

FEDERAL ENERGY REGULATORY COMMISSION

WASHINGTON D.C. 20426

June 29, 2012

OFFICE OF ENERGY PROJECTS

Project No. 1256-031-Nebraska
Loup River Hydroelectric Project
Loup Power District

Mr. Neal Suess, President/CEO
Loup Power District
2404 15th Street
P.O. Box 988
Columbus, NE 68602-0988

Reference: Additional Information Request

Dear Mr. Suess:

We have completed our review of your license application for the Loup River Project and have determined that we need additional information before we can complete our evaluation and conduct our environmental analysis of your proposed project. Under section 5.21 of the Commission's regulations, you have 30 days from the date of this letter to provide the information we request in the enclosed Schedule A. If the requested information causes any other part of the application to be inaccurate, please revise that part and refile it by the due date. Also, please be aware that further requests for additional information may be sent to you at any time before final action is taken on your license application.

Please file your response electronically via the Internet. See 18 C.F.R. § 385.2001(a)(1)(iii) and the instructions on the Commission's website (<http://www.ferc.gov/docs-filing/efiling.asp>). For assistance, please contact FERC Online Support at FERCOnlineSupport@ferc.gov; call toll-free at (866) 208-3676; or, for TTY, contact (202) 502-8659. Although the Commission strongly encourages electronic filing, your response may also be paper-filed. To paper-file, mail an original and seven copies to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 888 First Street, NE, Washington, D.C. 20426. Please put the docket number, P-1256-031 on the first page of your response.

Register online at <http://www.ferc.gov/docs-filing/esubscription.asp> to be notified via email of new filings and issuances related to this or other pending projects. For assistance, contact FERC Online Support. For any questions or

comments you may have concerning this request, please contact Lee Emery at (202) 502-8379 or via email: lee.emery@ferc.gov.

Sincerely,

Nicholas Jayjack, Chief
Midwest Branch
Division of Hydropower Licensing

cc: Public Files
Mailing List

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ADDITIONAL INFORMATION

Project Description

1. In appendix A, section A.2.2, page A-4, you state that five gates are operated by either electric- or gasoline-powered gyros. We are not familiar with the term “gyro.” Please define the term “gyro” and its use so that we can better understand how the gates are operated.
2. In appendix A, section A.2.5, page A-5, you state that the existing 2,500-horsepower pump on the hydraulic dredge would be replaced with a new 3,000-horsepower pump. Please discuss the potential for any effects of the new pump on project operations. Specifically, please describe whether the new pump would: (1) allow sand to be deposited at a higher elevation in the sand management areas (SMAs) and (2) allow dredging at a greater capacity that would potentially reduce the time needed to dredge the settling basin.
3. In appendix B, section B.1.3, page B-8, you state that a materials processing company removes sand from the North SMA. Please describe how or if the sand removal operations at the North SMA are coordinated with or limited by dredging activities and if any spatial or temporal restrictions exist for removing sand within the North SMA. Please provide a map of the North SMA that shows the areas that are used for active sand removal operations and those areas that are excluded from active sand removal operations. In addition, please provide the estimated storage capacity of the North SMA for disposal of dredge material, whether the current disposal site is nearing its capacity, and what measures, if any, have been taken to locate additional dredge disposal sites for handling future dredge disposals from the project.
4. In appendix B, section B.1.3, page B-8, you state that a Memorandum of Understanding (MOU) was developed by the materials processing company (Preferred Sands), U.S. Fish and Wildlife Service (FWS), and Nebraska Game and Parks Commission (Nebraska GPC) that includes an adaptive management plan (AMP) to protect the threatened and endangered interior least terns and piping plovers using the North SMA. Please provide a copy of the MOU, a copy of the AMP, and any costs associated with operation of the North SMA, including AMP implementation. Additionally, please provide the following information to better define the area *within* the North SMA that is currently used to provide threatened and endangered bird habitat (i.e., the active habitat zone, or AHZ): (a) a map of the protected AHZ; (b) the total acreage; (c) the acreage of the ponds; (d) how the water is moved to the ponds; (e) what efforts, if any, are used to maintain the

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ponds through each nesting season; and (f) the costs associated with managing and maintaining the AHZ.

5. In appendix B, section B.2.4, page B-21, you provided reservoir capacity information (area versus volume) in graphical form as graphs B-2 and E-2. To facilitate our understanding of project operations, please provide the information in a tabular format for both Lake North and Lake Babcock. Each table should include elevation, total reservoir area, and effective reservoir storage. Please also identify the elevations that separate the effective, ineffective, and dead storage areas in each lake.

6. In appendix E, section E.4.26, page E-52, the y-axis in graph E-2 is labeled as “active reservoir storage (ac-ft).” Please define active reservoir storage as it pertains to graph E-2.

Fishery Resources

7. On page E-172, you identify several sport fish species captured in sampling conducted in the Loup Power Canal and Lake North in August 2010 by the Nebraska GPC. You indicate 18 fish species were collected in that August 2010 sampling effort, but you only list 11. Please provide a complete list of all fish species collected in August 2010 and any additional information about the fish collected, if available, such as: (1) presence of forage fish species and their identification; (2) general abundance of each species captured; and (3) general health of species captured (e.g., stunted growth, signs of disease or infection, signs of overpopulation). Also, if available, please provide a copy of the Nebraska GPC fish sampling report for the August 2010 sampling event for the Loup Power Canal and Lake North or raw data from that sampling study that you used to prepare your fisheries discussion in Exhibit E. Please include the total numbers of individual fish identified as “other” from the creel survey discussed on page E-184 (i.e., goldeye, gizzard shad, common and bighead carp, buffalo, yellow bullhead, northern pike, and striped bass hybrids), as these numbers would help us to better understand the diversity and overall status of fish populations in the Loup Power Canal.

8. On page E-187, in describing Loup River fish habitat, you cite to Nebraska GPC Annual Progress Reports (i.e., Nebraska GPC June 1997 and Nebraska GPC April 1998). Please provide us with copies of these reports for our environmental analysis of your project proposal.

Terrestrial Resources

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9. In section 6.4.1 of your Exhibit E, you identify several terrestrial and aquatic nuisance species known to occur within the project boundary and/or nearby water bodies. Throughout this section of the application, you discuss measures that you implemented in an attempt to monitor, control, and increase public awareness of invasive species at the project, such as actively monitoring the project boundary for invasive species, periodically applying “appropriate treatment” to the common reed occurring in Lake Babcock, and posting educational signage about invasive species.

You state that you plan to continue these efforts concerning invasive species, and would evaluate additional measures as necessary. However, based on the information you provided in the application, the scope of your proposal is unclear, and no specific methods and/or schedule for implementing control measures are provided. Therefore, please provide the following information related to your proposal: (1) a description and map (if available) of invasive species you propose to monitor within the project boundary; (2) a description of your proposed monitoring methods; (3) a description of any proposed control methods or management practices to be implemented; (4) a description of your proposed on-going and future public outreach activities concerning invasive species at the project; and (5) an implementation schedule. Please also provide the capital and annual costs to implement your proposed measures.

10. On page E-201, you state that you would continue to comply with the regulations applicable to the Nebraska GPC-managed Lake Babcock Waterfowl Refuge. Please explain what these regulations are, and describe any management measures, or practices you would be required to implement.

11. On page E-202, you state that you would continue to follow a specific protocol when initiating any action that would result in a potential take of migratory birds. Please describe your procedure for determining what types of actions warrant implementation of this protocol regarding the potential take of migratory birds.

12. On page E-204, you state that 3,110 acres of wetlands are located in the vicinity of the project. Please provide a map of these areas, showing the relationship to the project boundary.

13. On page E-210, you state that you would “avoid and minimize impacts on [floodplains, wetlands, riparian and littoral habitats] during construction activity with the planned recreation improvements...”. Please identify the specific practices you plan to implement. Please also estimate the area (e.g., in square feet) and type (e.g., vegetation removal) of ground-disturbing activities that would be necessary to complete the installation of the proposed recreational improvements.

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Threatened and Endangered Species

14. Table E-69, on page E-220, shows a comparison of interior least tern nest counts both upstream and downstream of the project's point of diversion on the Loup River. You state that most of the nests located downstream of the diversion, as well as most nests found on the Loup River overall, were located at off-river as opposed to on-river nesting sites. However, using the data presented in Table E-69, we found that combining the on-river nest counts for areas upstream and downstream of the project diversion yields a value of 248 nests, about 15 more than the total found for off-river sites (233). Please clarify this apparent discrepancy between your statement and the data shown in Table E-69.

15. On page E-275, you state that Preferred Sands is responsible for implementing the AMP, and all its associated costs. However, if Preferred Sands (or some subsequent successor) were to decide to discontinue sand removal, and thus management of the AHZ, please indicate how management of the AHZ would continue and/or change over the term of any new license issued for the project.

16. On page 20, of your draft biological assessment (draft BA), you state that you have prepared a draft MOU related to dredging activities in an effort to formalize measures to protect interior least tern and piping plover habitat. However, the draft MOU was not filed as part of your application or mentioned as a proposed measure in section 6.4.3 of your Exhibit E. Please file a copy of this draft MOU, and any updates thereto, and clarify whether implementation of the MOU is part of your project proposal.

17. On page 18 of section 3.2 of your "*Summary of Study Results Related to the Interior Least Tern and Piping Plovers*," you discuss the effects of hydrocycling operations on tern and plover habitat. Please specify the time increment of the sub-daily flows (e.g., 15 minutes, 30 minutes, hourly) that characterize the hydrocycling operations you used to analyze project operational effects on tern and plover habitat.

Recreation and Land Use

18. In Exhibit E, page E-282 of your license application, you state that the Headworks OHV Park is owned by you and maintained by the Nebraska Off Highway Vehicle Association (Association). Please provide copies of any agreement(s), the date(s) when these agreement(s) would end, and what measures you would take with the Association to ensure the continued maintenance of the Headworks OHV Park under any new license issued for the project.

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19. In the Second Initial Study Report Meeting Summary, filed March 11, 2011, you stated you would provide, quantitatively, the facility capacity for each recreation resource at your recreation facilities. In addition, in a letter issued on February 16, 2012, we requested that you provide, quantitatively, the facility capacity for each recreation resource in your final license application. In Exhibit E, page E-294 of your license application and in appendix E-5, page 5 of your *Recreation Management Plan*, you discuss, quantitatively, the capacity of camping facilities, but provide only a brief qualitative summary of the capacities of the remaining recreation facilities. More information is needed for our environmental analysis to determine if the recreation facilities meet or exceed recreation demand; therefore, please provide the previously requested information for all of the recreation resources at Headworks Park, Lake Babcock Park (aka Loup Park), Lake North Park, Columbus Powerhouse Park, and Tailrace Park. To calculate facility capacity, please compare the average total amount of weekend use with the total combined capacity of these resources to handle such use and enter a percentage that indicates their overall level of use. Please do not consider peak weekend use.¹

20. In Exhibit E, page 304, you state that you closed vehicle access to Tailrace Park in February 2012, but foot access is still available. Please discuss the distance recreationists must walk from the gated entrances to the park. Also please discuss if pull-off areas are available at the gated entrances, and the amount of cars that any pull-off spaces could accommodate.

21. Tailrace Park includes playground equipment, but in appendix E-5, *Recreation Management Plan*, on page 27, you state that the proposed upgrades and maintenance of the existing playground equipment do not include the equipment at Tailrace Park. Please discuss if you propose to remove the playground equipment from Tailrace Park or why you do not propose to maintain the equipment during the term of any license issued. If you do propose to maintain the equipment, please revise Table D-1 to include the costs associated with developing and implementing the proposed measure.

22. In Exhibit E, page E-306 of your license application, you propose to continue to implement the visual monitoring protocol for blue-green algae. Please provide the protocol that is used and whether it would be changed, and how, under your proposed project operation.

23. In Exhibit G, page G-6 of your license application, you propose to include in the project boundary 7.7 acres of land located within the channel of the lower

¹ Peak weekends are defined as the July 4th weekend and other holiday weekends.

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Platte River. You state that the land is needed for shoreline management; however, you do not discuss why it is necessary. Please discuss why the additional 7.7 acres of land are necessary for shoreline management.

Costs and Financing

24. In Exhibit G, section G.2, *Project Boundary Modifications*, you propose to add three parcels of land into the project boundary, which you have determined necessary for project operation. In order to analyze the developmental costs of your project proposal in our environmental document, please include an estimate of the capital costs as well as any annual costs associated with adding the three parcels of land into the project boundary.

25. In Exhibit D, table D-1, *Preliminary Cost Estimate of Proposed Environmental Measures*, you provide the operation and maintenance cost for the proposed historic properties management measure; however, you do not provide a capital cost for developing the measure. Also in Exhibit E, page E-306, you propose to continue to visually monitor for the presence of blue-green algae, to conduct water sampling to detect the presence of microcystin, and to post warning notices for swimmers, if necessary, based on monitoring results. However, you do not provide in table D-1 an estimated capital cost or operation and maintenance cost for these proposed measures. Please provide the costs associated with developing the proposed historic properties management measure, and developing and implementing the proposed measures to protect swimmers.

In Exhibit D, table D-1, *Preliminary Cost Estimate of Proposed Environmental Measures*, you propose to upgrade camper outlets at Lake North Park and Headworks Park. However, in Exhibit C, section C.2 *Proposed Construction Schedule*, you do not propose a timeframe for commencement or completion of the camper upgrades. Please provide a construction schedule for the proposed camper outlet upgrades.

Supporting Design Report and Exhibit F Drawings

26. In Exhibit F, section F.2, page F-2, you state that the supporting design information already filed with the Commission satisfies the requirements of 18 CFR §4.41(g)(3). However, you did not file the information in the record for the relicensing proceeding. Please file a complete copy of the Supporting Design Report in the relicense proceeding (P-1256-031) in response to this letter.

27. In Exhibit F, sheet no. 26 of 26, the water surface elevations shown in the drawings appear to be incorrect in two locations for: (1) the canal section drawing for sta. 1886+00, and for (2) sectional elevation of the canal at A-A. Please

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confirm whether the elevations given for the canal as 1412.85 are correct and revise the drawing, if necessary.

Study 14.0 – Alternative Project Operations and Sediment Management

28. In section 5.1.1, page 15, you state that under Alternative 1, the median grain size of the stream bed material would remain constant. However, you state Lane's relationship is the product of sediment discharge and median grain size, which is directly proportional to the product of discharge and bed slope.

Therefore, this relationship indicates that sediment discharge, median grain size, and slope can all vary. Please describe whether the HEC-RAS model, which allows the simulation of hydraulic sorting and armoring, predict that there would be no change in the median grain size of the stream bed material.

29. Section 5.1.1, page 16, you state that the channel geometry at Site 4 has adjusted over time to the current project operations, which includes removal of sediment from the stream system. You state that this adjustment of channel geometry occurred not by degradation but by change in channel width. However, you state that HEC-RAS modeling results indicate that reintroduction of the sediment removed as part of project operation would result in an increase in the slope of the stream. Please clarify the process whereby sediment removal does not affect the slope of the stream but the reintroduction of sediment into the stream would affect the slope.

Please also provide any data or references you may have that would indicate whether a braided (transport-limited) stream would increase its width by: (1) erosion of its stream banks; (2) erosion of islands between the banks of the stream; or (3) a combination of the two processes.

30. The HEC-RAS modeling results in section 5.1.1, page 38 only include the presentation and discussion of the changes in slope. In our study plan determination letter issued on December 21, 2011, we requested that results of the HEC-RAS modeling include, but not be limited to the following six parameters: width, depth, area, flow, velocity, and stream bed material gradation. Please provide the six requested parameters, as well as the slope, in tabular format so that we can evaluate the augmentation alternatives.

31. On page 38 of section 5.1.1, you state that plotted points are well-seated in the braided regime for both figures 5-19 and 5-20. However, on figure 5-19, existing project operations are plotted in the region labeled as "intermediate streams." Only site 4, labeled as "7,600 tons per day," is plotted in the region labeled as "braided stream." Therefore, we are unclear on how you concluded that the plotted points are well-seated in the braided regime. Please explain.

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32. On page 38 of section 5.1.1, you state that it would take considerable slope and discharge changes to move the stream trend toward a different regime. In this regard, in figure 5-19, please clarify if you are referring to regime changes as the line separating braided streams from intermediate streams or the line separating intermediate streams from meandering streams.

In figure 5-20, all plotted points fall within regions 2, 3, and 4, all of which are classified as braided streams. In figure 5-20, please clarify if you are referring to the line labeled as I, II, III, or IV as the one indicating the change in regime.

33. On page 42 of section 5.1.2, you state that although you predicted minor changes in morphology, your analysis did not determine a change in stream regime for any of the operational alternatives. Based on the lack of a change in stream regime, you state that you do not anticipate any changes in associated habitat for interior least terns, piping plovers, or pallid sturgeon for any of the operational alternatives. Please provide any data or references to indicate: (1) whether any change in stream morphology without a change in stream regime would affect habitat or (2) the magnitude of change in the stream morphology that would be required to change associated habitat for interior least terns, piping plovers, or pallid sturgeon.

34. On page 44 of section 5.1.2, you state that measurable changes in sandbar formation processes, the number or size of sandbars, or sandbar inundation would not be expected to occur over the long term as the result of implementing Alternative 1. On page 45 you state that over the long term, the addition of sediment in a flow limited system like the Platte River would not be expected to change the routine bar-forming processes. Please identify if there is an amount of sediment that could be added to the stream system that would have a measurable effect on the routine bar-forming process and include those references used in your analysis.

35. On page 46 of section 5.2.1, you state that implementing Alternative 2 would likely result in conditions similar to the 1950's when adjacent property owners expressed concern about the Loup River bypassed reach. Previously you addressed stream bank erosion by constructing jetties. Please provide any information that would indicate whether it would be possible to stabilize the south (right) bank of the Loup River bypassed reach under Alternative 2. Please describe potential stabilization measures and cost of implementation.

Document Content(s)

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