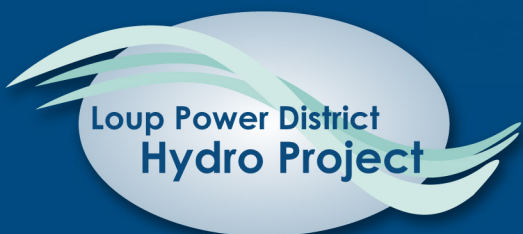
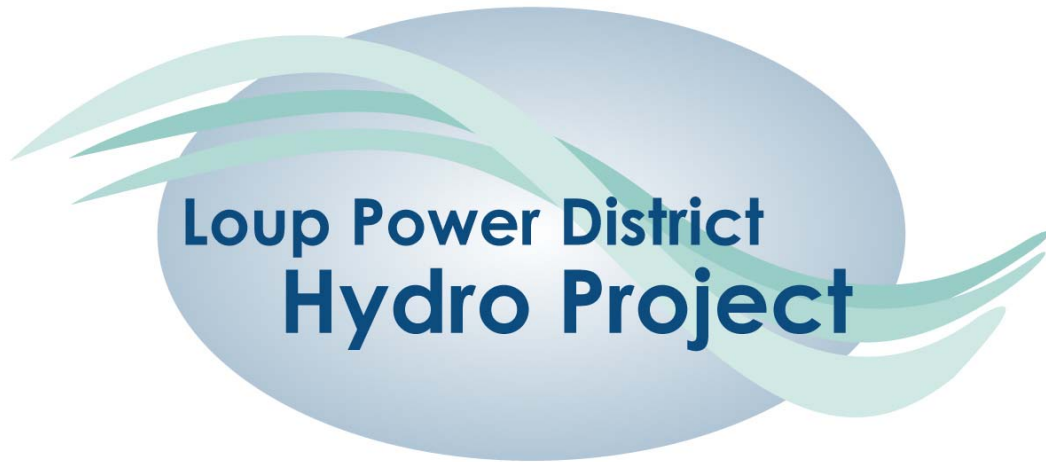


LOUP RIVER HYDROELECTRIC PROJECT FERC PROJECT No. 1256

FINAL LICENSE APPLICATION VOLUME 1 OF 5 GENERAL INFORMATION, INITIAL STATEMENT, AND EXHIBITS A, B, C, D, AND F, G, H



APRIL 13, 2012



**Loup River Hydroelectric Project
FERC Project No. 1256**

**Final License Application
Volume 1 – General Information, Initial Statement,
and Exhibits A, B, C, D, and F, G, H**

April 13, 2012

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LOUP RIVER HYDROELECTRIC PROJECT
FINAL LICENSE APPLICATION**

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Loup River Public Power District (Loup Power District or the District) is filing this Final License Application with the Federal Energy Regulatory Commission (FERC) to obtain a new license for its existing 53.4-megawatt (MW) Loup River Hydroelectric Project (FERC Project No. 1256). The Loup River Hydroelectric Project (Project) is licensed by FERC under authority granted through the Federal Power Act (16 United States Code [USC] 791(a), et seq.) to license and oversee the operation of non-Federal hydroelectric projects on jurisdictional waters and/or Federal lands. The current license for the Project expires on April 15, 2014, and in accordance with 18 Code of Federal Regulations (CFR) §5.17, the District must file its application with FERC for a new license no later than April 16, 2012. In support of obtaining a new license for the Project, the District initiated the Integrated Licensing Process (ILP) in 2008. Subsequent to the consultation and study activities performed to date, the District is now filing this Final License Application in accordance with 18 CFR §5.18.

1. PROJECT DESCRIPTION

The Project is an existing major project under FERC's regulations and has an installed nameplate capacity of 53.4 MW. The Project is located in Nance and Platte counties, Nebraska, where water is diverted from the Loup River and routed through the 35-mile-long Loup Power Canal, which empties into the Platte River near Columbus. The Project includes various hydraulic structures, two powerhouses, and two interconnected regulating reservoirs.

The Project begins at the Headworks, where at the point of diversion, a low weir across the Loup River creates sufficient head to divert a variable portion of river flow (not to exceed 3,500 cubic feet per second [cfs]) through an Intake Gate Structure into the Settling Basin. The diverted water is routed through the Upper Power Canal, which carries the water to the Monroe Powerhouse. Then the Lower Power Canal carries the water from the Monroe Powerhouse into two connected regulating reservoirs, Lake Babcock (in-channel) and Lake North (off-channel), which supply water to the Columbus Powerhouse via the Intake Canal. From the Columbus Powerhouse, water discharges to the Tailrace Canal, which in turn discharges Loup River water into the Platte River approximately 2 miles downstream of the confluence of the Loup and Platte rivers.

The portion of Loup River flow that is not diverted into the Loup Power Canal passes over the Diversion Weir or through the adjacent Sluice Gate Structure and continues downstream. The portion of the Loup River below the point of diversion is referred to as the Loup River bypass reach. The Project differs somewhat from a typical hydroelectric project in that it has no significant dam, in-river reservoir, project spillway, or overhead transmission lines.

Nebraska is the only state in the nation where all electric customers are served by public power utilities. The concept behind public power is that electricity is a public good and should be available to all consumers at the lowest possible price. This philosophy drives the overall business model for public power utilities to maintain revenues over the long term that just equal the costs of generating and distributing electricity for their customers. Public power districts set electric rates at levels appropriate to cover costs and provide appropriate cash reserves to maintain uninterrupted operations without any profit margin.

The Nebraska Legislature established the statutes that govern public power in 1933, the same year that the District was formed. As a public power state, all utilities that generate, transmit, or distribute electric power for use in Nebraska must be publicly owned and operated. The District is governed by a publicly elected board of directors consisting of ten individuals elected from established subdivisions within the District's operating territory.

All power generated by the Project is sold to Nebraska Public Power District (NPPD) at the two powerhouse substations, and NPPD dispatches the power in accordance with established operating agreements between the District and NPPD.

In connection with the Project, the District provides a variety of public benefits to residents in Nance and Platte counties, visitors from Nebraska and elsewhere, and electric ratepayers across Nebraska, including the following:

- Clean, renewable energy – The Project, which generates hydroelectric power, provides clean, renewable energy to electric ratepayers across Nebraska.
- Low energy rates – Revenue from the Project reduces electric rates for District customers.
- Recreation – The District maintains and operates five developed recreation areas and three multi-use trails, which provide opportunities for activities such as camping, hiking, biking, aquatic recreation, and Off-highway Vehicle (OHV) riding.
- Threatened and endangered species habitat – The Project's North Sand Management Area (SMA) provides habitat used by the threatened piping plover and the endangered interior least tern within the Project Boundary, contributing to the existence of these species.
- Historic resource preservation – The District has maintained the Project in excellent condition, resulting in preservation of a key resource related to the early history of public power in Nebraska as well as the Public Works Administration, which funded Project construction.

- Agriculture – The Loup Power Canal facilitates irrigation of crops adjacent to the Project. There are 71 irrigation water withdrawal points along the length of the Loup Power Canal.
- Economic development – The District plays a key role in economic development in Nance and Platte counties, as described below:
 - Low-cost electric power rates – The attractive electric power rates that the District offers are a major factor in attracting a variety of industries and their many associated jobs to the area.
 - Strategic land development – The District has purchased land for industrial development and worked with the City of Columbus and the Chamber of Commerce to attract approximately 70 manufacturing companies and 6,000 jobs to the Columbus area.
 - Increased tax base and improved quality of life – District economic development activities have resulted in an increased tax base and an improved quality of life for Columbus and Platte County.
 - Tourism – Headworks OHV Park near Genoa attracts approximately 20,000 visitors per year. OHV and dirt bike riders spend an estimated \$4.8 million per year in Nebraska on day trips to Headworks OHV Park (Nebraska Off-Highway Vehicle Association [NOHVA], June 29, 2008¹).
 - Direct employment – The District employs 118 full-time employees and 6 regular part-time employees.

2. AGENCY CONSULTATION AND PROCESS TO DATE

The Project is being relicensed (and §401 Water Quality Certification sought) through FERC's ILP. This process included a series of consultation activities that began with early stakeholder outreach and the distribution of the Pre-Application Document (PAD). Following the distribution of the PAD and FERC's Scoping Meeting, the District worked with Project stakeholders to define studies to be conducted during the relicensing process. FERC provided guidance in its Scoping Documents 1 and 2 and its Study Plan Determination, while the District detailed its studies in its Proposed Study Plan and Revised Study Plan, as discussed below:

- Scoping Document 1 – FERC issued Scoping Document 1 on December 12, 2008. The purpose of Scoping Document 1 was to provide information on the Project and to solicit comments and suggestions on the

¹ NOHVA. June 29, 2008. Personal communication from Dan Nitzel, Business Manager, NOHVA, to Jim Frear, Loup Power District.

preliminary list of issues and alternatives to be addressed in FERC's Environmental Assessment (EA).

- Proposed Study Plan – The District's Proposed Study Plan (PSP) was prepared in accordance with 18 CFR §5.11 and was filed on March 27, 2009. The PSP detailed 12 studies proposed by the District and agencies. Additionally, the document discussed the District's position on why additional studies were not warranted.
- Scoping Document 2 – Also on March 27, 2009, FERC issued Scoping Document 2 based on the verbal comments received at the scoping meetings and written comments received throughout the scoping process. The purpose of Scoping Document 2 was to clarify issues identified in Scoping Document 1 based on information received during the scoping process, to advise all participants about additional issues identified for inclusion in the proposed scope of the EA, and to seek additional information pertinent to these analyses.
- Revised Study Plan – The District's Revised Study Plan (RSP) was prepared in accordance with 18 CFR §5.13 and was filed on July 27, 2009. The RSP addressed all comments received on the PSP and included updated plans for the 12 studies included in the PSP.
- Study Plan Determination – FERC issued its Study Plan Determination on August 26, 2009, in accordance with 18 CFR §5.13(c). In its Study Plan Determination, FERC approved three studies as defined in the RSP without modification, approved six studies with modification, and removed three studies. The following is the complete list of studies identified in FERC's Study Plan Determination:
 - 1.0, Sedimentation (approved with modification)
 - 2.0, Hydrocycling (approved with modification)
 - 3.0, Water Temperature in the Platte River (deleted)
 - 4.0, Water Temperature in the Loup River Bypass Reach (approved with modification)
 - 5.0, Flow Depletion and Flow Diversion (approved with modification)
 - 6.0, Fish Passage (approved without modification)
 - 7.0, Fish Sampling (deleted)
 - 8.0, Recreation Use (approved with modification)
 - 9.0, Creel Survey (deleted – combined with 8.0, Recreation Use)
 - 10.0, Land Use Inventory (approved without modification)

- 11.0, Section 106 Compliance (approved without modification)
- 12.0, Ice Jam Flooding on the Loup River (approved with modification)

The District conducted these studies during 2010 and 2011, and the study results were reported in the District's Initial Study Report (August 26, 2010), Second Initial Study Report (February 11, 2011), and Updated Study Report (August 26, 2011; revised on September 6, 2011). All studies are complete, and the reports are provided in the Final License Application, Volume 3, Final Study Report.

- Initial Study Report – In accordance with 18 CFR §5.15, the District filed its Initial Study Report (ISR) on August 26, 2010, and held its Initial Study Results Meeting on September 9, 2010. The ISR and associated Initial Study Results Meeting provided results for the following studies:
 - 1.0, Sedimentation
 - 7.0, Fish Passage
 - 10.0, Land Use Inventory
 - 11.0, Section 106 Compliance

All studies were completed in accordance with the RSP and FERC's Study Plan Determination. Additionally, the ISR provided progress updates for the studies that were ongoing at that time.

- Determination on Study Modifications – Pursuant to 18 CFR §5.15(c), FERC issued its Determination on Requests for Modifications to the Loup River Hydroelectric Project Study Plan for the studies presented in the ISR on December 20, 2010. In this document, FERC addressed requested study plan modifications for the sedimentation and hydrocycling studies, as received from commenting agencies. Based on these requests and other related elements on record, FERC modified only the sedimentation and hydrocycling studies. These modifications were addressed in the District's August 26, 2011, Updated Study Report.
- Second Initial Study Report – At the time of ISR filing, approximately half of the District's studies were unfinished due to late-season data collection requirements. Therefore, the District filed its Second Initial Study Report (Second ISR) on February 11, 2011, and held its Second Initial Study Results Meeting on February 23 and 24, 2011. The Second ISR and associated Second Initial Study Results Meeting provided results for the following studies:
 - 1.0, Sedimentation
 - 2.0, Hydrocycling

- 4.0, Water Temperature in the Project Bypass Reach
- 5.0, Flow Depletion and Flow Diversion
- 8.0, Recreation Use
- 12.0, Ice Jam Flooding on the Loup River

All studies were completed in accordance with the RSP and FERC's Study Plan Determination.

- Determination on Study Modifications – Pursuant to 18 CFR §5.15(c), FERC issued its Determination on Requests for Modifications to the Loup River Hydroelectric Project Study Plan for the studies presented in the Second ISR on June 10, 2011. In this document, FERC addressed requested study plan modifications for the sedimentation, hydrocycling, water temperature in the Project bypass reach, and flow depletion and flow diversion studies, as received from commenting agencies. Based on these requests and other related elements on record, FERC modified only the sedimentation study. These modifications were addressed in the District's August 26, 2011, Updated Study Report.
- Updated Study Report – In accordance with 18 CFR §5.15(f) the District presented the results documented in the Updated Study Report to FERC and other relicensing participants during the Updated Study Results Meeting held on September 8, 2011. The presented studies included analyses required as a result of FERC's December 20, 2010, and June 10, 2011, Determinations on Study Modifications. The following studies were presented:
 - Study 1.0, Sedimentation
 - Study 2.0 Hydrocycling
- Draft License Application – In accordance with 18 CFR §5.16(c), the District filed its Draft License Application (DLA) with FERC on November 18, 2011. The DLA contained four volumes of material that represented the District's initial proposal to relicense the existing 53.4 MW Loup River Hydroelectric Project.
- Study Determination on Request for Modifications to the Study Plan – Pursuant to 18 CFR §5.15, FERC issued its determination on requests for modifications to the District's approved Study Plan on December 21, 2011. In this document, FERC addressed requested additional studies related to alternative operations and sediment transport, as received from FERC staff and the U.S. Fish and Wildlife Service (USFWS). Based on the study requests and other related elements on record, FERC required the District to conduct an Alternative Project Operations and Sediment Management Study, per FERC staff request, and did not require the USFWS-requested

Sediment Transport Study. The new study results are provided in Study 14.0, Alternative Project Operations and Sediment Management in the Final License Application, Volume 3, Final Study Report.

- Endangered Species Act Section 7 Consultation – Based on the potential occurrence of Federally listed species in the vicinity of the Project, the District filed its request to be designated as FERC’s non-Federal representative for purposes of ESA Section 7 consultation related to Project relicensing on October 16, 2008. FERC responded in the affirmative on December 16, 2008, and simultaneously initiated informal consultation with USFWS for relicensing. As a result of ongoing consultation, the District has prepared a Draft Biological Assessment (BA) (see Exhibit E, Appendix E-2).
- National Historic Preservation Act Section 106 Consultation – Consultation under Section 106 has been initiated by FERC, and FERC has designated the District as its non-Federal representative for purposes of conducting informal consultation pursuant to Section 106. The District’s Revised Study Plan included Study 11.0, Section 106 Compliance. Study 11.0 was coordinated with the Nebraska State Historic Preservation Office (SHPO) and approved by FERC on August 26, 2009. It includes multiple facets and Nebraska SHPO concurrence points. In association with Study 11.0, the following deliverables have been provided to—and associated concurrence has been received from—Nebraska SHPO: Phase IA Archaeological Overview, Phase I/II Archaeological Inventory and Evaluation, Historic Building Inventory and Evaluation, Phase I/II Archaeological Inventory and Evaluation Addendum, and Historic Properties Management Plan.

3. FINAL LICENSE APPLICATION ORGANIZATION

The Final License Application follows the form and content requirements set forth in 18 CFR §5.18(a)(5)(iii) and is divided into five volumes, as listed below. Summaries of Final License Application content are provided in Section 4, Final License Application Summary.

The Final License Application filed with FERC includes information that is considered privileged² or Critical Energy Infrastructure Information³ (CEII). This

² Privileged information is information that is sensitive and not publicly available because, for example, it relates to the specific location of threatened or endangered species or an archaeological resource, disclosure of which may jeopardize the resource.

³ CEII is specific engineering, vulnerability, or detailed design information about proposed or existing critical infrastructure (physical or virtual) that relates details about the production, generation, transmission, or distribution of energy; could be useful to a person planning an attack on critical infrastructure; is exempt from mandatory disclosure under the Freedom of Information Act; and gives strategic information beyond the location of the critical infrastructure.

information has been withheld from the publicly available document. Sections where information has been withheld are duly noted. Privileged information or CEII may be requested directly from FERC by filing a formal Freedom of Information Act or CEII request. Instructions for filing a request are available on FERC's website at <http://www.ferc.gov/legal/ceii-foia.asp>.

Volume 1 includes the following information and exhibits:

- Executive Summary
- General Information
- Initial Statement
 - Appendix IS-1 – Applications and Approvals
- Exhibit A – Project Description
- Exhibit B – Project Operation and Resource Utilization
 - Appendix B-1 – Monthly Flow Duration Curves, Loup River at Point of Diversion
 - Appendix B-2 – Monthly Flow Duration Curves, Loup River Power Canal at Genoa
- Exhibit C – Construction History and Proposed Construction Schedule
- Exhibit D – Statement of Costs and Financing
- Exhibit F – Design Drawings and Supporting Design Report
- Exhibit G – Project Maps
 - Appendix G-1 – Project Boundary Maps
 - Appendix G-2 – Project Boundary Modifications
- Exhibit H – Plans and Ability of Applicant to Operate Project Efficiently

Volume 2 includes the environmental report and associated appendices, as follows:

- Exhibit E – Environmental Report
 - Appendix E-1 – Exhibit E Figures
 - Appendix E-2 – Draft Biological Assessment
 - Appendix E-3 – Monthly Flow Duration Curves
 - Appendix E-4 – Water Quality Data
 - Appendix E-5 – Recreation Management Plan
 - Appendix E-6 – Consultation

Volume 3 contains the final study reports for all studies conducted for the Project, as follows:

- Appendix A – Sedimentation Study Report
- Appendix B – Hydrocycling Study Report
- Appendix C – Water Temperature in the Project Bypass Reach Study Report
- Appendix D – Flow Depletion and Flow Diversion Study Report
- Appendix E – Fish Passage Study Report
- Appendix F – Recreation Use Study Report
- Appendix G – Land Use Inventory Study Report
- Appendix H – Section 106 Compliance Study Report
- Appendix I – Ice Jam Flooding on the Loup River Study Report
- Appendix J – Alternative Project Operations and Sediment Management Study Report
- Appendix K – Summary of Study Results Related to the Interior Least Tern and Piping Plover

Volume 4 contains the following privileged information from other volumes of this Final License Application:

- Exhibit E, Table E-84, Archaeological Sensitivity Areas Subject to Further Consideration
- Exhibit E, Appendix E-6, Consultation, Contact Information of Relicensing Participants
- Appendix H-1, Phase IA Archaeological Overview
- Appendix H-2, Phase I/II Archaeological Inventory and Evaluation
- Appendix H-4, Phase I/II Archaeological Inventory and Evaluation Addendum
- Historic Properties Management Plan

Volume 5 contains the following CEII from other volumes of this Final License Application:

- Exhibit F, Appendix F-1, Design Drawings

4. FINAL LICENSE APPLICATION SUMMARY

4.1 Proposed Action

The District is seeking a new 30-year license for the continued operation and maintenance of the Loup River Hydroelectric Project. With the exception of new and improved recreation amenities, the District is proposing no new Project facilities. The District is proposing only one minor change to existing Project operations: the provision of additional flow in the Loup River bypass reach; no other changes to Project operations are proposed. The requested license term of 30 years is based on the minimal operational changes proposed relative to the current license.

4.2 General Information

The General Information Section: 1) states the District's proprietary right as owner and operator of all Project facilities, 2) lists government entities and Indian tribes potentially affected by relicensing, and 3) verifies public accessibility and accuracy of the document.

4.3 Initial Statement

The Initial Statement notes the District's intent to apply to FERC for a new license. It also provides Project location information, District contact information, and the District's status as a public power utility and political subdivision of the state of Nebraska. The Initial Statement then lists applicable state regulatory requirements and statutes and provides the Project's associated compliance status. A brief Project description is included, and public benefits are highlighted. The Initial Statement concludes by noting that the Project does not occupy any lands of the United States and that the District is proposing no new Project facilities beyond amenities planned to enhance the Project's recreational opportunities.

4.4 Exhibit A – Project Description

Exhibit A provides a detailed overview of the cumulative Project and then focuses on the specifications of individual Project structures and facilities.

4.5 Exhibit B – Project Operation and Resource Utilization

Highlights of Exhibit B content are provided as follows:

Average annual power generation since Project construction (1938 to 2010) is 136,405 megawatt hours (MWh). At a power factor of 0.95, the total Project plant factor is estimated to be 29.1 percent. For the period from 2007 to 2010, the Project plant factor is estimated to be 38.2 percent based on an average annual power generation of 178,874 MWh.

The dependable capacity of the Project is 45 MW based on the NPPD Columbus hydro accreditation, which includes all Monroe and Columbus powerhouse generating units.

Project diversion flow rates range from a low of 0 cfs to a maximum of 3,500 cfs. The average diversion rate, as measured at U.S. Geological Survey (USGS) Gage 06792500, Loup River Power Canal near Genoa, NE, has been 1,630 cfs (based on USGS data from 1938 through 2009).

4.6 Exhibit C – Construction History and Proposed Construction Schedule

Exhibit C provides information on Project improvements that have been—or are currently being—implemented pursuant to FERC authorization or as general maintenance since issuance of the District’s license in 1982. This exhibit then specifies that any and all proposed construction is limited to the recreation improvements planned for implementation during the license term.

4.7 Exhibit D – Statement of Cost and Financing

Highlights of Exhibit D content are provided as follows:

Average annual Project costs for period 2007 through 2010 are approximately \$6.4 million. The proposed license would increase annual operations and maintenance costs by approximately \$35,200. Based on the 2010 power purchase agreement (PPA) price of \$44.16 per MWh and the Project’s average annual power production of 136,405 MWh, the annual value of Project power is approximately \$6.0 million.

Project power is subject to on- and off-peak values, which are dependent on the hourly fluctuations of the wholesale power market. These markets are subject to hourly, daily, and seasonal variation, with power prices typically being highest during periods of high demand. Energy prices from the Southwest Power Pool are presented here as representative surrogates for the on- and off-peak pricing for energy that are embedded in Loup Power District’s PPA with NPPD. For the period from April 1, 2009, to October 31, 2011, the average daily price for on-peak power was \$30.54 per MWh, with an average daily high price of \$53.93 per MWh. The average daily price for off-peak power was \$16.98 per MWh, with an average daily high price of \$39.89 per MWh.

4.8 Exhibit E – Environmental Report

Exhibit E discusses the existing environmental, recreational, cultural, and land resources in the vicinity of, and affected by, the continued operation of the Project. The following sections summarize the proposed protection, mitigation, and enhancement measures proposed by the District in association with each resource.

4.8.1 Geology and Soils

The District would continue to discharge the majority of dredged material from the Settling Basin to the North SMA. This measure is intended to deter migration of the Loup River's south bank, immediately downstream of the Diversion Weir.

The District will continue to use best management practices to minimize erosion and sedimentation during construction activities and normal operations.

4.8.2 Water Resources

In an effort to ensure the continued safety of swimmers at its aquatic recreation facilities, the District proposes to continue visual monitoring protocols for blue-green algae. If blue-green algae is observed, or if NDEQ sampling detects microcystin, the District would post warning notices for swimmers.

4.8.3 Fish and Aquatic Resources

The District will continue to defer non-emergency maintenance procedures that require substantial curtailment of Loup Power Canal flows during hot summer conditions. This measure would minimize the potential for low dissolved oxygen levels in the Loup Power Canal and potential fish kills that could result.

The District will continue to cooperate with the Nebraska Game and Parks Commission (NGPC) regarding their annual sauger stocking activities in the Loup Power Canal and Lake North. Furthermore, the District will facilitate NGPC access to the Loup Power Canal as necessary for intermittent fish sampling and population monitoring.

The District proposes to formalize a previous operating practice for providing flow in the Loup River bypass reach in order to enhance aquatic habitat. In accordance with the previous practice, the District would allow approximately 75 cfs of flow down the Loup River bypass reach (measured at USGS Gage 06793000, Loup River near Genoa, NE) on days when the ambient temperature at Genoa or Columbus is forecast to reach or exceed 98 degrees Fahrenheit. This practice of providing flow in the Loup River bypass reach had previously been suspended due to concerns expressed by the Nebraska Department of Natural Resources (NDNR) related to potential violation of the District's water appropriation. The District met with NDNR to discuss its concerns and believes that this issue has been resolved to allow additional flow in the Loup River bypass reach without jeopardizing the District's water appropriation. The District has requested formal confirmation of this from NDNR but confirmation has not yet been received.

4.8.4 Wildlife and Botanical Resources

In order to maintain compliance with the Migratory Bird Treaty Act (16 USC 703-712), the District will continue to employ the following procedure when initiating any action that could result in a potential take:

- A qualified biologist would conduct a field survey of the affected habitats and structures to determine the absence or presence of nesting migratory birds.
- Survey documentation would be prepared and would include biologist qualifications, survey methods, date and time of survey, species observed/heard and location, avoidance measures implemented, and circumstances where it has been determined that one or more active bird nests cannot be avoided.

In 2011, the District implemented measures to increase awareness of invasive species, including zebra mussels (*Dreissena polymorpha*), in an effort to minimize the chance of infestation at Lake North and to ensure that the existing recreational opportunities afforded by Lake North continue. Specifically, the District posted signs, developed in association with NGPC, that outline the threat posed by invasive aquatic species and measures that can be taken to minimize risk. The District proposes to continue this public outreach initiative related to invasive species. More specifically, the District will maintain the recently placed signage specific to invasive species control and will evaluate additional outreach methods as necessary.

The District proposes its continued compliance with regulations applicable to the NGPC-managed Lake Babcock Waterfowl Refuge.

4.8.5 Wetlands, Riparian, and Littoral Habitat

The District understands the function that floodplains, wetlands, and riparian and littoral habitat have related to water quality, wildlife habitat, and flood storage. With this understanding, the District will do the following:

- Avoid and minimize impacts on these resources during construction activities associated with the planned recreation improvements and throughout normal operations.
- Comply with the conditions provided in its existing Clean Water Act Section 404 Permit (Permit No. 2007-3190-KEA). This permit was most recently issued on January 6, 2012, and authorizes dredging activities at the Settling Basin that discharge to the South SMA.⁴
- Continue periodic treatment of undesirable common reed (*Phragmites australis*) in Lake Babcock.

⁴ USACE has determined that a Clean Water Act Section 404 permit is not necessary for Project discharges to the North SMA.

4.8.6 Rare, Threatened, and Endangered Species

Since 1988, the District has voluntarily cooperated with USFWS, NGPC, and the Tern and Plover Conservation Partnership (TPCP) to protect nesting interior least terns and piping plovers within the Project Boundary. These efforts include the cessation of dredging activity during the nesting/fledging season each year. The District will continue to work jointly with the cooperating agencies regarding the suspension of dredging activity during the nesting/fledging season.

In accordance with the Memorandum of Understanding (MOU) and associated adaptive management plan (developed by Preferred Sands, USFWS, and NGPC to protect interior least terns and piping plovers), the District would continue to work with Preferred Sands to monitor the arrival and departure of the birds.

Additionally, at the request of USFWS, the District has prepared a draft MOU related to District dredging activities that would formalize the measures previously implemented by the District to protect interior least tern and piping plover nesting activities at the North SMA.

4.8.7 Recreation and Land Use

The District will continue its cooperative effort with NOHVA by providing trail riding opportunities at Headworks OHV Park and hosting NOHVA jamborees. The District will also continue its partnership with Columbus Area Recreational Trails (CART) via ownership and maintenance of its existing public trail network.

The District will continue to cooperate with NGPC regarding its annual sauger stocking activities in the Loup Power Canal and Lake North. Furthermore, the District will facilitate NGPC access to the Loup Power Canal as necessary for intermittent fish sampling and population monitoring.

In addition to the continuation of successful recreational cooperative relationships, the District has identified the following Project improvements in its Recreation Management Plan (see Exhibit E, Appendix E-5); all listed improvements are intended to enhance the existing recreational opportunities associated with the Project:

- Construct a wheelchair-accessible fishing pier, which would meet Americans with Disabilities Act (ADA) guidelines, along the north shore of Lake North
- Construct a new 2,000-foot pedestrian/bicycle trail segment along the southeast side of Lake Babcock
- Construct a new permanent restroom facility at Headworks OHV Park that meets ADA guidelines
- Install a new sand volleyball court at Headworks Park
- Upgrade camper electrical outlets at Headworks Park and Lake North Park

- Designate a no-wake zone in the southeast corner of Lake North in order to enhance recognized fishing opportunities
- Improve and replace playground equipment at all developed recreation areas as needed

4.8.8 Aesthetic Resources

In association with Project relicensing, the District developed a Historic Properties Management Plan (HPMP) that includes preservation measures relevant to the continued aesthetic value provided by notable District structures, including the aesthetically pleasing Monroe and Columbus powerhouses.

In hopes to deter undesirable or criminal activity at Tailrace Park, the District ended vehicular access to the park in February 2012. Pedestrian access is being maintained for those wishing to use the recognized fishing opportunities.

4.8.9 Cultural Resources

The District has developed an HPMP that establishes the following three goals for managing historic properties within the Project's Area of Potential Effect (APE):

- Ensure continued normal operation of the Project while maintaining and preserving the integrity of historic properties within the APE.
- To the extent possible, avoid, minimize, or mitigate adverse effects on historic properties within the APE.
- Ensure that historic properties are managed in a way that does not impede the District's ability to comply with the terms of its operating license and other applicable Federal, state, and local statutes.

The HPMP reflects the comments received during the National Historic Preservation Act Section 106 consultation process and incorporates study recommendations. It was provided to Nebraska SHPO and Native American Indian tribes for review. Nebraska SHPO concurred with the HPMP on March 12, 2012. To date, no comments have been received from Native American Indian tribes.

4.8.10 Socio-economic Resources

In its continued efforts to provide low electric rates to its customers, the District proposes to continue the cost-effective operations that have historically benefited rate payers and promoted economic development. Additionally, the District is proposing multiple enhancements to Project-related recreation amenities in association with its Recreation Management Plan (see Exhibit E, Appendix E-5).

4.8.11 Tribal Resources

If a tribe notifies the District of the presence of a property of traditional religious or cultural importance within the APE, the District will consult with Nebraska SHPO

and the tribe to develop management measures appropriate to the property and will amend the HPMP as appropriate in accordance with the amendment protocols contained therein.

If archaeological remains are encountered by District personnel, contractors, or consultants during any land-altering activities within the APE, or if a contributing element to the Loup Power District (LPD) historic district is affected in an unanticipated manner, the District shall follow specific protocols detailed in the HPMP to provide for the security, protection, and integrity of the cultural property.

4.9 Exhibit F – Design Drawings and Supporting Design Report

Exhibit F contains design drawings that include overall plan views, elevations, profiles, and sections of the principal Project works. These drawings have been determined CEII; therefore, they are being filed exclusively with FERC in Volume 5 of this Final License Application. Exhibit F also references the District’s Ninth Part 12D Independent Consultant Safety Inspection Report, as it relates to supporting design information, and notes that the District has initiated its Tenth Part 12D inspection (expected to occur in spring 2012).

4.10 Exhibit G – Project Maps

Exhibit G contains a series of 14 maps that illustrate the Project Boundary and primary Project facilities. Also included are discussions of proposed modifications to the Project Boundary. Specifically, the District is proposing to remove three areas from the Project Boundary that are not necessary for Project operations/purposes and to add three areas to the Project Boundary that are related to requirements of the existing license (and anticipated new license).

4.11 Exhibit H – Plans and Ability of Applicant to Operate Project Efficiently

Exhibit H discusses the District’s ability to operate the Project efficiently and cites experience gained through District ownership and operation since the Project was originally licensed and constructed in the 1930s. It also details the need for Project power generation and summarizes the cost and availability of alternate sources of power.

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ACRONYMS, ABBREVIATIONS, AND SHORT FORMS

ADA	Americans with Disabilities Act
APE	Area of Potential Effect
Applicant	Loup River Public Power District (also Loup Power District or the District)
Application	Application for a New License for the Loup River Hydroelectric Project (FERC Project No. 1256)
BA	Biological Assessment
CART	Columbus Area Recreational Trails, Inc.
CEII	Critical Energy Infrastructure Information
CFR	Code of Federal Regulations
cfs	cubic feet per second
CWA	Clean Water Act
CY	cubic yard
District	Loup River Public Power District (also Loup Power District)
EA	Environmental Assessment
EAP	Emergency Action Plan
FERC	Federal Energy Regulatory Commission
FPA	Federal Power Act
hp	horsepower
HPMP	Historic Properties Management Plan
Hz	hertz
ILP	Integrated Licensing Process

ISR	Initial Study Report
kV	kilovolt(s)
kVA	kilovolt-ampere(s)
LIDAR	Light Detection and Ranging
LIP	Locational Imbalance Prices
Loup Power District	Loup River Public Power District (also the District)
MOU	Memorandum of Understanding
MSL	above mean sea level
MW	megawatt(s)
MWh	megawatt hour(s)
NCDC	National Climatic Data Center
NDEQ	Nebraska Department of Environmental Quality
NDNR	Nebraska Department of Natural Resources
NESCA	Nongame and Endangered Species Conservation Act
NGPC	Nebraska Game and Parks Commission
NGVD 29	National Geodetic Vertical Datum of 1929
NOAA	National Oceanic and Atmospheric Administration
NOHVA	Nebraska Off Highway Vehicle Association
NPPD	Nebraska Public Power District
NRHP	National Register of Historic Places
O&M	operations and maintenance
OHV	Off-Highway Vehicle
PAD	Pre-Application Document
PPA	power purchase agreement

Project	Loup River Hydroelectric Project
PSP	Proposed Study Plan
REA	Ready for Environmental Analysis
RM	River Mile
rpm	revolutions per minute
RSP	Revised Study Plan
SCADA	supervisory control and data acquisition
SCORP	State Comprehensive Outdoor Recreation Plan
Second ISR	Second Initial Study Report
SHPO	State Historic Preservation Office
SMA	Sand Management Area
SPP	Southwest Power Pool
U.S.	United States
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey