteria for comprehensive plans, as it considers all relevant studies and recommendations, in its public interest analysis pursuant to section 10(a)(1) to the extent that the documentation supports the plan. 2/

The staff identified no comprehensive plans of the types referred to in section 10(a)(2) of the Act relevant to this project. The staff reviewed one resource plan 3/ that addresses various aspects of waterway management in relation to the proposed project, as part of a broad public interest examination under section 10(a)(1) of the Act. No conflicts were found.

1/ See Fieldcrest Mills, Inc., 37 FERC ¶61,264 (1986).

2/ See Order No. 481, Final Rule, issued October 20, 1987.

3/ Michigan Department of Natural Resources, no date, Building Michigan's Recreation Future: the 1985-90 Michigan Recreation Plan.

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Staff has determined that the best adapted plan for the Tittabawassee River is achieved with outflows from the Sanford Water Power Project which approximate natural river flows. This mode of operation may require substantial changes in the operation of the upstream Smallwood, Secord, and Edenville hydroelectric projects. These changes would result in project operation similar to the run-of-river operation which is best adapted for the Tittabawassee River.

Based on a review of agency and public comments filed in this proceeding, and on the staff's independent analysis, the Sanford Water Power Project is best adapted to a comprehensive plan for the Tittabawassee River, taking into consideration the beneficial public uses described in section 10(a)(1) of the Act.

Applicant's Energy Management And Energy Conservation Programs

Section 10(a)(2)(C) of the Act, as amended by ECPA, requires that the Commission, in considering license applications submitted by a State or municipal applicant, or by an applicant which is primarily engaged in the generation or sale of electric power (other than electric power solely from cogeneration or small power production facilities), consider the electricity consumption efficiency 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 relevant State regulatory authorities applicable to such applicant.

The applicant is applying for a license to continue operation of a project that was constructed in the past, but not previously licensed. The entire net output of the project is being sold to a major investor owned electric utility for resale to end-use customers. The applicant has no opportunity to implement electricity consumption efficiency improvement programs which affect the electrical systems and end-use customers beyond the project switchboard. This applies also to load-management practices.

As a facility generating power for wholesale purchase by a major electric utility, the applicant has an easily recognized financial incentive to improve the efficiency of the project's operation and thereby increase its saleable output.

-4-

The sale of project power to Consumers Power Company (CPC) could be affected by additional conservation efforts on the CPC system but there is little likelihood that additional conservation resources could compete economically with the delivery of energy from an existing, already amortized, hydroelectric facility.

It is concluded that the applicant has made, and will continue to make, a successful good-faith effort to reduce the consumption of electric energy and system peak demand with the sale of power to CPC.

License Term

This project should have been licensed on the date when the Tittabawassee River was determined to be a navigable waterway of the United States or April 1, 1962, whichever is earlier. ^{4/} Absent extraordinary circumstances, the Commission's policy is to issue licenses for a term expiring at least 20 years from the date of issuance. The effective date of this license will therefore be backdated to April 1, 1962, with the term of the license expiring 20 years from the date of issuance.

Summary of Findings

An EA was issued for this project. Background information, analysis of impacts, support for related license articles, and the basis for a finding of no significant impact on the environment are contained in the EA attached to this order. Issuance of this license is not a major federal action significantly affecting the quality of the human environment.

The design of this project is consistent with the engineering standards governing dam safety. The project will be safe if operated and maintained in accordance with the requirements of this license. Analysis of related issues is provided in the Safety and Design Assessment attached to this order.

^{4/} See Federal Power Commission's "Order Denying Petition for Declaratory Order, Finding Jurisdiction and Requiring Filing of an Application for License", issued February 18, 1976.

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The Director, Office of Hydropower Licensing, concludes that the project would not conflict with any planned or authorized development, and would be best adapted to comprehensive development of the waterway for beneficial public uses.

The Director orders:

(A) This license is issued to Wolverine Power Corporation (licensee), for a period effective April 1, 1962, and terminating 20 years from the date of issuance, to operate and maintain the Sanford Water Power Project. This license is subject to the terms and conditions of the Act, which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the Act.

(B) The project consists of:

(1) All lands, only insofar as it shows the general project location, as shown by Exhibit G:

<u>Exhibit G-</u>	<u>FERC No. 2785-</u>	<u>showing</u>
1	6	Project Lands and Boundaries
2	7	Project Lands and Boundaries

(2) Project works consisting of: (a) a dam approximately 26 feet high and 1,600 feet long consisting of a 71-foot-long powerhouse section, a 149-foot-long spillway section controlled by six Taintor gates, and a 1,380-foot-long earth embankment; (b) a 1,526-acre reservoir with a storage capacity of 15,000 acre-feet at elevation 625 m.s.l.; (c) a masonry powerhouse housing three generating units for a total installed capacity of 3,300 kW; (d) the 2.3-kV generator leads; (e) a 40-foot-long, 2.3-kV transmission line; (f) a 2.3/4.6-kV, 4.5-MVA transformer bank; and (g) appurtenant facilities.

The project works generally described above are more specifically shown and described by those portions of Exhibits A and F recommended for approval in the attached Safety and Design Assessment.

(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 located within or outside the project boundary, and all riparian or other rights that are necessary or appropriate in the operation or maintenance of the project.

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(C) The Exhibit C described above and those sections of Exhibits A and F recommended for approval in the attached Safety and Design Assessment are approved and made part of the 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 of the United States," except Article 20. The license is also subject to the following additional articles:

Article 201.

(1) The licensee shall pay the United States the following annual charge, effective April 1, 1962:

For the purpose of reimbursing the United States for the cost of administration of Part I of the 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 4,400 horsepower.

(2) The licensee shall, within 90 days from the date of issuance of this license, file with the Commission, in accordance with the provisions of §11.20(a)(4) of the Commission's regulations, a statement showing the gross amount of power generation for the project in kilowatt-hours for each calendar year commencing April 1, 1962.

Article 202. Pursuant to Section 10(d) of the Act, after the first 20 years of operation of the project under license, a specified reasonable rate of return upon the net investment in the project shall be used for determining surplus earnings of the project for the establishment and maintenance of amortization reserves. One-half of the project surplus earnings, if any, accumulated after the first 20 years of operation under the license, in excess of the specified rate of return per annum on the net investment, shall be set aside in a project amortization reserve account at the end of each fiscal year. To the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year after the first 20 years of operation under the license, the amount of that deficiency shall be deducted from the amount of any surplus earnings subsequently accumulated, until absorbed. One-half of the remaining surplus earnings, if any, cumulatively computed, shall be set aside in the project amortization reserve account. The amounts established in the project amortization reserve account

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The annual specified reasonable rate of return shall be the sum of the annual weighted costs of long-term debt, preferred stock, and common equity, as defined below. The annual weighted cost for each component of the rate of return shall be calculated based on an average of 13 monthly balances of amounts properly includable in the licensee's long-term debt and proprietary capital accounts as listed in the Commission's Uniform System of Accounts. The cost rates for long-term debt and preferred stock shall be their respective weighted average costs 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 203. The licensee shall clear and keep clear to an adequate width all lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which result from maintenance, operation, or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. All clearing of lands and disposal of unnecessary material shall be done with due diligence to the satisfaction of the authorized representative of the Commission and in accordance with appropriate federal, state, and local statutes and regulations.

Article 204. Within 90 days from the date of issuance of this order, the licensee shall file a revised Exhibit G for approval showing the project boundary of the Sanford Water Power Project.

Article 401. The licensee shall operate the Sanford Water Power Project in a run-of-river mode for the protection and enhancement of fish and wildlife resources in the Tittabawassee River. The licensee, in operating the project in a run-of-river mode, shall at all times act to minimize the fluctuations of the reservoir surface elevations specified in article 404 and maintain a discharge from the project so that flow in the Tittabawassee River, as measured immediately downstream from the project, is the average of the cumulative inflows to the reservoir on a daily basis. Moreover, the flows from the project shall approximate the inflow to the project reservoir that would occur if there were no upstream regulation of the Tittabawassee River upstream of the Sanford Project. The run-of-river operation may be temporarily modified if required by operating emergencies beyond the control of the licensee or for short periods upon mutual agreement among the licensee, the Michigan Department of Natural Resources and the U.S. Fish and Wildlife Service.

Article 402. The licensee, after consultation with the Michigan Department of Natural Resources (MDNR) and the Geological Survey, shall develop a plan to install stream flow and pool level gages in the Tittabawassee River, to monitor compliance with the requirements of articles 401 and 404. The plan shall include an implementation schedule, a determination of the location and design of the gages, the method of flow data collection, and a provision for providing the flow data to the MDNR within 30 days from the date of the agency's request for the data. The plan shall be filed with the Commission for approval by the Chicago Regional Director within 6 months from the date of issuance of this license, and shall include comments from the consulted agencies on the plan. The Commission reserves the right to require modifications to the plan.

Article 403. The licensee, after consultation with the Michigan Department of Natural Resources and the U.S. Fish and Wildlife Service, shall develop a plan to monitor the entrainment and the turbine-induced injury and mortality of fish resources. Within 6 months after the date of issuance of this license, the licensee shall file for Commission approval the monitoring plan and a schedule for filing the results of the monitoring program. Comments of the consulted agencies on the monitoring plan shall be included in the filing. The Commission reserves the right to modify the proposed plan or schedule.

The results of the monitoring shall be submitted to the Commission according to the schedule, along with the comments from the consulted agencies. If the results of the monitoring indicate that changes in project structures or operation are necessary to minimize adverse project effects on fish resources, the licensee also shall include for Commission approval a schedule for implementing the specific measures, along with comments from the consulted agencies on the proposed measures. The Commission reserves the right to require changes in the measures to protect the fish resources.

Article 404. The licensee, after consulting with the National Park Service and the Michigan Department of Natural Resources, shall develop a plan for recreational development at the project. The plan shall include but not be limited to the following: development of public access to the reservoir and to the downstream Tittabawassee River; the short and long-term need for recreational facilities and a timetable for their construction; a schedule of reservoir pool levels and maximum daily pool level fluctuations to enhance recreational use; and a drawing showing the existing and proposed recreational facilities at the Sanford Water Power Project. Within 1 year after the date of issuance of this license, the licensee shall file the recreational development plan for Commission approval, along with comments of the consulted agencies on the plan. Until approval of this plan, the licensee shall maintain the reservoir at the normal pool level (525.0 feet mean sea level). Any temporary deviations from 625 feet msl are permitted for the control of unusual flood events or as otherwise approved by the Director, Office of Hydropower Licensing.

Article 405. (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 other 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 uses 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, cancelling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The types of use and occupancy of project lands and waters for which the licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 watercraft at a time and where said facility is intended to serve single-family type dwellings; and (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline. 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 uses 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

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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 and roads for which 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 certificates or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 watercraft at a time and are located at least one-half mile from any other private or public marina; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from the edge of the project reservoir at normal maximum 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

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year. At least 45 days before conveying any interest in project lands under this paragraph (d), the licensee must submit a letter to the Director, Office of Hydropower Licensing, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked Exhibit G or K map may be used); the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of that period.

(e) The following additional conditions apply to any intended conveyance under paragraph (c) or (d) of this article:

(1) Before conveying the interest, the licensee shall consult with federal and state fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer.

(2) Before conveying the interest, the licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved Exhibit R or approved report on recreational resources of an Exhibit E; or, if the project does not have an approved Exhibit R or approved report on recreational resources, that the lands to be conveyed do not have recreational value.

(3) The instrument of conveyance must include covenants running with the land adequate to ensure that: (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; and (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.

(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

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

(F) This order is issued under authority delegated to the Director and is final unless appealed under Rule 1902 to the Commission by any party within 30 days from the issuance date of this order. Filing an appeal does not stay the effective date of this order or any date specified in this order. The licensee's failure to appeal this order shall constitute acceptance of the license.

Fred E. Springer
Acting Director, Office
of Hydropower Licensing

ENVIRONMENTAL ASSESSMENT

FEDERAL ENERGY REGULATORY COMMISSION

OFFICE OF HYDROPOWER LICENSING, DIVISION OF ENVIRONMENTAL ANALYSIS

Date: October 19, 1987

Project name: Sanford Water Power Project FERC No. 2785-001

A. APPLICATION

1. Application type: Major Constructed less than 5.0 MW Date filed: 4/05/83
2. Applicant: Wolverine Power Corporation
3. Water body: Sanford Lake, Tittabawassee River basin: Saginaw River Basin
4. Nearest city or town: Sanford
5. County: Midland State: Michigan

B. PURPOSE AND NEED FOR ACTION

1. Purpose: Licensing the Sanford Water Power Project (Sanford Project) would permit continued project operation and continued sale of hydropower produced to the Consumers Power Company, of Michigan.
2. Need for power: The Sanford Project began operation in 1925. The average annual energy output of the facility during the last 25 years has been 9,000,000 kilowatt-hours (kWh) with a minimum of 5,080,000 kWh and a maximum of 12,200,000 kWh. The entire net output of the plant is sold to the Consumers Power Company for resale to end-use customers. The need for the project power has been established by 62 years of operating history.

C. PROPOSED PROJECT AND ALTERNATIVES

1. Description of the proposed action: The project consists of a 1,600-foot-long, 26-foot-high dam; a reservoir with a normal maximum surface area of approximately 1,500 acres; a powerhouse with a total installed capacity of 3.3 megawatts; and related facilities.
2. Applicant's proposed mitigative measures.
 - a. Construction: The project is constructed.
 - b. Operation: The applicant proposes to release a minimum flow of 130 cubic feet per second (cfs) as measured in the Tittabawassee River below its confluence with Salt River (approximately 0.5 miles below the project powerhouse); to conduct a fish entrainment and impingement study; and to gage project inflows and releases.

3. Federal lands affected.

None.

4. Alternatives to the proposed action.

The alternative to the proposed action is denial of license and cessation of operation.

Since the presently unlicensed Sanford Project represents approximately one-third of the applicant's generating capacity, denial of license would seriously reduce the applicant's sales, and could jeopardize the financial feasibility of the remaining two-thirds of the applicant's generating resources.

Denial of license would force Consumers Power Company to replace power from the Sanford Project with power from other sources. This action may unnecessarily consume nonrenewable primary energy resources and would increase atmospheric pollution.

D. CONSULTATION AND COMPLIANCE

1. Fish and wildlife consultation (Fish & Wildlife Coordination Act).

- a. U.S. Fish & Wildlife Service (FWS): ☒ Yes ☐ No
b. State(s): ☒ Yes ☐ No
c. National Marine Fisheries Service (NMFS): ☐ Yes ☒ No

2. Section 7 consultation (Endangered Species Act).

a. Listed species: Noneb. ☒ Not required. ☐ Required; completed (date): / / .

3. Section 401 certification (Clean Water Act).

☐ Not required.☒ Required; the applicant requested § 401 certification on 03/28/83.Status: ☐ Granted by the certifying state agency on: / / .☐ Waived by the certifying state agency on: / / .

☒ Waived; section 401 certification is waived if not acted on by the certifying agency within 1 year from the date of the certifying agency's receipt of the request. (See Commission Order No. 464, issued February 11, 1987.)

☐ Undetermined; 1 year has not yet elapsed since the applicant's request and the state agency has not yet acted on the request.

☐ The 1-year period would expire on: / / .

Remarks: After the Commission issued order no. 464, the Michigan Department of Natural Resources (MDNR) was requested to submit comments and recommendations regarding water quality. The MDNR submitted no comments or recommendations.

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4. Cultural resource consultation (Historic Preservation Act).
 a. Register status: ☒ None. ☐ Eligible or listed.
 b. State Historic Preservation Officer (SEPO): ☒ Yes ☐ No
 c. National Park Service (NPS): ☒ Yes ☐ No
 d. Council: ☒ Not required. Completed (date): / / .
 e. Further consultation: ☒ Not required. ☐ Required.
5. Recreation consultation (Federal Power Act).
 a. U.S. Owners: ☒ Yes ☐ No b. NPS: ☒ Yes ☐ No
 c. State(s) : ☒ Yes ☐ No
6. Wild and scenic rivers (Wild and Scenic Rivers Act).
 Status: ☒ None.
7. LWCA lands and facilities affected (Land and Water Conservation Fund Act).
 Status: ☒ None.

E. COMMENTS

1. The following agencies and other entities provided comments on the application in response to the public notice dated 11/15 /83.

<u>Commenting agencies and other entities</u>	<u>Date of letter</u>
Department of the Interior (Interior)	01/13/84
	02/03/84
	09/18/87
Michigan Department of Natural Resources (MDNR)	01/27/84
	04/06/84
	12/29/86
	05/04/87
	09/09/87
James J. Blanchard, Governor, State of Michigan	05/08/84
Midland County Department of County Development	01/06/84
	08/16/84
Midland County Board of Commissioners	01/24/84

2. ☒ The applicant responded to the comments by letter dated 07 /23 /84.

F. AFFECTED ENVIRONMENT

1. General description of the locale.

The Sanford Project is one of four unlicensed hydroelectric projects the Wolverine Power Corporation has operated on the Tittabawassee River since 1925. These four projects impound approximately 50 miles of the Tittabawassee River, with little free-flowing water between the projects. The Sanford Project is located farthest downstream, with the Ellenville, Secord, and Smallwood projects located sequentially upstream.

The project area is nearly level to gently sloping. Temperatures are moderated by the Great Lakes. The mean annual temperature is 45.7 degrees Fahrenheit; annual precipitation is 29 inches.

a. Geology and soils:

Soils in the project area are primarily lacustrine deposits of sand and clays. Erosion and sedimentation rates are relatively high in the area. Bedrock is the Pennsylvania-Saginaw Group and interbedded shale and limestone.

b. Streamflow:

<u>low flow:</u>	111	cfs;	<u>flow parameter:</u>	historical low flow.
<u>high flow:</u>	34,000	cfs;	<u>flow parameter:</u>	historical high flow.
<u>average flow:</u>	1,647	cfs;	period of record is 44 years.	

c. Water quality:

The Sanford reservoir is a mesotrophic reservoir that does not stratify. During the summer low-flow period, dissolved oxygen levels drop intermittently below the level of 5.0 milligram per liter required by state standards.

d. Fisheries:

<u>Anadromous:</u>	<u>X</u>	Absent.	<u> </u>	Present.
<u>Resident:</u>	<u> </u>	Absent.	<u>X</u>	Present.

Warmwater fishery, including walleye, northern pike, smallmouth bass, bluegill, burbot, perch, and black crappie.

e. Recreation: Both public and private recreational facilities provide access to the project reservoir. Use of the recreational facilities at Sanford reservoir is high.

h. Other resources: The proposed action would not affect other resources.

G. ENVIRONMENTAL ISSUES AND PROPOSED RESOLUTIONS

Mitigative measures recommended by the staff are in addition to those proposed by the applicant, Section C(2), and any conditions identified in Section C(3). There are 4 issues addressed below.

1. Operation. The Sanford project is currently operated in a peaking mode. The rapid variation in flows associated with the peaking operation of a hydropower facility reduces the amount and stability of aquatic habitat below the powerhouse discharge (Nestler, 1986). The FWS and the MDNR recommend that the project be operated in a run-of-river mode to do the following: increase the fishery forage base, improve spawning habitat, help ensure fish passage past the downstream Dow Chemical dam at Midland (Dow dam), and reduce the pool level fluctuations in the reservoir.

The applicant proposes to continue the peaking mode of operation. To protect the downstream aquatic environments, however, the applicant would maintain a minimum flow of 130 cfs in the Tittabawassee River below the confluence with Salt River. The applicant concludes in a minimum flow study that if a minimum flow of 130 cfs is maintained in the river below the Sanford Project, valuable habitat would be submerged and the fish would have unrestricted passage to Sanford dam.

The applicant's proposed minimum flow would reduce the amount of dewatered habitat during project shut-down. Fish passage would still, however, be restricted by the downstream Dow dam. The habitat provided by the proposed minimum flow would be of limited value since this habitat would be subject to daily flow fluctuations of over 2,000 cfs, which would cause a daily fluctuation of 5.4 feet in the tailwater elevation. These daily flow fluctuations would reduce the value of fishery habitat provided by any minimum flow.

Improved water quality in the Saginaw River Basin has led to a resurgence in the walleye population in the Tittabawassee River. The MDNR estimated in 1981 that 25,000 walleye accumulated below the Dow dam; estimates in 1986 indicated that 250,000 adult walleye were present. Recent modifications to the Dow dam allow fish passage over the dam during high flows. These modifications opened new habitat to the walleye in the 10 miles of the Tittabawassee River and tributaries between the Dow dam and the Sanford dam. While some successful spawning does occur below the Sanford dam, the fishery habitat and the spawning success of the walleye is limited by the peaking operation of the Sanford Project.

Variable flows impede movement of fish over obstacles (Bell, 1986). The peaking operation at the Sanford Project limits the success of passage over the downstream Dow dam. Natural river flows, while variable, change gradually, and do not have the same impact on fish migration as peaking flows. Natural flows in the Tittabawassee River would result in greater numbers of fish successfully passing the Dow dam and gaining access to the upstream habitat.

The effects of peaking operation are well documented (Gore et al., 1981; Spence et al., 1971; Munn et al., 1987; and Walburg 1981, 1983). These effects include reduced habitat and species diversity below the peaking facility, species replacement, degraded water quality, reduced spawning success, elimination of riparian habitat, and changes in the downstream channel morphology. The Tittabawassee River below the Sanford dam has undergone these changes as a result of the historical peaking operation of the Sanford Project. Modifying the peaking operation would significantly improve the fishery and other aquatic life in the Tittabawassee River below the Sanford dam. Operating the Sanford Project in a run-of-river mode would increase the fishery forage base, improve spawning habitat, help to ensure fish passage over the Dow dam, and reduce pool level fluctuations in the reservoir. The licensee should operate in a run-of-river mode to stabilize the downstream aquatic habitat and the reservoir pool level.

Inflows to the Sanford Project are regulated by the applicant's three upstream projects, Edenville, Secord, and Smallwood. Because the upstream projects are operated as peaking facilities, and because the

the Edenville Project constitute the inflow to the Sanford Project, run-of-river operation, defined as instantaneous inflow equaling instantaneous outflow, would mirror the operation of the Edenville Project and would continue the historical peaking operation at the Sanford Project.

To stabilize the downstream aquatic environment, the outflow from the Sanford Project should be made to approximate the natural stream flow. An approximation of the natural stream flow may be determined by adding together the instantaneous inflow of the Smallwood Project plus all downstream tributary inflows between Smallwood and Sanford dams and subtracting losses caused by evaporation or withdrawals. To achieve the desired effects of run-of-river operation, the outflow from the Sanford Project should equal the instantaneous inflow to the Smallwood Project plus the instantaneous inflows of the tributaries to the Tittabawassee River between Smallwood dam and Sanford dam, and minus the losses from evaporation or withdrawals.

To achieve this mode of operation the licensee, after consultation with the MDNR and the Geological Survey, should prepare a plan for continuously gaging: the inflow to the Smallwood Project, all the tributary inflows to the Tittabawassee River, and all the withdrawals between the Smallwood dam and the Sanford dam. The licensee also should gage the Sanford reservoir and all releases from the Sanford Project. These gaging operations would permit the licensee to operate the Sanford Project such that the instantaneous system net inflow equals the instantaneous outflow from Sanford dam. This mode of operation at the Sanford Project may require modification of the mode of operation at the Edenville, Secord, and Smallwood Projects.

2. Future Fish Passage. The FWS recommends that the applicant install fish passage facilities at the Sanford Project when requested by the MDNR. The MDNR, while not requiring installation of fish passage facilities at this time, expects that these facilities will be necessary in the future. The MDNR recommends that the licensee be required to install fish passage facilities within 1 year of a determination by the state or by FWS that fish passage is required. The resurgence of the walleye and salmonid populations in the Tittabawassee River indicates that fish passage facilities may be required in the future; currently, however, the Sanford dam is a barrier for sea lamprey, as well as for walleye and salmonids. Requiring fish passage facilities at this time would also give the sea lamprey access to the upper Tittabawassee River and would not benefit the fishery. As sea lamprey control measures are refined and the habitat requirements of the walleye and salmonids increase, the installation of fish passage facilities at the Sanford dam may be appropriate. The terms and conditions of the license accordingly provide for future fish passage facilities when recommended by the MDNR and the FWS.
3. Entrainment Study. Fish mortality caused by entrainment through a hydro-power facility is not uncommon. The rate of mortality and the effect of the mortality on the fishery varies widely among hydroelectric facilities. The applicant, the FWS, and the MDNR agree that some entrainment mortality does occur; they also agree that a study should be conducted to determine the amount of mortality and effect on the fisheries. Historical operation of the Sanford Project has not resulted in major fish kills below the Sanford dam. While historical operation would suggest that fish screens should not be required at this time, the licensee should monitor fish entrainment and mortality and modify project features or operation to minimize fishery losses.

The licensee, in cooperation with the FWS and the MDR, should monitor the reservoir and downstream fishery to determine the effects of entrainment. If the results of the monitoring shows the need, the licensee should propose project modifications to minimize entrainment and entrainment mortality. The licensee should file with the Commission the monitoring results and any proposed project modifications, along with comments from the consulted agencies.

4. Recreational Plan. The applicant, MDNR, and FWS agree on the need for planning future recreational use and preventing overuse. A recreational plan is necessary to effectively utilize the recreational opportunities at the project. The licensee, after consultation with the MDNR, should develop a comprehensive recreational plan that meets both short-term and long-range recreation needs for Sanford reservoir. The licensee should identify the project facilities necessary to meet existing and long-range needs, and should provide a timetable for developing these facilities.

Reservoir pool levels would affect the available recreational opportunities. The MDNR and the applicant have stated a need to reduce pool level fluctuations. Seasonal stabilization of the reservoir pool level would provide for boating access and egress, and establish stable perimeters for lakeside recreational use. The required run-of-river mode of operation should moderate pool level fluctuations. A schedule of seasonal reservoir pool levels would enhance the recreational opportunities at Sanford reservoir. The licensee, after consultation with the MDNR, should establish a schedule of reservoir pool levels to provide for recreational opportunities at the project and should include the schedule with the recreational plan.

4. ENVIRONMENTAL IMPACTS

1. Assessment of adverse and beneficial impacts expected from the project as proposed by the applicant (P); the proposed project with the staff's recommended mitigation (Ps) [Section G]; and any other alternative considered (A).*

Resource	Impact			Remarks
	P	Ps	A	
a. Geology-Soils	0			
b. Streamflow	2AL	0		b. Peaking operation would be replaced by a run-of-river mode of operation.
c. Water quality:				c. A run-of-river mode of operation would stabilize downstream water quality.
Temperature	1AL	0		
Dissolved oxygen	1AL	0		
Turbidity and sedimentation	1AL	0		
Other:				
d. Fisheries:				
Anadromous	0			
Resident	2AL	0		Operation which destabilized downstream habitat would cease.
e. Vegetation	0			
f. Wildlife	0			
g. Cultural:				
Archeology	0			
History	0			
h. Visual quality	0			
i. Recreation	1BL	2BL		i. Stabilization of reservoir and downstream Tittabawassee River would enhance fishing and boating.
j. Land use	0			
k. Socioeconomics	0			
l. Other				

* The assessment reflects the adoption of any federal land management agency's conditions, in addition to the applicant's proposed mitigation. Assessment symbols indicate the following impact levels:

0 = No impact; 1 = Minor impact; 2 = Moderate impact; 3 = Major impact;
A = Adverse; B = Beneficial; L = Long-term impact; S = Short-term impact.

2. Impacts of the no-action alternative:

Under the no-action alternative, there would be no change in the operation of the Sanford Project and no changes to the existing physical, biological, or cultural components of the area.

3. Recommended alternative (including proposed, required, and recommended mitigative measures): X Proposed project. Alternative action.
 No action.

4. Reason(s) for selecting the preferred alternative.

Licensing the Sanford Project, with the staff's recommendations, would improve the streamflow, fishery, and recreational resources in the Tittabawassee River. The staff's recommendations provide a reasonable balance between environmental protection or enhancement and resource utilization.

I. INAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS OF THE RECOMMENDED ALTERNATIVE

None.

J. CONCLUSION

 X Finding of No Significant Impact. Approval of the recommended alternative [H(3)] would not constitute a major federal action significantly affecting the quality of the human environment; therefore, an environmental impact statement (EIS) will not be prepared.

 Intent to Prepare an EIS. Approval of the recommended alternative [H(3)] would constitute a major federal action significantly affecting the quality of the human environment; therefore, an EIS will be prepared.

K. LITERATURE CITED

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8. Wolverine Power Corporation. 1983. Application for license for the Sanford Plant on the Tittabawassee River in Midland County, Michigan. April 1983 as amended by supplements of the license dated July 1983, July 1984, and January 1987.

L. LIST OF PREPARERS

<u>Name</u>	<u>Position title</u>
John A. Schnagl	Aquatic Ecologist (Coordinator)
Ronald Kowlewski	Engineer
James Kirby	Environmental Protection Specialist
John A. Mitchell	Writer-editor

SAFETY AND DESIGN ASSESSMENT
SANFORD WATER POWER PROJECT
PERC NO. 2785-001, MI

DAM SAFETY

The Sanford Dam is located on the Tittabawassee River in Midland County, Michigan less than 0.5 miles upstream from the Village of Sanford. The dam is about 30 feet high and consists of a multiple-arch spillway, an instream powerhouse, and earthen dikes. The dam impounds approximately 15,000 acre-feet of water and has been classified as high hazard by the Chicago Regional Office (CHRO).

Our review of the applicant's stability analyses for the spillway and powerhouse structures indicates that adequate factors of safety exist against sliding and overturning for normal pool, ice loading, and flood flow conditions up to the PMF. Earthquake loading was not considered as a credible case since the dam site is located in Seismic Zone I. The flow seepage pressure distributions along the powerhouse and spillway structure/foundation interfaces were found by staff not to be excessive for the type of soil foundation encountered at the site.

The spillway capacity of the project is estimated by the applicant to be 29,000 cfs and the peak inflow to the reservoir from a PMP type storm was calculated to be 131,400 cfs. A reservoir routing study shows that the peak outflow from such a storm would be about 115,400 cfs with a lag time of 11.7 hours. The PMF would overtop the earthen dikes by about eight feet.

In order to assess the safety of the earthen dikes under overtopping flood flow conditions, staff has performed an independent dam break analyses for a range of breach parameters that are characteristic of embankment erosion failures. These include breach bottom widths from 75 to 150 feet and the time of breach formation from 0.5 to 1.0 hours for flood flows of 30,000 cfs, 35,000 cfs, 0.5 PMF, and 0.75 PMF with crest overtoppings of 0.6, 1.3, 3.7, and 5.5 feet, respectively. In addition, staff has varied the downstream reach Manning's "n" values from 0.025 to 0.055 for the channel and from 0.060 to 0.080 for the overbanks to test the overall sensitivity of the model. Lastly, staff has examined a potential catastrophic failure of the right earthen dike having a breach bottom width of 500 feet and a 2.0 hour time of breach formation under the 0.5 PMF.

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The results of our dam break study show that in the Village of Sanford for the flood flow of 30,000 cfs under the most adverse breach formation conditions the resulting incremental flood wave would be about 2.7 feet high with a velocity of 1.9 feet per second. Higher flood flows would have a lesser wave impact upon life and property in the village. Decreasing the Manning's "n" values for the channel and overbank areas would only increase the height of the resulting flood wave to 3.2 feet at the maximum with no increase in wave velocity. Finally, the catastrophic failure of the right earthen dike under the 0.5 PMF would create an additional flood wave of 2.1 feet with a velocity of 1.3 feet per second in the community. Based on the magnitude and range of the resulting flood wave heights and velocities, we believe that dike erosion failure would not significantly increase the downstream flood stages or create hazardous wave velocities in the floodplain and would not pose a threat to downstream life and property.

The applicant's stability analyses for the earthen dikes show that adequate factors of safety exist against upstream and downstream slope failures under normal pool steady state seepage and maximum pool conditions. Sudden reservoir drawdown does not occur during routine project operation and was not considered as a credible loading condition. We concur with the applicant that the dikes' upstream and downstream slopes are stable for all credible loading conditions.

CHRO had conducted its most recent precertificate inspection of the existing dam facilities on March 27, 1987. The inspector observed that many of the deficiencies identified in earlier inspections were still present. These included riprap erosion of the right dike upstream slope, the existence of depressions and gullies in the right dike crest and downstream slope, cracking and spalling of the powerhouse substructure, leakage of the spillway Tainter gate seals, cracking and spalling of the spillway gate piers, and concrete deterioration of the spillway ogee sections. The applicant plans major repair and maintenance work for the facility in 1988 which would correct some of the deficiencies. Generally, the project structures were found in satisfactory condition.

WATER RESOURCE PLANNING

The existing project has three equal-sized Francis turbine-generating units with a total installed capacity of 3,300 kW. The powerplant units are rated at a design head of 28.9 feet with a total hydraulic capacity of 2160 cfs. The probability of occurrence of streamflows 2160 cfs or greater is less than 0.10.

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The 15,000-acre-foot reservoir is operated primarily to provide head and to a lesser extent to store water for project generation during peak demand periods of the day. The water surface level of the reservoir is rarely fluctuated beyond about one to two feet from the normal pool elevation of 625.0 feet (msl) for these purposes.

The project generates on the average about 9,000,000 kwh annually which includes no minimum flow releases except for a 40 cfs leakage and a cessation of powerplant operations on weekends and holidays. The applicant proposes to modify the operation of the project to provide a minimum instream flow release of 130 cfs throughout the year including leakage and streamflows from Salt Creek. However, the Michigan Department of Natural Resources and the U.S. Department of the Interior have recommended a change in the mode of project operation to strictly run-of-river to enhance the downstream fishery resources. Staff concurs with the recommendation made by the agencies.

Based on the applicant's operational model study, staff estimates that for a year-round minimum flow release of 130 cfs on-peak generation would be reduced by 1,400,000 kwh in an average water year while off-peak generation would be increased by 1,100,000 kwh. Overall annual project generation would decrease from 9,000,000 to 8,700,000 kwh. Our estimate of the impact of the agencies' and staff's recommended run-of-river mode of operation on project generation is that overall annual energy production would remain about the same. However, on-peak generation would decrease by 1,200,000 kwh.

Our review of the State and Federal agency comments indicates that the project is not in conflict with any existing or planned water resource developments in the basin. No specific comments or recommendations were made addressing flood control, navigation or water supply requirements for the Tittabawassee River.

Staff's Saginaw and Au Sable River Basin Planning Status Report includes no hydroelectric projects, either proposed or constructed on the Tittabawassee River that this project would impact and the project would not conflict with any pending applications for exemption, license or preliminary permit.

In summary, our analysis shows that the existing project adequately develops the hydropower potential of the Tittabawassee River.

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ECONOMIC FEASIBILITY

Staff has examined the economic impacts of modifying project operations as proposed by the applicant and recommended by the agencies.

Based on the cost of oil and coal fuels in the Midwest as projected by the Energy Information Administration, we have calculated the levelized alternative energy costs for on-peak and off-peak generation to be 106.6 and 28.4 mills/kWh, respectively. The project as modified by the applicant's proposed increase in minimum flow releases would lose about 1,400,000 kWh in on-peak generation entailing an overall annual loss of about 300,000 kWh for an average water year. Based on this project generation, we estimate an annual benefit loss of \$118,000 with a cumulative present worth value of \$1,075,000 over a 50-year license period.

However, the project as recommended by the agencies and staff to be modified in a strictly run-of-river mode of operation would lose about 1,200,000 kWh annually in on-peak generation with no net change in overall generation. Our estimate of the annual benefit loss for this mode of project operation is \$93,800 with a cumulative present worth value of \$854,000 over a 50-year license period.

EXHIBITS

The following parts of Exhibit A and the following Exhibit F drawings conform to the Commission's rules and regulations and are approved and made part of the license:

Exhibit A, page 8; sections 1(i), (ii), (iii)-paragraph 1, of the application for license filed April 5, 1983.

<u>EXHIBIT F</u>	<u>FERC NO.</u> <u>2785 -</u>	<u>Title</u>
1	1	General Plan
2	2	Plan View Powerhouse and Spillway
3	3	Powerhouse Section
4/1	4	Spillway Section
4/2	5	Bay No. 5 Section
5	6	Embankment Section

Form L-3
(Revised October, 1975)

FEDERAL ENERGY REGULATORY COMMISSION

TERMS AND CONDITIONS OF LICENSE FOR CONSTRUCTED
MAJOR PROJECT AFFECTING NAVIGABLE
WATERS OF THE UNITED STATES

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

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

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

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Article 4. The project, including its operation and maintenance and any work incidental to additions or alterations authorized by the Commission, whether or not conducted upon lands of the United States, shall be subject to the inspection and supervision of the Regional Engineer, Federal Power Commission, in the region wherein the project is located, or of such other officer or agent as the Commission may designate, who shall be the authorized representative of the Commission for such purposes. The Licensee shall cooperate fully with said representative and shall furnish him such information as he may require concerning the operation and maintenance of the project, and any such alterations thereto, and shall notify him of the date upon which work with respect to any alteration will begin, or far in advance thereof as said representative may reasonably specify, and shall notify him promptly in writing of any suspension of work for a period of more than one week, and of its resumption and completion. The Licensee shall submit to said representative a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of any such alterations to the project. Construction of said alterations or any feature thereof shall not be initiated until the program of inspection for the alterations or any feature thereof has been approved by said representative. The Licensee shall allow said representative and other officers or employees of the United States, showing proper credentials, free and unrestricted access to, through, and across the project lands and project works in the performance of their official duties. The Licensee shall comply with such rules and regulations of general or special applicability as the Commission may prescribe from time to time for the protection of life, health, or property.

Article 5. The Licensee, within five years from the date of issuance of the license, shall acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction, maintenance, and operation of the project. The Licensee or its successors and assigns shall, during the period of the license, retain the possession of all project property covered by the license as issued or as later amended, including the project area, the project works, and all franchises, easements, water rights, and rights of occupancy and use; and none of such properties shall be voluntarily sold, leased, transferred, abandoned, or otherwise disposed of without the prior written approval of the Commission, except that the Licensee may lease or otherwise dispose of interests in project lands or property without specific written approval of the Commission pursuant

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to the then current regulations of the Commission. The provisions of this article are not intended to prevent the abandonment or the retirement from service of structures, equipment, or other project works in connection with replacements thereof when they become obsolete, inadequate, or inefficient for further service due to wear and tear; and mortgage or trust deeds or judicial sales made thereunder, or tax sales, shall not be deemed voluntary transfers within the meaning of this article.

Article 6. In the event the project is taken over by the United States upon the termination of the license as provided in Section 14 of the Federal Power Act, or is transferred to a new licensee or to a non-power licensee under the provisions of Section 15 of said Act, the Licensee, its successors and assigns shall be responsible for, and shall make good any defect of title to, or of right of occupancy and use in, any of such project property that is necessary or appropriate or valuable and serviceable in the maintenance and operation of the project, and shall pay and discharge, or shall assume responsibility for payment and discharge of, all liens or encumbrances upon the project or project property created by the Licensee or created or incurred after the issuance of the license: Provided, That the provisions of this article are not intended to require the Licensee, for the purpose of transferring the project to the United States or to a new licensee, to acquire any different title to, or right of occupancy and use in, any of such project property than was necessary to acquire for its own purposes as the Licensee.

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

Article 8. The Licensee shall install and thereafter maintain gages and stream-gaging stations for the purpose of determining the stage and flow of the stream or streams on which the project is located, the amount of water held in and withdrawn from storage, and the effective head on the turbines; shall provide for the required reading of such gages and for the adequate rating of such stations; and shall install and maintain standard meters adequate for the determination of the amount of electric energy generated by the project works. The number, character, and location

of gages, meters, or other measuring devices, and the method of operation thereof, shall at all times be satisfactory to the Commission or its authorized representative. The Commission reserves the right, after notice and opportunity for hearing, to require such alterations in the number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, as are necessary to secure adequate determinations. The installation of gages, the rating of said stream or streams, and the determination of the flow thereof, shall be under the supervision of, or in cooperation with, the District Engineer of the United States Geological Survey having charge of stream-gaging operations in the region of the project, and the Licensee shall advance to the United States Geological Survey the amount of funds estimated to be necessary for such supervision, or cooperation for such periods as may be mutually agreed upon. The Licensee shall keep accurate and sufficient records of the foregoing determinations to the satisfaction of the Commission, and shall make return of such records annually at such time and in such form as the Commission may prescribe.

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

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

Article 11. Whenever the Licensee is directly benefited by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement, the Licensee shall reimburse the owner of the headwater improvement for such part of the annual charges for interest, maintenance, and depreciation thereof as the Commission shall determine to be equitable, and shall pay to the United States the cost of making such determination as fixed by the Commission. For benefits

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provided by a storage reservoir or other headwater improvement of the United States, the Licensee shall pay to the Commission the amounts for which it is billed from time to time for such headwater benefits and for the cost of making the determinations pursuant to the then current regulations of the Commission under the Federal Power Act.

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

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

opportunity for hearing. Applications shall contain information in sufficient detail to afford a full understanding of the proposed use, including satisfactory evidence that the applicant possesses necessary water rights pursuant to applicable State law, or a showing of cause why such evidence cannot concurrently be submitted, and a statement as to the relationship of the proposed use to any State or municipal plans or orders which may have been adopted with respect to the use of such waters.

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

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

Article 16. Whenever the United States shall desire, in connection with the project, to construct fish and wildlife facilities or to improve the existing fish and wildlife facilities at its own expense, the Licensee shall permit the United States or its designated agency to use, free of cost, such of the Licensee's lands and interests in lands, reservoirs, waterways and project works as may be

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reasonably required to complete such facilities or such improvements thereof. In addition, after notice and opportunity for hearing, the Licensee shall modify the project operation as may be reasonably prescribed by the Commission in order to permit the maintenance and operation of the fish and wildlife facilities constructed or improved by the United States under the provisions of this article. This article shall not be interpreted to place any obligation on the United States to construct or improve fish and wildlife facilities or to relieve the Licensee of any obligation under this license.

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

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

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

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

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

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

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

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

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

Article 26. If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of the license and the lawful orders of the Commission mailed to the record address of the Licensee or its agent, the Commission will deem it to be the intent of the Licensee to surrender the license. The Commission, after notice and opportunity for hearing, may require the Licensee to remove any or all structures, equipment and power lines within the project boundary and to take any such other action necessary to restore the project waters, lands, and facilities remaining within the project boundary to a condition satisfactory to the United States agency having jurisdiction over its lands or the Commission's authorized representative, as appropriate, or to provide for the continued operation and maintenance of nonpower facilities and fulfill such other obligations under the license as the Commission may prescribe. In addition, the Commission in its discretion, after notice and opportunity for hearing, may also agree to the surrender of the license when the Commission, for the reasons recited herein, deems it to be the intent of the Licensee to surrender the license.

Article 27. The right of the Licensee and of its successors and assigns to use or occupy waters over which the United States has jurisdiction, or lands of the United States under the license, for the purpose of maintaining the project works or otherwise, shall absolutely cease at the end of the license period, unless the Licensee has obtained a new license pursuant to the then existing laws and regulations, or an annual license under the terms and conditions of this license.

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Article 28. The terms and conditions expressly set forth in the license shall not be construed as impairing any terms and conditions of the Federal Power Act which are not expressly set forth herein.

85 FERC ¶ 61,066UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: James J. Hoecker, Chairman;
Vicky A. Bailey, William L. Massey,
Linda Breathitt, and Curt Hébert, Jr.

Wolverine Power Corporation) Project Nos. 2785-002,
008 and 009

ORDER ON REHEARING AND AMENDING LICENSE ORDER

(Issued October 16, 1998)

On December 1, 1987, the Acting Director, Office of Hydropower Licensing (Director), issued an original license to Wolverine Power Corporation (Wolverine) for the continued operation and maintenance of the 3.3-megawatt (MW) Sanford Water Power Project No. 2785, located on the Tittabawassee River in Midland County, Michigan. 1/ Requests for rehearing of the license order were filed by Wolverine, Dow Chemical Company, and the City of Midland, Michigan. 2/ On January 28, 1988, the

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- 1/ 41 FERC ¶ 62,192. In 1976, 55 FPC 673, the Commission determined that the Tittabawassee River is a navigable waterway of the United States and that therefore Wolverine's four projects are required to be licensed. See Section 23(b)(1) of the Federal Power Act, 16 U.S.C. § 817(1).
- 2/ The pleadings were filed as appeals of staff action. See 18 C.F.R. § 385.1902 (1987) (converting pending appeals to rehearing requests). Wolverine accepted the Sanford license, while appealing certain of its provisions. Rehearing request at 3.

With their appeals, Midland and Dow also filed motions for late intervention and requests for extensions of time to supplement their appeals. These motions and requests have been granted. See Commission Secretary notice (unreported) and Commission staff letter to Midland, both dated September 1, 1988; and Commission order 45 FERC ¶ 61,310 (1988). Midland and Dow timely filed their appeals on October 31, 1988, and January 27, 1989, respectively.

The State of Michigan and the Michigan Department of Natural Resources (Michigan DNR) (referred to jointly as Michigan) jointly filed a late motion to intervene in the proceeding, which was granted by Commission Secretary notice dated

(continued...)

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Project No. 2785-002 et al. -2-

Commission stayed certain of the license articles pending action on three related Wolverine projects. 3/ This order acts on the rehearing requests, 4/ amends the license, and lifts the stay.

BACKGROUND

The Sanford Project is one of four existing, adjacent hydroelectric projects on the Tittabawassee River in Midland and Gladwin Counties, Michigan. Beginning furthest downstream, the projects are: the 3.3-megawatt (MW) Sanford Project No. 2785, the 4.8-MW Edenville Project No. 10808, the 1.2-MW Smallwood Project No. 10810, and the 1.2-MW Secord Project No. 10809.

The 1987 Sanford license order was based on a 1987 Environmental Assessment (EA) of the Sanford Project. 5/ However, because the four projects are hydraulically and hydrologically interrelated, Commission staff has subsequently prepared a Multiple Project Environmental Assessment (MEA) that evaluates the impacts of all four projects on the environmental resources of the area. 6/ We have reviewed the non-final 1987

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- 2/ (...continued)
April 25, 1990 (unreported).
- 3/ 42 FERC ¶ 61,192. The Commission stayed license Articles 401 (run-of-river operations), 402 (gaging), and 404 (recreational development, including reservoir elevation level schedules). Consequently, Wolverine's arguments on rehearing regarding the timing of compliance with Articles 402 and 404 are moot.
- 4/ Because on rehearing we are amending Sanford's mode of operation from what was required in the 1987 license order, a number of the rehearing arguments appear to be moot.
- 5/ The 1987 EA is published at 41 FERC at pp. 63,407-13.
- 6/ The 131-page (plus appendices) MEA was issued on August 14, 1998. Dow asserts that the Commission should have prepared an Environmental Impact Statement (EIS). The National Environmental Policy Act requires an EIS to be prepared whenever a federal agency is considering a major federal action significantly affecting the quality of the human environment. See 42 U.S.C. § 4332(2)(c). The Council on Environmental Quality's regulations implementing NEPA provide that an agency may prepare an environmental assessment in order to determine whether an EIS must be prepared. 42 U.S.C. § 1501.3-.4. In this proceeding, both the 1987 EA and the 1998 MEA made a finding of no significant impact (FONSI), and thereby discharged the
(continued...)

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Sanford license in light of the MEA, and are amending the license as necessary to update our findings pursuant to the applicable public interest standards. 7/ We are concurrently issuing to Wolverine original licenses for the Edenville, Smallwood, and Secord Projects.

The license order for the Edenville Project No. 10808 addresses certain issues pertinent to all four projects, notably operational modes, reservoir levels and fluctuations (including winter drawdowns), endangered species, and wildlife resources, and we incorporate those discussions by reference herein.

DISCUSSION

A. Mode of Operation

Wolverine has been operating the Sanford Project in a peaking mode since 1925. There is no minimum flow, and when the project is not operating the river below the dam receives only leakage flows of between 30 and 60 cubic feet per second (cfs). The 1987 license required Wolverine to change project operation to a run-of-river mode, 8/ but this requirement was stayed pending rehearing. 9/

Wolverine's 1983 license application proposed a minimum flow of 120 cfs, 10/ whereas Michigan DNR and the U.S. Fish and Wildlife Service (FWS) recommended that the project be operated in a run-of-river mode, in order to reduce the 5.4-foot daily fluctuations in the project tailwater, increase the fishery

6/ (...continued)
Commission's NEPA responsibilities.

7/ See the equal consideration standard of FPA Section 4(e), 16 U.S.C. § 797(e), and the comprehensive development standard of FPA Section 10(a)(1), 16 U.S.C. § 803(a)(1). We are amending the Sanford license to include articles on erosion control, maintenance of water quality standards for dissolved oxygen and temperature, reservoir elevations and fluctuation limits, bald eagles, nuisance aquatic plants, and cultural resources. The MEA and the Project No. 10808 license order provide background information and support for these articles.

8/ Run-of-river is defined as instantaneous inflow equal to instantaneous outflow from the reservoir.

9/ See n. 3, supra.

10/ Flows 0.25 mile below Sanford Dam would be 130 cfs, due to flows from a tributary.

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forage base, improve spawning habitat, and assist fish passage past the downstream Dow Chemical dam. 11/ The 1987 EA concluded that, while a 120-cfs minimum flow would increase somewhat the amount of downstream aquatic habitat over that available under peaking operations, run-of-river operation would provide a much greater overall benefit to the fishery resources. It also concluded that such operation would not result in a net change in overall project generation; on-peak generation would however decrease by 1,200,000 kilowatt hours (kWh). 12/

The 1998 MEA compared the amount of effective fish habitat provided by current flows, various minimum flows, and run-of-river conditions. The analysis shows that, as year-round minimum flows increase, enhancement to fish habitat increases. However, the incremental benefit of increasing minimum flows diminishes as the minimum flows increase. 13/ Operating the projects in a run-of-river mode would provide the greatest predicted fishery habitat. Using run-of-river results as the benchmark, the MEA calculated that the 120-cfs minimum flow at Sanford (proposed by Wolverine) would provide effective habitat of an average of 50 percent of the benchmark, while a 210-cfs minimum flow would provide an average of 68 percent of the benchmark. 14/

Current operation of the Sanford Project results in average annual energy generation of 9,210,000 kWh, worth about \$445,600. 15/ A change to run-of-river operation would reduce

11/ The Dow Chemical Company maintains a small impoundment about 12 miles downstream of Sanford. The minimum flow amendments we adopt today will increase the daily hours during which fish may successfully pass over this dam, which is the first barrier for fish migration upstream from Saginaw Bay.

12/ See the Safety and Design Assessment for the Sanford Project, 41 FERC at pp. 63,412-13. Corrections to this analysis are contained in the MEA.

13/ See MEA at 31, Figure 3.

14/ See MEA at 28-29, Table 2.

15/ The description of the economic analysis, per Mead Paper Corp., 72 FERC ¶ 61,027 (1995), is set forth in the MEA at 103-04. Briefly, we used current costs only (except for major capital investments) to compare the cost of the project under various alternatives with the cost of a likely source of alternative power. Costs were annualized over 30 years, and a 10 percent discount rate was used. Net benefit is defined as the difference between the power value
(continued...)

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the average annual energy by about 2,058,872 kWh, or by a value of about \$145,500, which, together with an additional \$8,600 in annual O&M expense, would result in an annual cost of about \$154,100, making the net worth \$291,500, which is a 35 percent reduction from peaking mode. ^{16/} The annual lost energy cost of a year-round minimum instream flow of 210 cfs would be \$89,300 (a 20 percent reduction from current peaking operations).

The primary migratory game fish species of concern are walleye, white bass, smallmouth bass, and chinook salmon. ^{17/} The MEA therefore examined the energy generation cost of providing higher minimum flows from Sanford during the walleye spawning season, March 15 through April 30. It concluded that a 650-cfs minimum flow during this period would provide six times the habitat available under current peaking conditions, and 97 percent of the habitat available under run-of-river operations. ^{18/} The cost of a 650-cfs minimum flow instead of a 210-cfs flow during this period would average an additional \$5,500 annually. ^{19/} A minimum flow requirement of 650 cfs from March 15 through April 30 and 210 cfs the rest of the year would result in a loss of about 950,000 kWh per year of energy generation. Under this regime, the project's annual power value would be \$363,000, its annual costs would be about \$97,000, and its annual net benefit would be about \$266,000. ^{20/}

In light of all of the above, we conclude that the agencies' recommendations for run-of-river operations are inconsistent with our balancing of beneficial public uses of the waterway under Sections 4(e) and 10(a)(1) of the FPA, ^{21/} in that they would

^{15/} (...continued)
of project generation and the cost of owning and operating the project, including costs of amortized capital, O&M, and insurance. Power values were calculated using 53.7 mills/kWh for on-peak energy and 32.6 mills/kWh for off-peak energy, based on alternative combined-cycle combustion turbine generation and include both energy and capacity value.

^{16/} See MEA at 96, Table 16.

^{17/} Id. at 24-25, and 27.

^{18/} Id. at 28-32.

^{19/} Id. at 96, Table 16.

^{20/} Id. at 78-97.

^{21/} Id. at 111-16. The Section 10(j) meeting for the Second,
(continued...)

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significantly reduce the power value of the project but would not obtain concomitant environmental gains over and above the MEA-recommended flow regime. We are accordingly amending the Sanford Project license to require a minimum flow of 210 cfs, except for the period of walleye spawning, when the minimum flow will be 650 cfs.

In its comments on the Draft MEA, Wolverine expressed concern that any continuous instream flow requirement from the Sanford Project would cause winter gate-icing, affecting operations and potentially causing dam safety concerns. Because some form of outlet works modification may be necessary, and because installation of a low-flow turbine to capture the hydroelectric potential of the instream flow releases may prove feasible, we will give Wolverine six months to file a plan that identifies an appropriate release system, and an additional six months to construct or modify facilities once approved by the Commission. 22/

B. Impact on Downstream Effluent Discharges

Dow Chemical Company (Dow) operates a manufacturing plant, located about seven miles downstream from the Sanford Dam in the City of Midland, that discharges treated wastewater into the Tittabawassee River pursuant to an NPDES permit. 23/ Dow states that its plant depends on the Sanford Project's weekly peaking operation to comply with the discharge requirements of its NPDES permit. Whenever streamflow past its plant is below 300 cfs, Dow holds its treated effluent in a pond until flow releases from Sanford increase the streamflow to a level sufficient to meet the dilution requirements in Dow's NPDES permit. Dow asserts that a change in Sanford operation from peaking to run of river would reduce the amount Dow could discharge by from 10 to 15 percent,

21/ (...continued)
Smallwood, and Edenville Projects, held on August 9, 1994, included discussion of minimum flows at the Sanford Project.

22/ See amended Article 401.

23/ National Pollutant Discharge Elimination System (NPDES) permits are issued by states pursuant to Section 402 of the Clean Water Act. Dow treats and discharges wastewater not only from its manufacturing plant in Midland but also, under contract, from three landfills, a benzene cleanup in Auburn, Michigan, and groundwater from the sites of regional brine spills. Rehearing request at 9-10; City of Midland's rehearing request at 19.

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causing its holding pond to fill up and its plant operations to be curtailed, with concomitant socioeconomic impacts. 24/

The MEA examined Dow's submittals regarding the effect of Sanford operations on Dow's ability to discharge effluent. First, the MEA noted that the adverse effects on Dow's discharges of operating Sanford in a run-of-river mode were overstated, due to an earlier state error in estimating low-flow frequency. 25/ Second, if there is any need to change how Dow discharges effluents from its Midland plant in light of either a run-of-river or minimum-flow operation at Sanford, 26/ it will be to release lower concentrations over a longer time period. 27/ The same is true for the City of Midland's NPDES-permitted discharges from its wastewater treatment facility below Sanford.

We conclude, based on the record in this proceeding, that implementation of the MEA-recommended operating regime for the Sanford Project will not have a significant adverse impact on the ability of Dow and the City of Midland to comply with their existing NPDES permits.

C. Flood Mitigation and Control

The City of Midland notes that it frequently experiences flooding, and is concerned that, without the ameliorative effect of Sanford's peaking operation, flood damage will increase, necessitating new flood control and mitigation measures. 28/ To demonstrate the Sanford Project's flood control benefits, Midland filed with the Commission the U.S. Army Corps of Engineers (Corps) flood study for the City. 29/

24/ Dow's rehearing request at 12.

25/ See MEA at 71-73.

26/ In comments on the draft MEA, Midland and Dow objected to the minimum flow recommendation for Sanford, but provided no data or analysis to demonstrate negative impacts on the discharges authorized by their NPDES permits.

27/ See Dow's rehearing request at 11-12 (conceding that under neither peaking mode nor run-of-river mode would the total dissolved solids concentration limits of the NPDES permit be exceeded); and Comment #27 in the Responsiveness Summary attached to the July 21, 1997 NPDES permit issued to Dow by Michigan Department of Environmental Quality.

28/ Rehearing request at 17.

29/ See Final Environmental Impact Statement (EIS), Flood
(continued...)

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While we understand Midland's concern, there is no evidence that changes to Sanford's operational mode will have much effect on flooding patterns. The maximum usable storage ^{30/} for all four of Wolverine's hydroelectric plants on the Tittabawassee is about 18,000 acre-feet, which is only about one-tenth of the amount the Corps' flood study determined is required for meaningful flood control at Midland. ^{31/} Moreover, to use even the Sanford Project's 15,000 acre-feet for flood control, Sanford would have to increase reservoir and flow fluctuations, at the expense of the environmental and recreational values that the participants in the license proceeding seek to foster.

D. Dead Tree Removal

License Article 203 is a standard article which requires Wolverine to remove "all trees along the periphery of the project reservoir[] which may die during operations of the project." Wolverine argues that under this article it need remove only those trees that die as a direct result of project operation. Wolverine misreads the article: there is no predicate that the trees must die as a result of project operation. However, we note that we have interpreted this provision as requiring the removal of only those dead trees that pose a hazard to project operations, public safety, or navigation. ^{32/}

E. License Term and Annual Charges

The 1987 Sanford license was backdated to 1962 and given a 20-year prospective term, pursuant to the license term policy then in effect for projects that were required to have been licensed years earlier. In 1992, we adopted a new policy for

^{29/} (...continued)

Control on the Tittabawassee River at Midland, Michigan ("flood study"), prepared by U.S. Army Corps of Engineers (1980).

^{30/} Storage that can be regulated by means of the dam's gate structures.

^{31/} See Corps' flood study at 41.

^{32/} See, e.g., Wisconsin Electric Power Company, 76 FERC ¶ 61,183 at p. 62,021 (1996) (order on rehearing). Article 20 of the Wisconsin Electric license is published at 54 FPC 1817, 1823 (1975) (Form L-3), incorporated by reference, 72 FERC ¶ 62,190 at p. 64,520, ordering para. D (1995) (license order).

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these projects, 33/ no longer backdating the licenses, and tracking our policy when issuing original licenses for new projects at existing non-federal dams: 30, 40, or 50 year terms, depending on the level of new construction, redevelopment, or environmental mitigation and enhancement. 34/ It is, however, also our policy to "coordinate the expiration dates of licenses to the maximum extent possible, to maximize future consideration of cumulative impacts . . . in contemporaneous proceedings at relicensing." 35/ We use our discretion to apply these two policies flexibly in a manner that makes sense according to the facts of each case. 36/ Here, in order to facilitate the Commission's future coordinated treatment of the hydrologically-related Sanford, Edenville, Secord, and Smallwood Projects, we are modifying the term of Sanford's license so that it will expire at the same time as the three upstream projects (September 30, 2028).

It is the Commission's long-standing policy that the owner of an existing project which should have been licensed earlier but was not, should not, by receipt of a license at a later date, be placed in a more favorable position, at least with respect to annual charges, than a project owner who filed an received a license in a timely manner. 37/ Accordingly, license Article 201 requires the Wolverine to pay a sum representing the annual administrative charges that would have been collected, had the Sanford Project been licensed when the project owner first should have sought and obtained a license. Under both prior and current policy, the Sanford Project, which is a pre-1935 project on a navigable water, would be assessed "in lieu" charges as of April 1, 1962. 38/

On rehearing, Wolverine argues that it should be assessed "in lieu" charges for Sanford only back to February 1976, which is when the Commission issued its order requiring Sanford and the

33/ City of Danville, Va., 58 FERC ¶ 61,318 at pp. 62,020-21.

34/ Id. The "environmental measures" element was added in 1994. See Consumers Power Co., 68 FERC ¶ 61,077 at p. 61,384.

35/ See 18 C.F.R. § 2.23..

36/ See, e.g., Consolidated Papers, Inc., 83 FERC ¶ 61,279 at p. 62,158 (1998).

37/ City of Danville, 58 FERC at p. 62,017.

38/ Id. at pp. 62,019-21.

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three upstream projects to be licensed. ^{39/} However, Wolverine's rehearing request reflects no awareness of the Commission's above-described policy, and gives no reason for why Sanford should not be bound by that policy, nor do we perceive any. Alternatively, Wolverine asks that it be required to pay "in lieu" charges at the rates in effect during the years in question. That is what Article 201 provides.

F. Effective-Date Issues

Noting that the December 1, 1987 order issuing the Sanford Project a license backdated the license's effective date to April 1, 1962, Wolverine asks for clarification that December 1987, not April 1962, is the effective date with respect to obligations under two license articles.

License Article 202 tracks Section 10(d) of the FPA in requiring Wolverine, after the first twenty years of licensed operation, to establish and maintain amortization reserves. ^{40/} By this rehearing order, we are revising the effective date of the Sanford license to its issuance date, December 1, 1987. In any event, we confirm Wolverine's understanding of the effective date of Article 202.

License Article 405 addresses the kinds of approval needed for certain types of non-project use, occupancy, or conveyance of project lands. Wolverine seeks clarification that the requirements of Article 405 are prospective from December 1987 only. Wolverine is correct in the sense that the license does not hold it accountable for pre-December 1987 approvals and regulation of non-project uses on project lands and waters, or past conveyances of land. However, this is not to say that Wolverine might not be required to file for Commission approval a land use plan to govern future approvals and regulations, or to acquire for inclusion in the project boundary lands that the Commission might determine, after notice and opportunity for hearing, are necessary for project purposes.

^{39/} See n. 1, supra. Wolverine has paid the "in lieu" portion of its annual charge assessment under protest. Accordingly, its payment has been placed in a suspense account pending resolution of the rehearing request.

^{40/} See 16 U.S.C. § 803(d). The amortization reserve is an obligation to reduce the licensee's cost base in case, e.g., its property should be taken over by the United States upon expiration of its license.

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The Commission orders:

(A) The requests for rehearing filed in this proceeding by Wolverine Power Corporation, Dow Chemical Company, and the City of Midland, Michigan, are granted to the extent provided in this order, and in all other respects are denied.

(B) The January 29, 1988 stay of Articles 401, 402 and 404 of the license issued on December 1, 1987, for the Sanford Project No. 2785 is lifted, effective as of the date of this order.

(C) The first sentence of Ordering Paragraph (A) of the license issued to Project No. 2785 on December 1, 1987, is amended to read as follows:

This license is issued to Wolverine Power Corporation (Licensee) for a term effective December 1, 1987, and expiring on September 30, 2028, to operate and maintain the Sanford Water Power Project.

(D) License Article 401 is amended to read as follows:

Article 401. The Licensee shall release from the Sanford Water Power Project into the Tittabawassee River a minimum flow of 210 cubic feet per second, as measured immediately downstream of the project, for the protection and enhancement of fish and wildlife resources, riparian vegetation, aesthetic resources and water quality in the Tittabawassee River. The Licensee shall release 650 cubic feet per second during the walleye spawning season from March 15 through April 30 each year.

These flows may be temporarily modified if required by operating emergencies beyond the control of the Licensee, and for short periods upon agreement between the Licensee, the Michigan Department of Natural Resources, and the U.S. Fish and Wildlife Service. 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.

Within six months from the date of issuance of this order, the Licensee shall file for Commission approval a plan to evaluate and identify an appropriate continuous release system at Sanford Dam.

The Licensee shall prepare the continuous release system plan after consultation with the Michigan Department of Natural Resources and U.S. Geological Survey. The Licensee shall allow a minimum of 30 days

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for the consulted agencies to comment and make recommendations on the plans before filing them with the Commission. The Licensee shall include with its filings documentation of such consultation including copies of the comments and recommendations on the proposed plans during consultation. Further, the Licensee shall identify in its filings how the comments or recommendations are accommodated by the proposed plans. 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 reasonable changes in the plans. Upon Commission approval, the Licensee shall implement the plan and construct or modify the facilities as approved by the Commission within six months.

(E) The first sentence in License Article 402 is revised by changing the reference to article 404 to 411.

(F) Article 404 is revised to read as follows:

Article 404. Within one year of the date of issuance of this order, the Licensee shall file for Commission approval a recreation plan for the Sanford Project. The Commission reserves the right to make changes to the plan.

The plan shall be prepared in consultation with the Michigan Department of Natural Resources and shall include the following:

- (1) Development of public access to the reservoir and to the downstream Tittabawassee River;
- (2) The short- and long-term need for recreational facilities and a timetable for their construction;
- (3) Installation of signs that identify all recreational facilities and access at the project;
- (4) Functional design drawings, costs for the improvements to, or construction of, recreation facilities; and
- (5) A schedule for completing construction of the required facilities within three years of issuance of this order.

The Licensee shall include with the plan documentation of agency consultation, copies of comments and recommendations on the completed plan, and

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specific descriptions of how the agencies' comments are accommodated by the plan. The Licensee shall allow a minimum of thirty days for the agencies to comment 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.

(G) The following Articles are added to the license issued for the Sanford Project No. 2785:

Article 406. Within six months of the date of issuance of this order, the Licensee shall file for Commission approval a plan for erosion control in order to minimize shoreline erosion and bank instability occurring in the project reservoir and the river area downstream from the project dam and tailrace. Erosion control measures in the plan shall adhere to the most recent version of the Michigan Department of Transportation standards, and shall be designed to allow pedestrian access while providing long-term stability.

The plan shall include at a minimum:

- (1) a summary description of existing erosion control measures;
- (2) a description of measures to monitor shoreline erosion and bank instability caused by project operations;
- (3) descriptions, functional design drawings, and topographic map locations of proposed new and enhanced control measures;
- (4) a description of how the control measures will allow pedestrian access while providing long-term stability;
- (5) identification of the Michigan Department of Transportation standards used, and description of how the pertinent standards would be adhered to;
- (6) an implementation schedule;
- (7) provisions for the Licensee's periodic review and revision of the plan; and
- (8) provisions to provide the results of its monitoring program to the Michigan Department of

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Natural Resources, other agencies, and property owners upon request.

The Licensee shall prepare the plan after consultation with the Michigan Department of Natural Resources and the U.S. Natural Resources Conservation Service. The Licensee shall include with the plan, documentation of consultation, copies of comments and recommendations on the completed plan, and a specific description 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. No land-disturbing or land-clearing activities shall begin until the Licensee is notified by the Commission that the plan is approved. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission.

Article 407. The Licensee must implement all reasonable and prudent measures to ensure that the following water quality standards are met whenever inflows to the projects are greater than or equal to the 95-percent exceedance inflow:

- (1) Dissolved oxygen (DO) concentrations in the project's tailwaters not less than 5 milligrams per liter (mg/l) at all times; and
- (2) monthly average temperatures downstream from the project no greater than:

January	-----	42°F
February	-----	41°F
March	-----	53°F
April	-----	67°F
May	-----	78°F
June	-----	85°F
July, August	-	86°F
September	----	80°F
October	-----	69°F
November	-----	56°F
December	-----	44°F

These monthly average temperatures may be exceeded for short periods when natural water temperatures measured upstream of the project exceed the ninetieth

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percentile occurrence of water temperatures (i.e., the monthly average temperatures cited in item No. 2 minus 5°F).

Within six months of the date of issuance of this order, the Licensee shall file for Commission approval a plan to monitor, and mitigate if necessary, dissolved oxygen (DO) and temperature levels of the Tittabawassee River downstream from the Sanford Project. The plan shall include provisions for: (1) monitoring of DO and temperature downstream from Sanford Dam with the sensor locations and monitoring frequency determined in consultation with the Michigan Department of Natural Resources (Michigan DNR) and the U.S. Fish and Wildlife Service (FWS); and (2) a description of operating procedures developed in consultation with Michigan DNR and FWS to alleviate water quality conditions which deviate from the above limits.

The Licensee shall prepare the plan after consultation with the Michigan Department of Natural Resources and the U.S. Fish and Wildlife Service. The monitoring plan shall include a schedule for: (1) implementation of the program within twenty-four months from the date of issuance of this order; (2) consultation with the Michigan Department of Natural Resources and the U.S. Fish and Wildlife Service concerning the results of the monitoring; and (3) filing the results, agency comments, and Licensee's response to agency comments with the Commission.

The Licensee shall include with the plan, documentation of consultation, copies of comments and recommendations on the completed plan, and specific descriptions of how the agencies' comments are accommodated by the plan. The Licensee shall allow a minimum of thirty 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. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission.

Article 408. Within one year of the date of issuance of this order, the Licensee shall file for Commission approval a Bald Eagle Management Plan to protect the federally listed as threatened bald eagle (Haliaeetus leucocephalus) and its habitat. The plan

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shall be developed in consultation with the U.S. Fish and Wildlife Service and the Michigan Department of Natural Resources, and include, but not be limited to the following:

- (1) The results of a winter and breeding season survey of bald eagles and a bald eagle habitat assessment of project lands and waters, including descriptive and mapped identification of existing and potential future eagle perching, roosting, nesting, and foraging habitat areas;
- (2) A proposed protocol and an implementation schedule for an ongoing bald eagle monitoring program;
- (3) Specific measures to maintain and protect existing and potential eagle habitat areas on project lands and waters, including an implementation schedule;
- (4) Specific measures to maintain and protect bald eagle perch and roost trees on Licensee-owned project lands, including an implementation schedule; and
- (5) Procedures for notifying the Commission if potential adverse affects to eagles or their habitats arise as a result of project operation or activities on project lands or waters.

The Licensee shall include in the plan documentation of consultation, copies of agency comments and recommendations on the completed plan, and specific descriptions of how the agencies' comments are accommodated by the plan. The Licensee shall allow a minimum of thirty 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. Upon Commission approval, the Licensee shall implement the plan.

Article 409. Within six months of the date of issuance of this order, the Licensee shall, in consultation with the Michigan Department of Natural Resources, file for Commission approval a plan to monitor purple loosestrife and Eurasian watermilfoil in project waters. The Commission reserves the right to require changes to the plan.

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The plan shall include, but not be limited to:
(1) a description of the monitoring method; (2) a monitoring schedule; (3) a schedule for providing the monitoring results to Michigan DNR; (4) documentation of agency consultation, including copies of comments and recommendations on the completed plan; and
(5) specific descriptions of how the agencies' comments are accommodated by the plan. The Licensee shall allow a minimum of thirty 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.

If at any time during the period of license, the Michigan Department of Natural Resources demonstrates that purple loosestrife or Eurasian watermilfoil is significantly affecting fish and wildlife populations at the project and that control measures are needed, and the Commission agrees with those determinations, the Commission may require the Licensee to cooperate with Michigan DNR and to undertake reasonable measures to control or eliminate the weeds in project waters.

Article 410. The Licensee, before starting any land-clearing or land-disturbing activities within the project boundary, including recreation developments at the project, shall consult with the State Historic Preservation Officer.

If the Licensee discovers previously unidentified archeological or historic properties during the course of constructing or developing project works or other facilities at the project, the Licensee shall stop all land-clearing and land-disturbing activities in the vicinity of the properties and consult with the State Historic Preservation Officer.

In these instances, the Licensee shall file for Commission approval a cultural resource management plan (plan) prepared by a qualified cultural resource specialist after having consulted with the State Historic Preservation Officer. The plan shall include the following items: (1) a description of each discovered property indicating whether it is listed on or eligible to be listed on the National Register of Historic Places; (2) a description of the potential effect on each discovered property; (3) proposed measures for avoiding or mitigating effects; (4) documentation of the nature and extent of consultation; and (5) a schedule for mitigating effects and conducting additional studies.

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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 thirty 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 site-specific information.

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

Article 411. The Licensee shall operate the Sanford Project so that the project reservoir elevation does not fluctuate more than 0.4 foot below or 0.3 foot above the normal pool elevation of 625.0 feet National Geodetic Vertical Datum (NGVD), except during the winter drawdown. The Licensee shall begin the winter drawdown after December 15, and shall complete the winter drawdown by January 15 of each year. The Licensee shall complete the refill of the reservoir, thus ending the winter drawdown period, prior to the surface water temperature of the reservoir reaching 39°F. During the winter drawdown, the Licensee shall operate the Sanford Project so that the reservoir level does not fall below 622.0 feet NGVD, and so that the daily fluctuation in reservoir elevation does not exceed 0.7 foot. Management of reservoir fluctuations is required within sixty days of installation of reservoir level gages required by Article 402.

The required reservoir elevation may be temporarily modified if required by operating emergencies beyond the control of the Licensee, and for short periods for project maintenance purposes, upon mutual agreement between the Licensee and the Michigan Department of Natural Resources. If the reservoir level fluctuation is so modified, the Licensee shall notify the Commission as soon as possible, but no later than ten days after each such incident.

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(H) The Commission's Chief Financial Officer is directed to release the payment made under protest in this proceeding, consistent with the findings in this order.

By the Commission.

(S E A L)

David P. Boergers
David P. Boergers,
Secretary.

144 FERC ¶ 62,220
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Boyce Hydro Power, LLC

Project No. 2785-081

ORDER AMENDING LICENSE AND REVISING ANNUAL CHARGES

(September 9, 2013)

1. On September 11, 2012, and supplemented on January 14, 2013, Boyce Hydro Power, LLC (licensee) filed an application to amend its license for the Sanford Project No. 2785. The licensee proposes to replace the project's Unit No. 3 with a new, more efficient unit. The project is located on the Tittabawassee River in Midland County, Michigan.

BACKGROUND

2. The Commission issued a new license for the Sanford Project on December 1, 1987.¹ The project includes, in part, a 26-foot-high dam with one powerhouse that contains three turbine-generator units with a total authorized capacity of 3.3 megawatts (MW).

3. On October 16, 1998, the Commission amended the license, in part, to require new minimum flows below the dam.² This order amended Article 401 to require the licensee to release 650 cubic feet per second (cfs) during the walleye spawning period of March 15 through April 30 and 210 cfs during the rest of the year. These minimum flows were established based on the Commission's analysis contained in a Multiple Environmental Assessment (MEA) issued August 14, 1998.³

¹ Order Issuing License at 41 FERC ¶ 62,192.

² Order on Rehearing and Amending License at 85 FERC ¶ 61,066.

³ The MEA supported the licensing of the Secord Project No. 10809, Smallwood Project No. 10810, and the Edenville Project No. 10808, and the amendment of license for the Sanford Project. It also analyzed alternatives in the operating mode of the Sanford Project in support of a rehearing proceeding. All four projects are on the Tittabawassee River.

LICENSEE'S PROPOSAL

4. The licensee proposes to replace the project's turbine-generator Unit No. 3 with a new, more efficient unit that would have a broader operating range. The existing unit is 69 percent efficient and cannot operate below 530 cfs.⁴ The new unit would be 85 percent efficient and could be operated with flows as low as 150 cfs. The new unit would have the same design flow of 720 cfs and the same maximum hydraulic capacity of 750 cfs as the existing unit to be replaced. Installing the new unit would raise the project's total installed capacity from 3.3 to 3.6 MW.

5. Currently, the licensee releases minimum flows via the project's spillway. The new unit would allow the licensee to generate electricity while releasing minimum flows. An estimated 949,400 kilowatt-hours (kWh) of additional energy would be generated each year with the proposed new unit.

CONSULTATION

6. The licensee did not conduct any pre-filing consultation prior to filing its amendment application with the Commission. The licensee stated in its application that it does not believe the interests of any resource agencies or other entities are affected by its proposal.

7. The U.S. Fish and Wildlife Service (FWS) and the Michigan Department of Natural Resources (Michigan DNR) filed comments dated September 20 and October 4, 2012, respectively, saying their agencies' interests would be affected by the licensee's proposal. Both agencies ask the Commission to reject the licensee's application and require the licensee to consult with the agencies.

8. In their comments, FWS and Michigan DNR say it's obvious from the MEA that downstream fishery benefits would be maximized if the project was operated run-of-river or in a re-regulation mode if upstream peaking continues.⁵ However, due to equipment

⁴ There is some discrepancy in the record as to how low the existing Unit No. 3 can operate. In comments filed February 5, 2013, by the Michigan Department of Attorney General (discussed later), a minimum hydraulic capacity of 450 cfs is cited, whereas a minimum capacity of 530 cfs was used by Commission staff in the MEA. We use the 530 cfs minimum capacity in this order to maintain consistency with our previous analysis.

⁵ In their comments, FWS and Michigan DNR refer to operating the project both in a run-of-river and in a re-regulation mode. However, the agencies' intent is for the
(continued)

limitations (i.e., the existing Unit No. 3 cannot operate below 530 cfs), the Commission decided that the cost to operate the project run-of-river was too high because the project could not generate with flows below 530 cfs. The agencies cite the Commission's decision in the October 16, 1998 order which, in part, amended Article 401 to require minimum flows instead of requiring the project to be operated run-of-river. FWS and Michigan DNR say the previous economic arguments in the MEA are no longer justified if the licensee installs the proposed new unit capable of generating with the project's minimum flows. Both agencies recommend the Commission reevaluate the project's economics with the new unit to determine appropriate minimum flows or whether the project should be operated in a re-regulation mode.

9. Commission staff held a teleconference on January 10, 2013, with the licensee, FWS, and Michigan DNR to discuss the licensee's application and the resource agencies' comments on the application.⁶ The licensee filed a response to the teleconference and a supplement to its application on January 14, 2013.

Public Notice and Responses

10. The Commission issued a public notice for the licensee's application on January 24, 2013, soliciting comments, motions to intervene, and protests by February 8, 2013. A motion to intervene was filed by the Michigan Department of Attorney General (Michigan Attorney General) on February 5, 2013, on behalf of the Michigan DNR. The Michigan Attorney General provided comments that mirror Michigan DNR's recommendations saying the Commission should revisit the issue of minimum flows and require the project to be operated in a manner to re-regulate upstream peaking flows.

ENVIRONMENTAL REVIEW

11. We reviewed the construction and operational effects of the licensee's proposal to replace Unit No. 3. The licensee indicates in its application that the work needed to replace the unit would take place in the project's powerhouse and in the powerhouse yard. There would be no in-water work and little land disturbance. The licensee states that its proposal to replace the unit would not affect water quality or have any effects to fish and wildlife, recreation, or cultural resources.

Sanford Project to release steady flows downstream of the dam to maximize fishery benefits. Therefore, we interpret their comments to mean that they recommend the project be operated solely in a re-regulation mode (not run-of-river) to re-regulate upstream peaking flows.

⁶ See Commission staff's teleconference record filed January 24, 2013.

12. We agree that construction to replace Unit No. 3 would have few environmental effects. Our one concern was whether Unit No. 3 could be considered eligible for listing on the National Register of Historic Places. The Commission's October 16, 1998 order indicates that none of the Sanford Project facilities were considered eligible for listing at that time; however, that was almost 15 years ago. So, by letter dated February 8, 2013, we asked the Michigan State Historic Preservation Officer (SHPO) for concurrence with a no effect determination. We found that replacing the unit should have no effect because the licensee intends to replace the unit in-kind, so that the licensee can maintain efficient operation of the project. We asked the SHPO to respond within 30 days or by March 10, 2013, should the SHPO disagree with our finding. The SHPO did not respond.

13. The project would continue to be operated in a peaking mode, and minimum flows required by Article 401 would continue to be released to the river downstream of the dam. However, the required minimum flows would be released through generation rather than being released as flows over the spillway. Because the project does not have a bypass reach, and because turbine releases are separated from the area below the spillway by only a short training wall, minimum flows would continue to be released in the same general area where they are released today.

14. As summarized under *Consultation*, FWS and Michigan DNR recommend the Commission revisit the project's operation to determine if, on balance, the project should be operated in a re-regulation mode. In response, we review the fishery benefits of operating the project as discussed in the MEA.⁷ According to the MEA, walleye, smallmouth bass, white bass, and white sucker ascend the Tittabawassee River during spring and early summer, and concentrations of spawning walleye have been documented downstream of Sanford Dam. As noted in the MEA, flow releases under different operating modes could affect all of these fish species, especially in the spring, by limiting potential spawning and rearing habitat and flows necessary for migration. The MEA found that releasing a minimum flow of 210 cfs would provide 68 percent of the effective fish habitat that would be provided by run-of-river operation, and releasing a minimum flow of 650 cfs March 15 through April 30 would provide 97 percent of the habitat available during the spring spawning and rearing period. Therefore, operating the project in a re-regulation mode after installation of the new turbine, as recommended by the agencies, could increase fish habitat below the project by about 32 percent most of the year, and by about 3 percent during the important springtime spawning and rearing period.

⁷ The MEA reviewed the effects of run-of-river operation for all four projects on the Tittabawassee River (Secord, Smallwood, Edenville, and Sanford). Run-of-river would have produced steady flows below the Sanford Project. Likewise, the agencies' current proposal for re-regulation is to produce steady flows below the Sanford Project.

ECONOMIC ANALYSIS

15. We compared the economics of project operation with the existing Unit No. 3 to project operation following installation of the new unit as proposed by the licensee. Estimates for energy generation under the most likely scenarios were obtained from the MEA, and updated energy values for peak and off-peak generation were acquired from the Midwest Independent System Operator's 2012 Monthly Market Assessment Reports. The updated energy values equate to \$34.86/megawatt-hour (MWh) for peak generation and \$25.52/MWh for off-peak generation. The table below compares energy generation and value for the existing Unit No. 3 operated in the current peaking mode while releasing the minimum flows required under Article 401, operation of the proposed new unit in the same mode, and operation of the proposed new unit with re-regulation.

	Current Peaking Operation without New Turbine	Current Peaking Operation with New Turbine	Re-Regulation Operation with New Turbine
Annual kWh	8,260,591	9,210,000	9,210,000
Energy Value (2012 dollars)	\$253,020	\$281,140	\$273,390

16. Based on this information, operation of the project in its current peaking mode following installation of the new unit would increase the value of the project's generation by approximately \$28,120 annually, or about 11 percent. If the project were to operate in a re-regulation mode with the new unit, the increased value of annual generation would be approximately \$20,370, or about 8 percent. Therefore, peaking operation would result in generation being more valuable by about \$7,750 annually, or about three percent of the generation based on current operation. This analysis includes only the differences in the value of generation and does not include civil costs that may be associated with installing or programming equipment necessary for different operating modes. It is assumed that these types of civil costs would be similar or equal.

DISCUSSION AND CONCLUSIONS

17. We reviewed the economic and environmental issues as requested by the resource agencies commenting in this proceeding. As shown under *Economic Analysis* above, operation of the Sanford Project following installation of the new unit, using the project's current operating mode, would increase annual project revenues by about 11 percent; operation in a re-regulating mode following installation of the new unit would increase annual revenues by about 8 percent. As discussed under *Environmental Review*, operation of the project with the new unit, with no operational changes as proposed by the licensee, would maintain the environmental status quo. Operation with re-regulation

would provide a 3 percent increase in fish habitat downstream of the project during the spawning and rearing period and an estimated 32 percent increase during the rest of the year.

18. Requiring the project to operate in a re-regulation mode would provide some additional fishery habitat downstream of the project, although existing minimum flows under Article 401 already provide 97 percent of available habitat during the important springtime fish spawning and rearing period. In recommending operation of the Sanford Project to re-regulate fluctuations from upstream projects, the resource agencies did not identify the effects such operation would have on reservoir levels and shoreline-dependent resources. For over 14 years reservoir levels at the project have been maintained within a 0.7-foot range as specified in Article 411, except during the winter drawdown period. Midland County Park, a popular park located adjacent to the project, has an established swimming beach, boat launching area, and a dock with mooring slips. There are also a large number of private docks located around the lake's shoreline. All of these facilities could be affected to some degree by fluctuating reservoir levels. Fluctuating water levels could also affect shallow-water fish spawning areas that currently support a good fishery for a variety of species.⁸ Further, fluctuating water levels could affect shoreline wildlife habitat, including sensitive areas like wetlands. Staff would need additional information in order to accurately determine these effects to shoreline-dependent resources.⁹

19. As a final point, we note that the issue of generating using minimum flows has been examined before at the Sanford Project. The October 16, 1998 amendment order contemplated the use of a turbine-generator unit to release the project's required minimum flows. Such a unit was proposed by the licensee in a Minimum Flow Release Plan which received resource agency review and was approved by Commission order dated February 16, 2001.¹⁰ The following year the licensee changed direction and filed an application to amend the Minimum Flow Release Plan so it could release minimum

⁸ Status of the Fishery Report - Sanford Lake, 2007-40, available at www.michigan.gov/dnr; Environmental and Public Use Report, Federal Energy Regulatory Commission, Chicago Regional Office, dated September 22, 2010.

⁹ Commission staff performed a preliminary analysis to estimate fluctuations in reservoir elevations under a re-regulating mode of operation. We determined that over the course of a week, re-regulation could cause reservoir surface elevations to fluctuate as much as 2.7 feet. To perform a more accurate analysis, staff would need stage-storage relationships, the desired target re-regulating releases from the Sanford Project, and detailed hourly discharge data for the upstream Edenville Project.

¹⁰ 94 FERC ¶ 62,157

flows, in part, through a gate instead of using the approved turbine-generator unit. The amendment to the plan was approved by Commission order dated November 13, 2001¹¹ and the licensee continues to release flows according to that plan today. At no point during the review, approval, and amendment of the Minimum Flow Release Plan did the resource agencies recommend the project be operated in a re-regulation mode.

20. In summary, the licensee's proposal to replace Unit No. 3 is a maintenance action that would have few environmental effects and while requiring the project to be operated in a re-regulation mode would result in some improvement in fishery habitat, there could be adverse effects to reservoir-based recreation, fisheries, and sensitive shoreline habitats. On balance, we do not recommend changing the project's mode of operation under these circumstances. Therefore, we recommend that this order approve the licensee's application to replace Unit No. 3 without requiring the project to be operated in a re-regulation mode.

CHANGES IN CAPACITY AND ADMINISTRATIVE ISSUES

Annual Charges

21. The proposed amendment would increase the capacity of the project from 3.3 to 3.6 MW. The United States requires reimbursement from licensees for the cost of administering Part I of the Federal Power Act through annual charges paid by the licensee. These charges are based on the project's authorized installed capacity and the amendment of such requires the revision of the project's annual charges under Article 201. Therefore, ordering paragraph (C) of this order amends Article 201 to reflect the change to the project's installed capacity. In accordance with the Commission's regulations at 18 C.F.R. § 11.1 (c)(5), the assessments for new authorized capacity start on the date of commencement of construction of such new capacity. Accordingly, ordering paragraph (D) of this order requires the licensee to file with the Commission the date construction started, which would be used to revise license Article 201.

Project Description

22. The licensee did not include a revised Exhibit A in its filing. Because the proposal changes the type and rated capacity of one of the project's turbine-generator units, the project's approved Exhibit A needs to be revised. Therefore, ordering paragraph (E) requires the licensee to file a revised Exhibit A describing the new unit along with photographs showing the unit's nameplates within 90 days of completion of construction to reflect and verify as-built conditions.

¹¹ 97 FERC ¶ 62142

Exhibit Drawings

23. The licensee filed four Exhibit F drawings with its September 11, 2012 amendment application. We have reviewed these drawings and determine that they conform to the rules and regulations of the Commission and will be approved as shown in ordering paragraph (G) of this order. Ordering paragraph (H) requires the licensee to file the drawings in aperture card and electronic file formats.

The Director orders:

(A) Boyce Hydro Power, LLC's application to amend the license for the Sanford Project No. 2785 filed on September 11, 2012 and supplemented January 14, 2013 is approved, effective the day this order is issued.

(B) Item (c) of the project description under ordering paragraph (B)(2) of the license is revised to read as follows:

...(c) a masonry powerhouse housing three generating units for a total installed capacity of 3,600 kilowatts;...

(C) Article 201(1) of the license is revised, in part, to read as follows:

...For the purpose of reimbursing the United States for the cost of administration of 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:

- a. 3,300 kilowatts based on the authorized and currently existing capacity.
- b. 3,600 kilowatts upon commencement of construction for the new turbine-generator unit.

(D) Within 60 days of the start of construction, the licensee shall file with the Commission, the date construction started, which will be used to revise the project's annual charges under license Article 201.

(E) Within 90 days of completion of construction, the licensee shall file with the Commission, for approval, a revised Exhibit A including a description of the new turbine-generator unit to reflect as built conditions. The licensee shall also file, with the Commission and the Division of Dam Safety and Inspection's Chicago Regional Office, photographs of the new Unit No. 3 turbine and generator nameplates.

(F) The licensee shall start construction to replace Unit No. 3 within two years from the issuance date of this order and shall complete construction within four years from the issuance date of this order.

(G) The following exhibit drawings, filed with the amendment application on September 11, 2012, conform to the Commission's rules and regulations, and are approved and made part of the license, as labeled and numbered below:

EXHIBIT	FERC DRAWING No.	SUPERSEDED FERC DRAWING No.	FERC DRAWING TITLE
F-1	P-2785-17	P-2785-1	General Plan
F-6	P-2785-18	---	Existing Powerhouse Installation - Plan
F-7	P-2785-19	---	New Turbine & Generator Installation - Section
F-8	P-2785-20	---	Tailrace Slab Modification

(H) Within 45 days of the date of issuance of this order, 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 Project-Drawing Number (i.e., P-2785-17, etc.) shall be shown in the margin below the title block of the approved drawing. After mounting, the FERC Drawing Number shall be typed on the upper right corner of each aperture card. Additionally, the Project Number, FERC Exhibit (i.e., F-1, etc.), Drawing Title, and date of this order shall be typed on the upper left corner of each aperture card. See Figure 1.

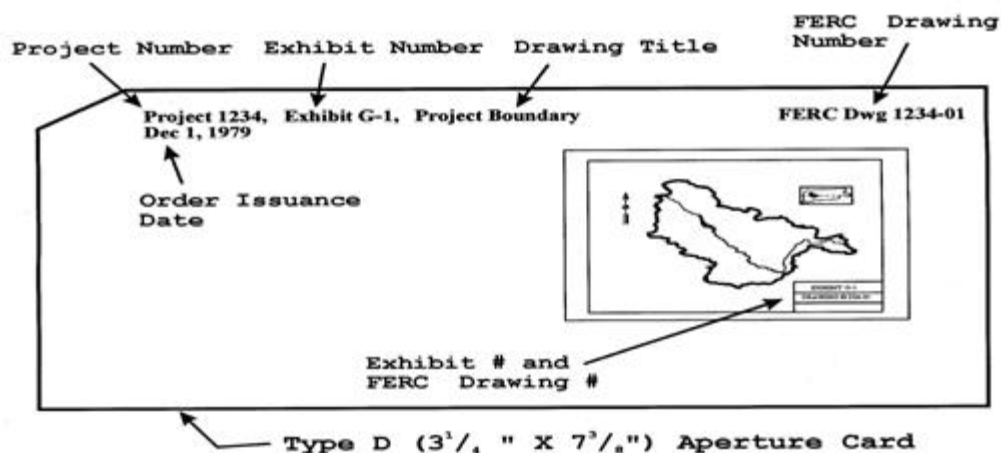


Figure 1 Sample Aperture Card Format

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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 Confidential Energy Infrastructure Information (CEII) material under 18 CFR §388.113(c). Each drawing must be a separate electronic file, and the file name shall include: FERC Project-Drawing Number, FERC Exhibit, Drawing Title, date of this order, and file extension in the following format [P-2785-9, F-1, General Plan, 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

(I) This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance, as provided in section 313(a) of the Federal Power Act, 16 U.S.C. § 825I (2012), and the Commission's regulations at 18 C.F.R. § 385.713 (2013). The filing of a request for rehearing does not operate as a stay of the effective date of this order, or of any other date specified in this order. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

Steve Hocking
Chief, Environmental Review Branch
Division of Hydropower Administration
and Compliance

162 FERC ¶ 62,050UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Boyce Hydro Power, LLC

Project No. 2785-093

ORDER REVISING LICENSE ARTICLE 411

(Issued January 23, 2018)

1. On December 8, 2017, Boyce Hydro Power, LLC, licensee for the Sanford Hydroelectric Project No. 2785, filed a letter responding to an October 12, 2017 Commission request for information regarding a discrepancy in the datum used for measuring the project reservoir elevation. The project is located on the Tittabawassee River in Midland County, Michigan and does not occupy federal land.

Background

2. Article 411 of the license requires the licensee operate the project such that the reservoir does not fluctuate more than 0.4 foot below and 0.3 foot above the normal pool elevation of 625.0 feet National Geodetic Vertical Datum (NGVD), except during the winter drawdown when the reservoir is allowed to operate no lower than 622 feet NGVD.¹ The winter drawdown period is from December 15 until the reservoir surface water temperature reaches 39 degrees Fahrenheit in the spring.

3. In July and September 2017, the Commission received two complaints about low reservoir elevations at the project. Through a review of the licensee's data and an inspection by Commission staff as part of the non-compliance investigation, we determined the licensee was generally operating within the parameters of its license. However, as part of the response to the investigation, the licensee in an August 25, 2017 letter providing its reservoir elevation data, noted that the 625 foot requirement of license Article 411 refers to the elevation above mean sea level, whereas the equivalent elevation in NGVD would be 630.8 feet, a difference of 5.8 feet.

4. In its October 12, 2017 letter, Commission staff requested that the licensee file information clarifying the discrepancy regarding the elevation datum used for the project reservoir and to file an amendment request to correct license Article 411. Additionally,

¹ *Wolverine Power Corporation*, 41 FERC ¶ 62,192 (1987) and, *Wolverine Power Corporation*, 85 FERC ¶ 61,066 (1998).

Commission staff requested the licensee file a plan and schedule to install a publicly visible staff gage to help clarify reservoir elevations for the general public.

Licensee's Filing

5. In its December 8, 2017 filing, the licensee provided a thorough narrative describing the evolution of the elevation datum used at its four projects in the area.² The licensee stated that an original benchmark for the projects dates back to 1909, though in 1978, the licensee states the U.S. Army Corps of Engineers determined the difference between the actual and stated elevation on the benchmark was 5.8 feet. Subsequently in the 1980's, the original licensee for the Sanford Project continued to use the 625 foot elevation describing it as using the mean sea level datum, whereas it was incorporated into the license as the elevation in the NVGD. Furthermore, the licensee states that in 2010, its own surveyor determined the difference using the original benchmark was 5.54 feet. However, the licensee stated that it continued to use the 5.8 foot difference in order to stay consistent with elevations used for existing site work and aerial surveys. Considering the previously described history, the licensee states that an amendment to license Article 411 is not required, and the Commission needs to only correct the elevations described in the article.

6. In response to the request to file a plan and schedule to install a publically visible staff gage, the licensee stated that no location is suitable for installing a public gage. The licensee stated the accuracy of a staff gage is dependent upon its proximity to the powerhouse intake, and no public access exists at the location due to safety concerns.

Review

7. The record for the project indicates the discrepancy between the two values given for the reservoir elevation has carried on for some time. The Commission has generally used the 625 foot value while licensee filings present the 630.8 foot value, with each party occasionally noting the apparent discrepancy such as in a January 8, 2013 letter issued by the Commission and the licensee's August 25, 2017 letter. However, up to this point, license Article 411 itself has not been modified to resolve the issue. We conclude that the licensee's account of how the discrepancy developed is supported by the available evidence. Furthermore, the elevation the licensee uses for the Sanford Project is consistent with the datum used at its other nearby projects. This order will revise license Article 411 to correct the datum used for measuring the reservoir elevation. This

² The licensee also owns and operates the upstream Edenville, Smallwood, and Secord projects, nos. 10808, 10810, and 10809, respectively.

is an administrative change only and the practical elevation of the reservoir in relation to the dam, shoreline, and other local features will not change.

8. While investigating this proceeding, two separate individuals had made complaints with the Commission indicating the licensee may have been deviating from the required minimum reservoir elevation at the Sanford Project. However, upon investigation, the Commission found that the licensee was compliant with the requirement for all but 8 hours over 2 days. In order to alleviate the Commission and licensee of the burden of pursuing any future complaints when past events indicate the licensee would most likely be operating within the constraints of its licensee, Commission staff considered it advantageous to have an accurate gage to which members of the public could be directed to in order to substantiate their complaint. Nevertheless, the licensee's statement that the only reasonably accurate location for a staff gage is near the project intake, which is inaccessible to the public, is reasonable, and we will not pursue the matter any further at this time. However, the Commission may require the licensee to pursue installation of a gage or present reservoir elevation data in such a way that is available to the public at a later time.

The Director orders:

(A) License Article 411 is revised to read as follows:

The licensee shall operate the Sanford Project so that the project reservoir elevation does not fluctuate more than 0.4 foot below or 0.3 foot above the normal pool elevation of 630.8 feet National Geodetic Vertical Datum (NGVD), except during the winter drawdown. The licensee shall begin the winter drawdown after December 15, and shall complete the winter drawdown by January 15 of each year. The licensee shall complete the refill of the reservoir, thus ending the winter drawdown period, prior to the surface water temperature of the reservoir reaching 39°F. During the winter drawdown, the licensee shall operate the Sanford Project so that the reservoir level does not fall below 627.8 feet NGVD, and so that the daily fluctuation in reservoir elevation does not exceed 0.7 foot. Management of reservoir fluctuations is required within sixty days of installation of reservoir level gages required by Article 402.

The required reservoir elevation may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for short periods for project maintenance purposes, upon mutual agreement between the licensee and the Michigan Department of Natural Resources. If the reservoir level fluctuation is so modified, the licensee shall notify the Commission as soon as possible, but no later than ten days after each such incident.

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(B) This order constitutes final agency action. Any party may file a request for rehearing of this order within 30 days from the date of its issuance, as provided in section 313(a) of the Federal Power Act, 16 U.S.C. § 825/ (2012), and the Commission's regulations at 18 C.F.R. § 385.713 (2017). The filing of a request for rehearing does not operate as a stay of the effective date of this order, or of any other date specified in this order. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

Kelly Houff
Chief, Engineering Resources Branch
Division of Hydropower Administration
and Compliance

167 FERC ¶ 62,191
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Boyce Hydro Power, LLC

Project Nos. 2785-096
2785-097

ORDER AMENDING LICENSE, APPROVING REVISED EXHIBITS A, F, AND G,
REVISING PROJECT DESCRIPTION, AND REVISING ANNUAL CHARGES

(Issued June 25, 2019)

1. On November 16, 2018, and supplemented January 11, May 24 and 28, and June 19, 2019, Boyce Hydro Power, LLC, licensee for the Sanford Hydroelectric Project No. 2785,¹ filed revised Exhibit G-1 and G-2 drawings for Commission approval. The licensee filed the revised drawings pursuant to ordering paragraph (C) of the October 15, 2014 Order Approving Updated Exhibit G Drawings (2014 Order).² In addition, on April 8, 2019, and supplemented May 28, 2019, the licensee filed a request to amend the license to reflect it replaced turbine-generator Unit No. 1 in lieu of Unit No. 3. The licensee included revised Exhibits A and F to reflect the amendment. The project is located on the Tittabawassee River, in Midland and Gladwin counties, Michigan, and does not occupy federal lands.

Background

I. Revised Exhibit G Drawings

2. Ordering paragraph (C) of the 2014 Order requires the licensee within 180 days from the date of the order, to file an application to amend the license, prepared in accordance with 18 C.F.R §4.200, for revisions to the project boundary to include all lands necessary for project purposes. The filing must include the corresponding revised Exhibit G drawings that conform to 18 C.F.R §§ 4.39 and 4.41. Subsequent to the issuance of the 2014 Order, the Commission initiated a compliance proceeding for the project and the outstanding requirements of the 2014 Order are included in the ongoing proceeding.

3. The licensee filed a revised Exhibit G-2 drawing to satisfy the requirements of ordering paragraph (C) of the 2014 Order on November 16, 2018. The licensee revised

¹ *Wolverine Power Corporation*, 41 FERC ¶ 62,192 (1987).

² *Boyce Hydro Power, LLC*, 149 FERC ¶ 62,027 (2014).

the project boundary on the drawing to include the Sanford Village Park and the fishing pier on the south shore of Sanford Lake. Commission staff, in a letter dated November 29, 2018, requested additional information and the licensee filed corrected Exhibit G-1 and G-2 drawings on January 11, 2019. These drawings identified an area of land within the revised project boundary that the licensee needed to acquire the rights from the Village of Sanford. Commission staff, in a letter dated January 24, 2019, required the licensee to obtain the necessary rights, update the revised Exhibit G drawings, and file the drawings within 60 days.³

II. Amendment

4. The Commission's September 9, 2013 Order Amending License and Revising Annual Charges (2013 Order) approved the licensee's application to amend the license and replace the project's turbine-generator Unit No. 3 with a new more efficient model.⁴ Ordering paragraph (D) of the 2013 Order requires the licensee to file the start of construction date that the Commission will use to revise the project's annual charges under license Article 201. Ordering paragraph (E) of the 2013 Order requires the licensee to file a revised Exhibit A and photographs of the new unit turbine and generator nameplates. Ordering paragraph (F) of the 2013 Order requires the licensee to start the construction within two years of the order issuance date and complete the construction within four years, September 9, 2015 and September 9, 2017, respectively.

5. A January 30, 2019 letter from Commission staff explains that the licensee rewound turbine-generator Unit No. 1 instead of replacing Unit No. 3. The letter requires the licensee, within 90 days from the issuance date of the letter, to file an amendment request to remove the changes approved by the 2013 Order. The filing must include; but is not limited to: (1) a revised Exhibit A, in its entirety, in strike through and clean formats; (2) a request to revise the project description in ordering (B)(2) of the license; (3) a request to revise Article 201; and (4) revised Exhibit F drawings that accurately show as-built conditions of the project.

6. The licensee filed an amendment application in response to the January 30, 2019 letter on April 8, 2019. In addition to revised Exhibits A and F for Commission approval, the licensee requested to delete the approved Exhibit F-8 drawing because the slab at the turbine discharge of Unit No. 1 did not require modification. The licensee requested to revise the project description in ordering paragraph (B)(2) of the license and to revise annual charges under Article 201 of the license. Commission staff, in a letter dated

³ The licensee filed an update on April 1, 2019, and Commission staff extended the deadline to provide the additional information to May 25, 2019.

⁴ *Boyce Hydro Power, LLC*, 144 FERC ¶ 62,220 (2013).

April 10, 2019, requested additional information regarding the revised Exhibit G drawings.

Review

7. The licensee's request to amend the license to reflect it rewound turbine-generator Unit No. 1 instead of replacing Unit No. 3 should be approved. We have reviewed the revised Exhibit A and found it accurately describes the project. The Exhibit A conforms to the Commission's rules and regulations and therefore should be approved, superseding any previous Exhibit A.

8. We reviewed the revised Exhibit F and G drawings and found that the licensee has revised the drawings to reflect the project. We georeferenced the Exhibit G drawings and found them to be in agreement with our current mapping requirements. The revised Exhibit F and G drawings conform to the Commission's rules and regulations and should be approved. In ordering paragraph (D) of this order, we are requiring the licensee to file the approved exhibit drawings and associated geographic information system data in electronic file format. The licensee request to delete the approved Exhibit F-8 drawings should be approved.

9. Ordering paragraph (E) of this order revises the project description in ordering paragraph (B)(2) of the license consistent with the approved exhibits for the project. The amendment application identifies that the licensee began construction of the improvements in August of 2014. The Commission's regulations state, in part, "authorized installed capacity means the lesser of the ratings of the generator or turbine unit."⁵ The authorized installed capacity for the project is 3,566 kW, governed by the turbines rating for the units.⁶ Ordering paragraph (F) of this order revises annual charges under Article 201 of the license accordingly and consistent with the revised exhibits.

The Director orders:

(A) Boyce Hydro Power, LLC's, request to amend the license, filed April 8, 2019, and supplemented May 28 and June 19, 2019, for the Sanford Hydroelectric Project No. 2785, is approved.

(B) The revised Exhibit A, filed June 19, 2019, conforms to the Commission's rules and regulations and this order approves the Exhibit A and makes it part of the license. The previous Exhibit A is eliminated from the license.

⁵ 18 C.F.R. § 11.1(i) (2018).

⁶ The generator rating is 1,375 kW for Unit Nos. 1, 2, and 3. The turbine rating is 1,366 kW for Unit No. 1 and 1,100 kW for Unit Nos. 2 and 3.

(C) The following Exhibit F drawings, filed May 28, 2019, and Exhibit G drawings, Exhibit G-1 filed January 11, 2019, and Exhibit G-2 filed May 24, 2019, conform to the Commission's rules and regulations, and this order approves the drawings and makes them part of the license. This order supersedes the previous Exhibits F-1, F-6, F-7, G-1, and G-2 (FERC Drawing Nos. P-2785-17 through P-2785-19 and P-2785-21, and P-2785-22) and deletes them from the license. In addition, this order deletes Exhibit F-8 (FERC Drawing Number P-2785-20) from the license.

Exhibit	FERC Drawing No.	Drawing Title	Drawing Filename ⁷
F-1	2785-23	General Plan	General Plan
F-6	2785-24	New Turbine Installation Plan	New Turbine - Plan
F-7	2785-25	New Turbine Installation Section	New Turbine - Section
G-1	2785-26	Project Boundary	Project Boundary
G-2	2785-27	Project Boundary	Project Boundary

(D) Within 45 days of the date of issuance of this order, as directed below, the licensee must file two sets of the approved exhibit drawings and geographic information system (GIS) data in electronic file format on compact disks with the Secretary of the Commission, ATTN: OEP/DHAC.

a) The licensee must prepare digital images of the approved exhibit drawings in electronic format. Prior to preparing each digital image, the licensee must add the FERC Project-Drawing Number (*i.e.*, P-2785-23 through P-2785-27) in the margin below the title block of the corresponding approved drawing. The licensee must separate the Exhibit F drawings from the other project exhibits, and **identify them as Critical Energy Infrastructure Information (CEII) material under 18 CFR § 388.113** (*i.e.*, two CDs containing the Exhibit G drawings and GIS data, and two CEII CDs containing only Exhibit F drawings). Each drawing must be a separate electronic file, and the file name must include: FERC Project-Drawing Number, FERC Exhibit Number, Drawing Title, date of this order, and file extension in the following format [P-2785-23, F-1, General Plan, MM-DD-YYYY.TIFF].

Each Exhibit G drawing that includes the project boundary must contain a minimum of three known reference points (*i.e.*, latitude and longitude coordinates or state

⁷ The licensee must use these exact drawing titles when filing the electronic file format drawings required in ordering paragraph (D). Commission staff shortened the drawing title due to filename characters limits. There is no need to modify the titles as they appear on the drawings.

plane coordinates), arranged in a triangular format for GIS georeferencing the project boundary drawing to the polygon data. The licensee must identify the spatial reference for the drawing (*i.e.*, map projection, map datum, and units of measurement) on the drawing and label each reference point. In addition, a registered land surveyor must stamp each project boundary drawing. All digital images of the exhibit drawings must meet the following format specification:

IMAGERY:	black & white raster file
FILE TYPE:	Tagged Image File Format, (TIFF) CCITT Group 4 (also known as T.6 coding scheme)
RESOLUTION:	300 dots per inch (dpi) desired, (200 dpi minimum)
DRAWING SIZE:	22" x 34" (minimum), 24" x 36" (maximum)
FILE SIZE:	less than 1 megabyte desired

b) Project boundary GIS data must be in a georeferenced electronic file format (such as ArcGIS shapefiles, GeoMedia files, MapInfo files, or a similar GIS format). The filing must include both polygon data and all reference points shown on the individual project boundary drawings. Each project development must have an electronic boundary polygon data file(s). Depending on the electronic file format, the polygon and point data can be included in single files with multiple layers. 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. The file name(s) must include: FERC Project Number, data description, date of this order, and file extension in the following format [P-2785, boundary polygon or point data, MM-DD-YYYY.SHP]. The filing must include a separate text file describing the spatial reference for the georeferenced data: 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 must include: FERC Project Number, data description, date of this order, and file extension in the following format [P-2785, project boundary metadata, MM-DD-YYYY.TXT].

(E) This order revises the project description in ordering paragraph (B)(2) of the license to read as follows:

(2) Project works consisting of: (a) a dam approximately 26 feet high and 1,600 feet long consisting of a 71-foot-long powerhouse section, a 149-foot-long spillway section controlled by six Tainter gates, and a 1,380-foot-long earthen embankment; (b) a 1,526-acre reservoir with a storage capacity of 15,000 acre-feet at elevation 625 feet mean sea level; (c) a masonry powerhouse housing three generating units for a total installed capacity of 3,566 kilowatts; (d) the 2.3 kV generator leads; (e) a 40-foot-long, 2.3-kV transmission line; (f) a 2.3/4.6-kV, 4.5-MVA transformer bank; and (g) appurtenant facilities.

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(F) This order revises Article 201 of the license to read as follows:

Article 201: For the purpose of reimbursing the United States for the cost of administration of 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 3,566 kilowatts effective August 31, 2014.

(G) This order constitutes final agency action. Any party may file a request for rehearing of this order within 30 days from the date of its issuance, as provided in section 313(a) of the Federal Power Act, 16 U.S.C. § 825l (2012), and the Commission's regulations at 18 C.F.R. § 385.713 (2018). The filing of a request for rehearing does not operate as a stay of the effective date of this order, or of any other date specified in this order. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

Kelly Houff
Chief, Engineering Resources Branch
Division of Hydropower Administration
and Compliance

CERTIFICATE OF SERVICE

Pursuant to Rule 2010 of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission, I hereby certify that I have this day caused the foregoing document to be served upon each person designated on the official service lists compiled by the Secretary in this proceeding.

Dated at Washington, DC, this 5th day of February, 2021.

/s/ Mealear Tauch
Mealear Tauch
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