

141 FERC ¶ 62,232
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Western Technical College

Project No. 13417-002

ORDER ISSUING ORIGINAL LICENSE

(December 28, 2012)

INTRODUCTION

1. On October 21, 2011, Western Technical College (Western or licensee) filed, pursuant to Part 1 of the Federal Power Act (FPA),¹ an application for an original license to construct, operate, and maintain its proposed Angelo Dam Hydroelectric Project No. 13417 (Angelo Dam Project or project). The 205-kilowatt (kW) project will be located at Angelo dam, which is located on the La Crosse River in the Township of Angelo, Monroe County, Wisconsin.² Angelo Dam is currently owned and operated by Monroe County. The project would not occupy federal lands.
2. As discussed below, this order issues an original license for the Angelo Dam Project.

BACKGROUND

3. On April 24, 2012, the Commission issued a public notice that was published in the *Federal Register* accepting the application for filing, soliciting motions to intervene and protests, indicating the application was ready for environmental analysis, and soliciting comments, recommendations, terms and conditions, and prescriptions.³ The notice set June 25, 2012, as the deadline for filing motions to intervene, protests, comments, final recommendations, terms and conditions, and prescriptions. The U.S. Department of the Interior (Interior), the only entity to respond, filed a letter with the

¹ 16 U.S.C. §§ 791a and 825r (2006).

² Because the project is located on a stream over which Congress has jurisdiction under the Commerce Clause, affects interstate commerce through its connection to an interstate power grid, and will be constructed after 1935, it is required to be licensed pursuant to section 23(b) of the FPA. *See* 16 U.S.C. § 817 (2006).

³ 77 Fed. Reg. 25,995 (May 2, 2012).

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Commission on June 20, 2012, stating that it had no comments. No motions to intervene or protests were filed.

4. An Environmental Assessment (EA) on the application was prepared by Commission staff and issued on August 22, 2012. Interior and the Wisconsin Department of Natural Resources (Wisconsin DNR) filed comments on the EA.

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

PROJECT DESCRIPTION

A. Existing Facilities and Operation

6. Angelo Dam consists of an earthen embankment with a maximum height of 14 feet and a spillway with a short, non-overflow section. The dam has a total length of 615.5 feet. The spillway and non-overflow sections are constructed of reinforced concrete and have a total length of 91.5 feet. The spillway is 72.42 feet long and 9.6 feet high from the foundation level to its crest. It contains four, 13.5-foot-wide by 11.4-foot-high bays each with 13.5-foot-wide by 6.9-foot-high steel tainter gates. The non-overflow section is 19.08 feet long, 20 feet high, and 19.7 feet wide.

7. The reservoir, referred to locally as Angelo Pond, has a surface area of 52 acres at the normal reservoir surface elevation of 793.0 feet above mean sea level (msl) (i.e., the elevation of the top of the tainter gates). The maximum storage capacity of the reservoir is 450 acre-feet at the maximum reservoir surface elevation of 795.0 feet msl (i.e., the elevation of the crest of the dam).

8. Monroe County operates the project in run-of river mode, and there is currently no hydroelectric generation at the dam. When the reservoir exceeds elevation 793.0 feet msl (top of the tainter gates), excess water spills over the top of the gates. As the reservoir reaches the maximum operating elevation of 793.4 feet msl, Monroe County personnel manually raise the gates to allow excess water to flow through the tainter gates.

B. Proposed Project Facilities and Operation

9. In addition to the existing dam and reservoir, the proposed project will consist of the following new structures: (1) a 22.84-foot-long by 16.08-foot-wide trashrack with 2-inch clear bar spacing installed at the intake in the non-overflow section; (2) a 20-foot by 20-foot by 20-foot reinforced concrete box forebay; (3) a 26-foot-long by 24.5-foot-wide by 40-foot-high powerhouse located at the right abutment of the dam containing a 205-kW vertical, double-regulated Kaplan turbine; (4) a 30-foot-long, 480-volt overhead transmission line connecting the powerhouse generator to a step-up transformer located on a pole which is part of Northern States Power's 2.7-kilovolt

distribution line; and (5) appurtenant facilities. The estimated annual project generation will be about 950 megawatt-hours (MWh).

10. Western proposes to operate the project in a run-of-river mode, defined as minimizing fluctuation of the reservoir surface elevation to between 792.6 to 793.6 feet msl, so that at any point in time the sum of all project outflows approximates the sum of all project inflows. Although Western proposes a 1-foot reservoir operating range, Western states that it will attempt to hold the reservoir's surface elevation between 793.0 and 793.6 feet msl (0.6-foot operating range).

11. The existing spillway gates will be automated, and Western will install a head pond elevation gage within the reservoir. Western will also install and use a Supervisory Control and Data Acquisition (SCADA) system that will monitor and control the project's operations from a remote location.

12. The water used for project generation will flow through the project's trashracks into a new opening constructed in the dam. The water will then continue through an existing penstock to a new forebay, and then into the powerhouse. The flow out of the powerhouse will discharge into an existing pool located immediately downstream of the dam. Flows that exceed the project's maximum hydraulic capacity of 168 cubic feet per second (cfs) will pass over the dam spillway tainter gates and when flows cause the reservoir elevation to exceed the maximum operating elevation of 793.6 feet msl, the gates are opened to allow water to flow through the open tainter gates.

C. Project Boundary

13. The project boundary encloses 79.38 acres of land and includes the reservoir and all of the project facilities as described in paragraph 9 above. No federal or tribal lands are enclosed within the project boundary.

D. Proposed Environmental Measures

14. In addition to the proposed project facilities and operations described above, Western proposes to: (1) develop and implement an erosion and sediment control plan that includes best management practices (BMP), such as installing a temporary inflatable cofferdam, and placing hay bales and siltation fabric at locations where sediment-laden runoff could otherwise enter project waters, or adjacent non-project lands; and (2) implement the statewide programmatic agreement (PA), executed on December 16, 1993, and a historic properties management plan (HPMP) for the project, filed on October 21, 2011, and amended by letter filed on June 14, 2012.

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SUMMARY OF LICENSE REQUIREMENTS

15. As summarized below, this license authorizes 205 kW of renewable energy and requires measures to protect and enhance water quality, fish and aquatic, wildlife, and cultural resources at the project.

16. To protect aquatic resources, the license requires Western to: (1) operate the project in a run-of-river mode; (2) develop and implement an erosion and sediment control plan; (3) develop and implement an operation compliance monitoring plan; and (4) install trashracks with 2-inch clear bar spacing and an average approach velocity of 2 feet per second or less.

17. To protect cultural resources, the license requires Western to implement the statewide PA and HPMP.

WATER QUALITY CERTIFICATION

18. Under section 401(a)(1) of the Clean Water Act (CWA),⁴ the Commission may not issue a license authorizing the construction or operation of a hydroelectric project unless the state water quality certifying agency either has issued water quality certification (certification) for the project or has waived certification by failing to act on a request for certification within a reasonable period of time, not to exceed one year. Section 401(d) of the CWA provides that the certification shall become a condition of any federal license that authorizes construction or operation of the project.⁵

19. On January 20, 2011, Western applied to the Wisconsin DNR for certification for the Angelo Dam Project. The Wisconsin DNR received this request on January 24, 2011. Because Wisconsin DNR did not act on the request within one year of receipt, the certification is deemed waived.

COASTAL ZONE MANAGEMENT ACT

20. Under section 307(c)(3)(A) of the Coastal Management Zone Act (CZMA),⁶ the Commission cannot issue a license for a project within or affecting a state's coastal zone unless the state CZMA agency concurs with the license applicant's certification of consistency with the state's CZMA program, or the agency's concurrence is conclusively presumed by its failure to act within 6 months of the receipt of the applicant's certification.

⁴ 33 U.S.C. §1341(a)(1) (2006).

⁵ 33 U.S.C. § 1341(d) (2006).

⁶ 16 U.S.C. §1456(c)(3)(A) (2006).

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21. By correspondence filed on April 13, 2012, Wisconsin's Department of Intergovernmental Relations, Coastal Management Program Office, found that because the project is not located within the state-designated coastal management zone and would not affect Wisconsin's coastal resources, it is not subject to Wisconsin's coastal zone program review and no consistency certification is needed.

SECTION 18 FISHWAY PRESCRIPTION

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

23. By letter filed September 17, 2012, the Secretary of the Interior requested that the Commission reserve authority to prescribe fishways for the project. Consistent with Commission policy, Article 405 of this license reserves the Commission's authority to require fishways that Interior may prescribe for the Angelo Dam Project.

THREATENED AND ENDANGERED SPECIES

24. Section 7(a)(2) of the Endangered Species Act of 1973⁸ requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally listed threatened and endangered species, or result in the destruction or adverse modification of their designated critical habitat.

25. In the EA,⁹ staff determined that two federally listed species are known to occur in parts of Monroe County, namely the Karner blue butterfly (*Lycaeides melissa samuelis* or Karners) and northern wild monkshood (*Aconitum noveboracense*). However, staff concluded in the EA that because both species have specialized habitat requirements that do not exist in the immediate vicinity of the project, project construction and operation would have no effect on these species. Therefore, no further action under the Endangered Species Act is required.

⁷ 16 U.S.C. § 811 (2006).

⁸ 16 U.S.C. §1536(a) (2006).

⁹ See EA at 3, 5 and 26.

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NATIONAL HISTORIC PRESERVATION ACT

26. Under section 106 of the National Historic Preservation Act (NHPA),¹⁰ and its implementing regulations,¹¹ federal agencies must take into account the effect of any proposed undertaking on properties listed or eligible for listing in the National Register of Historic Places (defined as historic properties) and afford the Advisory Council a reasonable opportunity to comment on the undertaking. This generally requires the Commission to consult with the State Historic Preservation Officer to determine whether and how a proposed action may affect historic properties, and to seek ways to avoid or minimize any adverse effects.

27. To satisfy these responsibilities for licensing actions in Wisconsin and Michigan, the Commission executed a statewide PA on December 16, 1993, with the Advisory Council, the Wisconsin SHPO, and the Michigan SHPO.¹² The PA requires Western to implement its HPMP for the term of the license issued for this project. Execution of the PA demonstrates the Commission's compliance with section 106 of the NHPA. Article 406 requires Western to implement the PA and its associated HPMP.

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

28. Section 10(j)(1) of the FPA¹³ requires the Commission, when issuing a license, to include conditions based on recommendations by federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act,¹⁴ to "adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)" affected by the project.

29. In response to the April 24, 2012 public notice that the project was ready for environmental analysis, which included a request to file recommendations, Interior filed a letter with the Commission on June 20, 2012, stating that it had no comments. On September 17, 2012, in response to the August 22, 2012 notice of the availability of the

¹⁰ 16 U.S.C. § 470 *et seq.* (2006).

¹¹ 36 C.F.R. Part 800 (2012).

¹² The programmatic PA is implemented for all hydroelectric projects in Wisconsin and Michigan's Upper Peninsula that may affect properties included in, or eligible for the National Register of Historic Places.

¹³ 16 U.S.C. § 803(j)(1) (2006).

¹⁴ 16 U.S.C. §§ 661 *et seq.* (2006).

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EA, Interior, on behalf of its U.S. Fish and Wildlife Service (FWS), filed four recommendations pursuant to section 10(j).

30. Consistent with the Commission's regulations at 18 C.F.R. § 4.34(b)(3) (2012), the April 24 notice stated that recommendations were due within 60 days of the notice that the project was ready for environmental analysis, which was June 25, 2012. As noted above, Interior timely responded to the notice, but did not file any recommendations as part of its initial response. Therefore, the 10(j) recommendations filed by Interior in response to the EA, past the due date established in the April 24 notice, are considered below under section 10(a)(1) of the FPA.

SECTION 10(a)(1) OF THE FPA

31. Section 10(a)(1) of the FPA¹⁵ requires that any project for which the Commission issues a license shall be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce; for the improvement and utilization of waterpower development; for the adequate protection, mitigation, and enhancement of fish and wildlife; and for other beneficial public uses, including irrigation, flood control, water supply, recreation, and other purposes.

A. Fish and Wildlife Agency Recommendations

32. Interior and Wisconsin DNR made several recommendations for the protection and enhancement of environmental resources at the project in response to staff's issuance of the EA. We discuss those recommendations below.

Fish and Wildlife Agency Consultation

33. Interior recommended that Western consult with FWS on matters affecting fish and wildlife throughout the term of the license. Similarly, Wisconsin DNR recommended that Western consult with Wisconsin DNR on any and all matters "affecting the natural environment and navigation."

34. Consistent with staff's recommendations in the EA,¹⁶ Articles 402 through 404 require Western to consult with FWS and Wisconsin DNR on any temporary modifications to run-of-river operation (Article 402), operation compliance monitoring (Article 403), and construction of the trashrack for fish protection (Article 404).

Reservoir Surface Fluctuations

¹⁵ 16 U.S.C. § 803(a)(1) (2006).

¹⁶ See EA at 35-36.

35. Interior recommended that Western operate the project in a run-of-river mode with a reservoir surface elevation fluctuation range of no more than 0.6 foot over a 24-hour period. Interior did not specify an operating reservoir surface elevation around which to target the 0.6-foot operating range. Interior supported its recommendation by noting, generally, that reservoir surface fluctuations may adversely affect aquatic resources and that minimizing such fluctuations would limit adverse effects on aquatic and related terrestrial resources; however, it did not provide a rationale for specifically limiting fluctuations to no more than 0.6 foot over a 24-hour period.

36. Wisconsin DNR recommended run-of-river operation defined as maintaining the reservoir's surface elevation between 793.0 feet msl and 793.4 feet msl (i.e., limiting fluctuations to a range of no more than 0.4 foot). Wisconsin DNR stated that its recommended operating range is consistent with historical operations of the dam and reservoir.

37. In the EA,¹⁷ staff recommended adopting Western's proposal to operate the project reservoir within 1 foot of 793.6 feet msl (i.e., between 792.6 and 793.6 feet msl). Although this operating range is greater than the fluctuations that have occurred under historical operations of the dam and reservoir, staff determined that the 1-foot operating range would adequately protect aquatic resources in the La Crosse River and any additional benefits of the smaller operating range recommended by Wisconsin DNR would not be measurable. Neither Interior nor Wisconsin DNR provided information to support how its recommended fluctuation ranges would better protect or enhance aquatic resources than the 1-foot range proposed by Western and recommended by staff. Therefore, there is no basis for adopting either Interior's or Wisconsin DNR's more stringent fluctuation ranges. Article 402 of the license, therefore, requires run-of-river operation with staff's recommended maximum 1-foot reservoir fluctuation.

Operation Compliance Monitoring Plan

38. Interior and Wisconsin DNR recommended that Western develop a plan to monitor compliance with run-of-river operations.

39. In the EA,¹⁸ staff concluded that the development and implementation of an operation compliance monitoring plan would be beneficial in that it would document the procedures Western would employ to demonstrate compliance with its proposed project operations. Therefore, Article 403 in the license requiring Western to develop an operation compliance monitoring plan for the project after consultation with FWS and Wisconsin DNR.

¹⁷ See EA at 20-21.

¹⁸ See EA at 21.

Fish Entrainment

40. Western proposed to install a trash rack at the project intake that would have 2-inch clear spacing and result in an average approach velocity of 0.5 foot per second. In the EA,¹⁹ Commission staff determined that the escape speeds of most juvenile and adult game fish would allow them to avoid impingement and entrainment at the project due to the slow average approach velocity at the proposed trashrack. In addition, staff found that smaller fish (under 4 inches), which would have a higher likelihood of entrainment at the project due to their slower escape speeds, have been shown to exhibit a high rate of survival (95.4 percent) when passing through hydropower turbines.²⁰ Due to these findings, staff concluded that the proposed trashrack with 2-inch clear spacing would adequately protect fish from entrainment and impingement at the project.

41. In their comments on the EA, Interior and Wisconsin DNR recommended that Western install trashracks with 1-inch clear horizontal spacing between the trashrack bars to minimize juvenile fish entrainment and maintain average normal inflow velocities of 2 feet per second or less at the trashracks to protect fish from impingement and entrainment. Interior supported its recommendation by citing a 1995 Commission report²¹ that notes that thousands of fish, most of which are under 6 inches, are entrained annually at hydroelectric projects in Wisconsin and that a portion of these fish (2 to 20 percent or more) are killed. Wisconsin DNR did not provide supporting information for its recommendation other than to state that it supports Interior's recommendation.

42. Although not analyzed in the EA, the recommended 1-inch clear spaced trashrack would be expected to have a similar intake velocity (0.5 fps) to the proposed trashrack with 2-inch clear spacing. In addition, the 1-inch clear spaced trashrack would not exclude the smaller fish (less than 6 inches in length) with slower escape speeds that would be more susceptible to entrainment and impingement at the project. Due to this, the recommended 1-inch clear spaced trash rack does not appear to provide any additional benefit in regards to fish protection at the Angelo Project. Therefore, there is no basis for adopting Interior's and Wisconsin DNR's recommended 1-inch clear space trashrack in light of staff's finding in the EA that Western's proposed 2-inch clear space trashrack would adequately protect fish from entrainment and impingement at the project. Article 404 requires the licensee to file with the Commission for approval,

¹⁹ See EA 22.

²⁰ See EA 21.

²¹ Federal Energy Regulatory Commission. June 1995. Preliminary Assessment of Fish Entrainment at Hydropower Projects: A report on Studies and Protective Measures. Paper No. DPR-10.

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design drawings for a trashrack with no greater than 2-inch clear spacing and a maximum approach velocity of 2 feet per second.

Invasive Species Management Plan

43. Interior recommended that Western identify and control the spread of aquatic invasive species. In support of its recommendation, Interior stated, generally, that aquatic invasive species can adversely affect native plants and animals. Wisconsin DNR recommended that Western develop and implement an aquatic invasive species management plan. Wisconsin DNR did not provide supporting justification for its recommendation other than to say that it supported Interior on its recommendation for controlling invasive aquatic species at the project.

44. In the EA,²² staff determined that while several invasive plant species are known to occur in Monroe County, only curly-leaf pondweed (*Potamogeton crispus*) is known to occur in Angelo Pond. If disturbed by water fluctuations, raking, or recreational activities, curly-leaf pondweed can spread via plant fragments that have the ability to develop individual root systems and form new clusters. The potential for such spread to occur in Angelo Pond due to the construction and operation of the project is very low due to the limited recreational use of the project area, the limited water fluctuations that will occur with the run-of-river operation, and with all ground-disturbing activities associated with project construction occurring in the dry, away from the reservoir. Therefore, staff concluded in the EA that project construction and operation would likely have no effect on any existing pondweed populations. For these reasons the license does not require Western to develop and implement an aquatic invasive species management plan as a condition of the license.

B. Other Proposed and Recommended Measures

Erosion and Sediment Control Plan

45. To reduce runoff and soil erosion during construction, Western proposes to develop and implement an erosion and sediment control plan. In the EA,²³ staff recommended that Western develop and implement an erosion and sediment control plan that includes the provisions proposed by Western. Article 302 requires Western to develop and implement an erosion and sediment control plan.

EXEMPTION OF THE FERC FORM 80 RECREATION REPORT

²² See EA at 24-26.

²³ See EA at 35.

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46. The FERC Form 80 Recreation Report (Form 80) collects recreation usage data on recreation facilities at projects through the term of their licenses. Monroe County owns and operates a rest/picnic area with a boat launch and parking lot directly adjacent to the project boundary and has no plans to further develop this area. Since adequate recreational opportunities exist in the vicinity of the project, and there is little potential or need to expand existing facilities, the licensee is exempt from filing the Form 80 during the term of its license (Article 401).

ADMINISTRATIVE PROVISIONS

A. Annual Charges

47. Article 201 provides for the collection of funds for administration of the FPA. Under the regulations currently in effect, projects with an authorized installed capacity of less than or equal to 1,500 kW, like this project, will not be assessed an annual charge.

B. Exhibit F and G Drawings

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

C. Project Land Rights Progress Report

49. The project will occupy 79.38 acres of land. The land and existing project facilities currently belong to Monroe County. Western and Monroe County have a signed agreement for the sale of the dam and transfer of the necessary water rights by Monroe County to the applicant. The Exhibit G-3 filed as part of the application for license on February 10, 2012, identifies land that the applicant owns and intends to purchase. Standard Article 5 set forth in L-Form 15 requires the licensee to 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, within five years. In order to monitor compliance with Article 5, Article 203 requires the licensee to file no later than four years after license issuance, a report detailing its progress on acquiring title in fee or the necessary rights to all lands within the project boundary. The report is required to include specific documentation on the status of the rights that have been acquired as of the filing date of the progress report, and a plan and schedule to acquire all remaining land prior to the five-year deadline.

D. Project Financing

50. To ensure that there are sufficient funds available for project construction, operation, and maintenance, Article 204 requires the licensee to file for Commission approval documentation of project financing for the construction, operation, and

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maintenance of the project at least 90 days before starting any construction associated with the project.

E. Use and Occupancy of Project Lands and Waters

51. Requiring a licensee to obtain prior Commission approval for every use or occupancy of project land would be unduly burdensome. Therefore, Article 407 allows the licensee to grant permission, without prior Commission approval, for the use and occupancy of project lands for such minor activities as landscape planting. Such uses must be consistent with the purposes of protecting and enhancing the scenic, recreational, and environmental values of the project.

F. Start of Construction

52. Article 301 requires the licensee to commence construction of the project works within two years from the issuance date of the license and complete construction of the project within five years from the issuance date of the license.

G. Review of Final Plans and Specifications

53. Article 302 requires the licensee to provide the Commission's Division of Dam Safety and Inspection Chicago Regional Office (D2SI-CRO) with final contract drawings and specifications, together with a supporting design report consistent with the Commission's engineering guidelines.

54. Article 303 requires the licensee to provide the Commission's D2SI-CRO with cofferdam and deep excavation construction drawings.

55. Where new construction or modifications to the project are involved, the Commission requires licensees to file revised drawings of project features as-built. Article 304 provides for the filing of these drawings.

56. Article 305 requires the licensee to provide the Commission's D2SI-CRO with a public safety plan.

57. Where project modifications are proposed as a result of environmental requirements, the Commission requires licensees to file a plan and schedule of any proposed modifications to project operation or to the water retaining and/or conveyance features of the project. Article 306 provides for the filing of this plan and schedule.

STATE AND FEDERAL COMPREHENSIVE PLANS

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58. Section 10(a)(2)(A) of the FPA,²⁴ requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project.²⁵ Under section 10(a)(2)(A), federal and state agencies filed three comprehensive plans that address various resources in Wisconsin. Commission staff reviewed these plans²⁶ and no conflicts were found.

CONSERVATION EFFORTS

59. Section 10(a)(2)(C) of the FPA²⁷ requires the Commission to consider the electricity consumption improvement programs of the applicant, including its plans, performance, and capabilities for encouraging or assisting its customers to conserve electricity cost-effectively, taking into account the published policies, restrictions, and requirements of state regulatory authorities. Western will sell the project's power into the regional grid owned by Northern States Power-Wisconsin, doing business as (dba) Xcel Energy. Xcel Energy is an investor-owned electricity and natural gas company with regulated operations in eight Midwestern and Western states through four wholly owned utility subsidiaries, one of which is Northern States Power-Wisconsin.²⁸

60. Staff concludes that, within the limits of its ability to influence users of the electricity generated by the project, Western will comply with section 10(a)(2)(C) of the FPA

SAFE MANAGEMENT, OPERATION, AND MAINTENANCE OF THE PROJECT

61. Staff reviewed Western's preliminary plans to build the project as described in the license application. The Angelo Dam Project is subject to the requirements of 18 C.F.R. Part 12 and evaluated according to the criteria provided in the Commission's Engineering Guidelines. Staff concludes that there is no reason to believe that Western cannot safely manage, operate, and maintain the dam and other project works in accordance with the Commission's standards and oversight.

²⁴ 16 U.S.C. § 803(a)(2)(A) (2006).

²⁵ Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19 (2012).

²⁶ The list of applicable plans can be found in section 5.5 of the EA for the project.

²⁷ 16 U.S.C. § 803(a)(2)(C) (2006).

²⁸ See http://www.xcelenergy.com/About_Us/Our_Company/Company_Profile/Operations_at_a_Glance.

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NEED FOR POWER

62. To assess the need for power, staff looked at the energy needs in the operating region in which the project is located. The Angelo Dam Project is located in the Midwest Independent System Operator (MISO) sub-region of the Midwest Reliability Organization (MRO) region of the NERC. According to NERC's 2011 forecast, average annual demand requirements for the MISO sub-region are projected to grow at a rate of 2.9 percent from 2011 through 2021. MISO projects that resource capacity margins (generating capacity in excess of demand) will range between 15.2 percent and 23.2 percent of firm peak demand during the 10-year forecast period, including estimated new capacity additions. Over the next 10 years, MRO estimates that about 4,894 megawatts (MW) of additional capacity will need to be brought on line. Staff concludes that the project's power, low cost, and contribution to the region's diversified generation mix will help meet a need for power in the region.

PROJECT ECONOMICS

63. In determining whether to issue a license for a hydroelectric project, the Commission considers a number of public interest factors, including the economic benefits of project power. Under the Commission's approach to evaluating the economics of hydropower projects, as articulated in *Mead Corp.*,²⁹ the Commission uses current costs to compare the costs of the project and likely alternative power with no forecasts concerning potential future inflation, escalation, or deflation beyond the license issuance date. The basic purpose of the Commission's economic analysis is to provide a general estimate of the potential power benefits and the costs of a project, and of reasonable alternatives to project power. The estimate helps to support an informed decision concerning what is in the public interest with respect to a proposed license.

64. In applying this analysis to the Angelo Dam Project, we have considered two options: Western's proposal and the project as licensed herein. As proposed by Western, the leveled annual cost of operating the Angelo Dam Project is \$36,371, or \$38.65/megawatt-hour (MWh). The proposed project would generate an estimated average of 948.5 MWh of energy annually. When we multiply the estimated average generation by the alternative power cost of \$124.86/MWh,³⁰ we get a total value of the project's power of \$118,430 in 2012 dollars. To determine whether the proposed project is currently economically beneficial, staff subtracts the project's cost from the

²⁹ 72 FERC ¶ 61,027 (1995).

³⁰ Energy Information Administration's (EIA) 2011 Annual Outlook.

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value of the project's power.³¹ Therefore, in the first year of operation, the project would cost \$82,059, or \$86.52/MWh less than the likely alternative cost of power.

65. As licensed herein with staff's recommended measures, the levelized annual cost of operating the project would be about \$36,663, or \$38.65/MWh. Based on an estimated average annual generation of 948.5 MWh as licensed, the project would produce power valued at \$118,430 when multiplied by the \$124.86/MWh value of the alternative cost of power. Therefore, in the first year of operation, project power would cost \$81,767 or \$86.21/MWh less than the likely cost of alternative power.

COMPREHENSIVE DEVELOPMENT

66. Sections 4(e) and 10(a)(1) of the FPA³² require the Commission to give equal consideration to the power development purposes and to the purposes of energy conservation, the protection, mitigation of damage to, and enhancement of fish and wildlife, the protection of recreational opportunities, and the preservation of other aspects of environmental quality. Any license issued shall be such as in the Commission's judgment will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses. The decision to license this project, and the terms and conditions included herein, reflect such consideration.

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

68. Based on my independent review and evaluation of the project, recommendations from the resource agencies and other stakeholders, and the no-action alternative, as documented in the EA, I have selected the proposed Angelo Dam Project, with the staff-recommended measures, and find that it is best adapted to a comprehensive plan for improving or developing the La Crosse River.

69. I selected this alternative because: (1) issuance of an original license will serve to provide a beneficial, dependable, and an inexpensive source of electrical energy; (2) the required environmental measures will protect and enhance fish and wildlife resources,

³¹ Details of staff's economic analysis for the project as licensed herein and for various alternatives are included in the EA issued on August 22, 2012.

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

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water quality, and historic properties; and (3) the 205 kW of electric capacity comes from a renewable resource that does not contribute to atmospheric pollution.

LICENSE TERM

70. Section 6 of the FPA³³ provides that original licenses for hydropower projects shall be issued for a period not to exceed 50 years. The Commission's general policy is to establish 30-year terms for projects with little or no redevelopment, new construction, new capacity, or environmental mitigation and enhancement measures; 40-year terms for projects with a moderate amount of such activities; and 50-year terms for projects with extensive measures.³⁴ This license requires a moderate amount of new construction including: (1) a trashrack to be installed at the intake in the non-overflow section of the dam; (2) a reinforced concrete box forebay; (3) a powerhouse containing a 205-kW turbine-generator; and (4) a 30-foot-long, 480-volt overhead transmission line. Consequently, a 40-year license for the Angelo Dam Project is appropriate.

The Director orders:

(A) This original license is issued to the Western Technical College (licensee) for a period of 40 years, effective the first day of the month in which this order is issued, to construct, operate, and maintain the Angelo Dam 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 project consists of:

(1) All lands, to the extent of the licensee's interests in these lands, enclosed by the project boundary shown by Exhibit G filed on February 10, 2012.

<u>Exhibit G Drawing</u>	<u>FERC No. 13417-</u>	<u>Description</u>
Sheet G-1	6	Project Boundary
Sheet G-2	7	Project Boundary Detail at Angelo Dam
Sheet G-3	8	Flowage Rights Parcel Location & Property Owners List

³³ 16 U.S.C. § 799 (2006).

³⁴ See *City of Danville, Virginia*, 58 FERC ¶ 61,318 at 62,020 (1992).

(2) Project works consisting of the following facilities: (1) a reservoir with a surface area of 52 acres at the normal reservoir surface elevation of 793.0 feet above msl, and a gross storage capacity of 450 acre-feet at the maximum reservoir surface elevation 795.0 feet above msl; (2) a 615.5-foot-long dam that is comprised of (a) a 404-foot-long left earth embankment with a maximum height of 14 feet; (b) a 72.42-foot-long by 9.6-foot-high from the foundation level to its crest reinforced concrete spillway containing four, 13.5-foot-wide by 11.4-foot-high bays each with 13.5-foot-wide by 6.9-foot-high steel tainter gates; (c) a 19.08-foot-long by 20-foot-high by 19.7-foot-wide reinforced concrete intake; (d) and a 120-foot-long right earth embankment with a maximum height of 11 feet; (3) a 22.84-foot-long by 16.08-foot-wide trashrack with 2-inch clear bar spacing installed at the intake; (4) a 20-foot by 20-foot by 20-foot reinforced concrete box forebay; (5) a 26-foot-long by 24.5-foot-wide by 40-foot-high powerhouse located at the right abutment of the dam containing a 205-kW vertical, double-regulated Kaplan turbine; (6) a 30-foot-long, 480-volt overhead transmission line connecting the powerhouse generator to a step-up transformer that will be located on a pole which is part of Northern States Power's 2.7-kilovolt distribution line; and (7) appurtenant facilities. The estimated annual project generation will be about 950 MWh.

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

Exhibit A: The following sections of Exhibit A filed on October 21, 2010:

Section 2, pages 5, 6, 9, and 10 entitled, "Project Description" describing the turbine-generators, the transmission line, and the mechanical, electrical, and transmission equipment within the application for license.

Exhibit F: The following exhibit F drawings filed on February 10, 2012:

<u>Exhibit F Drawing</u>	<u>FERC No. 13417-</u>	<u>Description</u>
Sheet F-1	1	Plan View of Embankment with Spillway Structure
Sheet F-2	2	Existing Dam and Spillway
Sheet F-3	3	Section Existing Dam and Spillway
Sheet F-4	4	Plan and Section New Powerhouse

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Sheet F-5

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Right and Left 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 described 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:

(E) 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.

(F) This license is also subject to the articles set forth in Form L-15 (Oct. 1975), entitled, "Terms and Conditions of License for Unconstructed Minor Project Affecting The Interests of Interstate or Foreign Commerce" (see 54 F.P.C. 1799 et seq.), as set forth in this order, including the following additional articles:

Article 201. Administrative Annual Charges. The licensee shall pay the United States the following annual charges, as determined in accordance with the provisions of the Commission's regulations in effect from time to time effective as of the date of commencement of project operation to reimburse the United States for the cost of administration of Part 1 of the Federal Power Act. The authorized installed capacity for that purpose is 205 kilowatts (kW). Under the regulations currently in effect, projects with an authorized installed capacity of less than or equal to 1,500 kW will not be assessed an annual charge.

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

(a) Three sets of the approved exhibit drawings shall be reproduced on silver or gelatin 35mm microfilm. All microfilm shall be mounted on type D (3-1/4" X 7-3/8") aperture cards. Prior to microfilming, the FERC Project-Drawing Number (i.e., P-13417-1 through P-13417-8) 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

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corner of each aperture card. Additionally, the Project Number, FERC Exhibit (i.e., F-1, G-1, etc.), Drawing Title, and date of this license shall be typed on the upper left corner of each aperture card.

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

(b) The licensee shall file two separate sets of exhibit drawings in electronic raster format with the Secretary of the Commission, ATTN: OEP/DHAC. A third set shall be filed with the Commission's Division of Dam Safety and Inspections Chicago Regional Office. Exhibit F drawings must be separated from other project exhibits and identified as Critical Energy Infrastructure Information (CEII) material under 18 C.F.R. § 388.113(c) (2012). Each drawing must be a separate electronic file, and the file name shall include: FERC Project-Drawing Number, FERC Exhibit, Drawing Title, date of this license, and file extension in the following format [P-13417-6, G-1, Project Boundary, MM-DD-YYYY.TIF]. Electronic drawings shall meet the following format specification:

IMAGERY – black & white raster file

FILE TYPE – Tagged Image File Format, (TIFF) CCITT Group 4

RESOLUTION – 300 dpi desired, (200 dpi min)

DRAWING SIZE FORMAT – 24" X 36" (min), 28" X 40" (max)

FILE SIZE – less than 1 MB desired

Each Exhibit G drawing that includes the project boundary must contain a minimum of three known reference points (i.e., latitude and longitude coordinates, or state plane coordinates). The points must be arranged in a triangular format for GIS geo-referencing the project boundary drawing to the polygon data, and must be based on a standard map coordinate system. The spatial reference for the drawing (i.e., map projection, map datum, and units of measurement) must be identified on the drawing and each reference point must be labeled. In addition, each project boundary drawing must be stamped by a registered land surveyor.

(c) The licensee shall file two separate sets of the project boundary data in a geo-referenced electronic file format (such as ArcView shape files, GeoMedia files, MapInfo files, or a similar GIS format) with the Secretary of the Commission, ATTN: OEP/DHAC. The filing shall include both polygon data and all reference points shown on the individual project boundary drawings. An electronic boundary polygon data file(s) is required for each project development. Depending on the electronic file format, the polygon and point data can be included in a single file with multiple layers. The geo-referenced electronic boundary data file must be positionally accurate to ±40 feet in order to comply with National Map Accuracy Standards for maps at a 1:24,000 scale. The file name(s) shall include: FERC Project Number, data description, date of this license, and

file extension in the following format [P-13417, boundary polygon/or point data, MM-DD-YYYY.SHP]. The data must be accompanied by a separate text file describing the spatial reference for the geo-referenced 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 shall include: FERC Project Number, data description, date of this license, and file extension in the following format [P-13417, project boundary metadata, MM-DD-YYYY.TXT].

Article 203. Project Land Rights Progress Report. No later than four years after license issuance, the licensee shall file a report with the Commission describing the status of acquiring title in fee or the rights for all the lands and project facilities within the project boundary. The report must provide an overview map of each parcel and summary table identifying the licensee's rights over each parcel within the project boundary. The report shall also include specific supporting documentation showing the status of the land rights on all parcels of land within the project boundary that: (1) have been acquired up to the date of filing of the report, including pertinent deeds, lease agreements, and/or bill of sale information that specifically verify the licensee's rights; and (2) the licensee's plan and schedule for acquiring all remaining project lands prior to the five-year deadline, including a history of actions taken, current owner information, the type of ownership to be acquired whether in fee or by easement, and the timeline for completing property acquisition.

Article 204. Documentation of Project Financing. At least 90 days before starting construction, the licensee shall file with the Commission, for approval, three copies of the licensee's documentation for the project financing. The documentation must show that the licensee has acquired the funds, or commitment for funds, necessary to construct the project in accordance with this license. The documentation must include, at a minimum, financial statements, including a balance sheet, income statement, and a statement of actual or estimated cash flows over the license term which provide evidence that the licensee has sufficient assets, credit, and projected revenues to cover project construction, operation, and maintenance expenses, and any other estimated project liabilities and expenses.

The financial statements must be prepared in accordance with generally accepted accounting principles and signed by an independent certified public accountant. The licensee shall not commence project construction associated with the project before the filing is approved.

Article 301. Start of Construction. The licensee shall commence construction of the project works within two years from the issuance date of the license and shall complete construction of the project within five years from the issuance date of the license.

Article 302. Contract Plans and Specifications. At least 60 days prior to the start of any construction, the licensee shall submit one copy of its plans and specifications and supporting design document to the Commission's Division of Dam Safety and Inspections (D2SI)-Chicago Regional Engineer, and two copies to the Commission (one of these shall be a courtesy copy to the Director, D2SI). The submittal to the D2SI-Chicago Engineer must also include as part of preconstruction requirements: a quality control and inspection program, a temporary construction emergency action plan, and a soil erosion and sediment control plan. The licensee may not begin construction until the D2SI-Chicago Regional Engineer has reviewed and commented on the plans and specifications, determined that all preconstruction requirements have been satisfied, and authorized the start of construction.

The soil erosion and sediment control plan shall include the following: (1) a description of specific best management practices to be used; (2) detailed descriptions and/or drawings showing the location of hay bales, siltation fabric, the cofferdam, staging locations, and spoil pile locations, in the area of disturbance; (3) a description of how construction areas would be restored to their original state, including any plans to revegetate disturbed areas; and (4) a schedule for implementation of the plan and completion of restoration measures, as applicable.

The licensee shall prepare the plan after consultation with the U.S. Fish and Wildlife Service and Wisconsin Department of Natural Resources. 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 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.

Article 303. Cofferdam Construction Drawings and Deep Excavations. Before starting construction, the licensee shall review and approve the design of contractor-designed cofferdams and deep excavations and shall make sure construction of cofferdams and deep excavations is consistent with the approved design. At least 30 days before starting construction of the cofferdams and deep excavations, the licensee shall submit one copy to the Commission's Division of Dam Safety and Inspections (D2SI)-Chicago Regional Engineer and two copies to the Commission (one of these copies shall be a courtesy copy to the Commission's Director, D2SI), of the approved cofferdam construction drawings and specifications and the letters of approval.

Article 304. As-built Drawings. Within 90 days of completion of construction of the facilities authorized by this license, the licensee shall file for Commission approval, revised exhibits A, F, and G, as applicable, to describe and show those project facilities as built. A courtesy copy shall be filed with the Commission's Division of Dam Safety

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and Inspections (D2SI)-Chicago Regional Engineer; the Director, D2SI; and the Director, Division of Hydropower Administration and Compliance.

Article 305. Public Safety Plan. Within 60 days from the issuance date of this order, the licensee shall submit one copy to the Commission's Division of Dam Safety and Inspections (D2SI)-Chicago Regional Engineer and two copies to the Commission (one of these copies shall be a courtesy copy to the Commission's Director, D2SI) of a Public Safety Plan. The plan shall include an evaluation of public safety concerns at the project site, including designated recreation areas, and assess the need for the installation of safety devices or other safety measures. The submitted plan should include a description of all public safety devices and signage, as well as a map showing the location of all public safety measures. For guidance on preparing public safety plans, the licensee can review the *Guidelines for Public Safety at Hydropower Projects* on the FERC website.

Article 306. Project Modification Resulting from Environmental Requirements. The planning and design of any permanent or temporary modification which may affect the project works or operations shall be coordinated as early as feasible with the Commission's Division of Dam Safety and Inspections (D2SI)-Chicago Regional Engineer. This includes those modifications resulting from license environmental requirements. The licensee shall notify the D2SI-Chicago Regional Engineer of the proposed modifications at the beginning of the planning and design phase. The schedule is to allow sufficient review time for the Commission to insure that the proposed work does not adversely affect the project works, dam safety, or project operation.

Article 401. FERC Form 80 Exemption. Upon the effective date of the license, the licensee is exempt from section 18 C.F.R. § 8.11, the filing of the FERC Form 80 recreation report, for the Angelo Dam Hydropower Project.

Article 402. Project Operations. The licensee shall operate the project in a run-of-river mode to protect aquatic resources in the La Crosse River. The licensee shall at all times act to minimize the fluctuation of the reservoir surface elevation by maintaining a discharge from the project so that, at any point in time, flows, as measured immediately downstream from the project tailrace, approximate the sum of inflows to the project reservoir. In minimizing the fluctuation of the reservoir surface elevation, the licensee shall at all times to the extent of its control, maintain the reservoir surface elevation between 792.6 and 793.6 feet above mean sea level.

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

Article 403. Operation Compliance Monitoring Plan. At least 90 days before the start of project operations, the licensee shall file for Commission approval, an Operation Compliance Monitoring Plan that describes how the licensee will comply with the operational requirements of this license. The plan shall include, but not necessarily be limited to, the following:

- (a) a description of the exact location of all gages and/or measuring devices, or techniques that would be used to monitor compliance with Article 402, the procedures for maintaining and calibrating the monitoring equipment, the frequency of recording for each gage and/or measuring device, the protocols or methods to be used for reporting the monitoring data to the Commission, and a monitoring schedule;
- (b) a provision to maintain a log of project operation; and
- (c) an implementation schedule.

The licensee shall prepare the plan after consultation with the U.S. Fish and Wildlife Service and Wisconsin Department of Natural Resources. 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 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

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

Article 404. Trashrack Design. At least 90 days before the start of any land-clearing or land-disturbing activities, the licensee shall file for Commission approval, detailed design drawings of the licensee's proposed trashrack to reduce fish entrainment together with a schedule to construct/install the trashrack before commercial operation of the project begins.

This filing shall include, but not be limited to: (1) specifications of the size of the openings between the trashrack bars (not to exceed 2 inches); (2) specifications for the maximum approach velocity (not to exceed 2 feet per second); and (3) a description of the methods and a schedule for installing the trashrack.

The licensee shall prepare the drawings and schedule after consultation with U.S. Fish and Wildlife Service and the Wisconsin Department of Natural Resources. The licensee shall include with the drawings and schedule documentation of consultation,

copies of agency comments and recommendations on the drawings and schedule after they have been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the licensee's drawings. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the drawings and schedule with the Commission. If the licensee does not adapt 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 drawings and schedule. Land-clearing or land-disturbing activities shall not begin until the license is notified by the Commission that the filing is approved. Upon Commission approval, the licensee shall implement the proposal, including any changes required by the Commission.

Article 405. Reservation of Authority to Prescribe Fishways. Authority is reserved to the Commission to require the licensee to construct, operate, and maintain, or to provide for construction, operation, and maintenance of such fishways as may be prescribed by the Secretary of the Interior pursuant to section 18 of the Federal Power Act.

Article 406. Programmatic Agreement and Historic Properties Management Plan. The licensee shall implement the *Programmatic Agreement Among the Federal Energy Regulatory Commission, Advisory Council on Historic Preservation, the State of Wisconsin, State Historic Preservation Officer, and the State of Michigan, State Historic Preservation Officer for Managing Historic Properties that may be Affected by New and Amended Licenses Issuing for Continued Operation of Hydroelectric Projects in the State of Wisconsin and Adjacent Portions of the State of Michigan*, executed on December 16, 1993, and including, but not limited to, the *Cultural Resource Management Plan for the Proposed Licensing of the Angelo Dam Hydroelectric Facility in Angelo Township, Monroe County, Wisconsin, FERC Project 13417 (HPMP)*, filed on October 21, 2011, and amended by letter filed on June 14, 2012. In the event that the Programmatic Agreement is terminated, the licensee shall continue to implement the provisions of its approved HPMP. The Commission reserves the authority to require changes to the HPMP at any time during the term of the license.

Article 407. Use and Occupancy. (a) In accordance with the provisions of this article, the licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain types of use and occupancy, without prior Commission approval. The licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the licensee shall also have continuing responsibility to supervise and control the use and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants

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

(b) The type of use and occupancy of project lands and waters for which the licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 water craft at a time and where said facility is intended to serve single-family type dwellings; (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and (4) food plots and other wildlife enhancement. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the use and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the impoundment shoreline. To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

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

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file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed.

(d) The licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 water craft at a time and are located at least one-half mile (measured over project waters) from any other private or public marina; (6) recreational development consistent with an approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from project waters at normal surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 60 days before conveying any interest in project lands under this paragraph (d), the licensee must submit a letter to the Director, Office of Energy Projects, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked Exhibit G map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of that period.

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

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

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

(3) The instrument of conveyance must include the following covenants running with the land: (i) the use of the lands conveyed shall not endanger health, create a

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nuisance, or otherwise be incompatible with overall project recreational use; (ii) the grantee shall take all reasonable precautions to ensure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project; and (iii) the grantee shall not unduly restrict public access to project waters.

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

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

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

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

(H) This order constitutes final agency action. Any party may file a request for rehearing of this order within 30 days from the date of its issuance, as provided in section 313(a) of the FPA, 16 U.S.C. § 8251 (2006), and section 385.713 of the Commission's regulations, 18 C.F.R. § 385.713 (2012). The filing of a request for rehearing does not operate as a stay of the effective date of this license or of any date specified in this order. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

Jeff C. Wright
Director
Office of Energy Projects

Form L-15
(October, 1975)**FEDERAL ENERGY REGULATORY COMMISSION****TERMS AND CONDITIONS OF LICENSE FOR UNCONSTRUCTED MINOR
PROJECT AFFECTING THE INTERESTS OF INTERSTATE OR FOREIGN
COMMERCE**

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

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

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

Upon the completion of the project, or at such other time as the Commission may direct, the Licensee shall submit to the Commission for approval revised exhibits insofar as necessary to show any divergence from or variations in the project area and project boundary as finally located or in the project works as actually constructed when compared with the area and boundary shown and the works described in the license or in

the exhibits approved by the Commission, together with a statement in writing setting forth the reasons which in the opinion of the Licensee necessitated or justified variation in or divergence from the approved exhibits. Such revised exhibits shall, if and when approved by the Commission, be made a part of the license under the provisions of Article 2 hereof.

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

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

thereunder, or tax sales, shall not be deemed voluntary transfers within the meaning of this article.

Article 6. 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 7. 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 8. 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 9. The operations of the Licensee, so far as they affect the use, storage and discharge from storage of waters affected by the license, shall at all times be controlled by such reasonable rules and regulations as the Commission may prescribe for the protection of life, health, and property, and in the interest of the fullest practicable conservation and utilization of such waters for power purposes and for other beneficial public uses, including recreational purposes, and the Licensee shall release water from the project reservoir at such rate in cubic feet per second, or such volume in acre-feet per specified period of time, as the Commission may prescribe for the purposes hereinbefore mentioned.

Article 10. 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 11. 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 12. Whenever the United States shall desire, in connection with the project, to construct fish and wildlife facilities or to improve the existing fish and wildlife facilities at its own expense, the Licensee shall permit the United States or its designated agency to use, free of cost, such of the Licensee's lands and interests in lands, reservoirs, waterways and project works as may be reasonably required to complete such facilities or such improvements thereof. In addition, after notice and opportunity for hearing, the Licensee shall modify the project operation as may be reasonably prescribed by the Commission in order to permit the maintenance and operation of the fish and wildlife facilities constructed or improved by the United States under the provisions of this article. This article shall not be interpreted to place any obligation on the United States to construct or improve fish and wildlife facilities or to relieve the Licensee of any obligation under this license.

Article 13. 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

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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 14. 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 the request or upon its own motion, may order the Licensee to take such measures as the Commission finds to be necessary for these purposes, after notice and opportunity for hearing.

Article 15. The Licensee shall consult with the appropriate State and Federal agencies and, within one year of the date of issuance of this license, shall submit for Commission approval a plan for clearing the reservoir area. Further, the Licensee shall clear and keep clear to an adequate width lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which results from the clearing of lands or from the maintenance or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. Upon approval of the clearing plan all clearing of the lands and disposal of the unnecessary material shall be done with due diligence and to the satisfaction of the authorized representative of the Commission and in accordance with appropriate Federal, State, and local statutes and regulations.

Article 16. 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 17. 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

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absolutely cease at the end of the license period, unless the Licensee has obtained a new license pursuant to the then existing laws and regulations, or an annual license under the terms and conditions of this license.

Article 18. 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.

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