



REQUEST FOR PROPOSAL

J-2 Regulating Reservoir Feasibility Engineering Review

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM
Office of the Executive Director
4111 4th Avenue, Suite 6
Kearney, Nebraska 68845

May 1, 2012



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Attachment A – Program’s Consultant Contract.



PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM REQUEST FOR PROPOSALS

SUBJECT: J-2 Regulating Reservoir Feasibility Engineering Review
REQUEST DATE: May 1, 2012
PRE-PROPOSAL MEETING: May 17, 2012
CLOSING DATE: June 6, 2012
POINT OF CONTACT: Beorn Courtney
 Headwaters Corporation
 (720) 524-6115
courtneyb@headwaterscorp.com

I. OVERVIEW

The Platte River Recovery Implementation Program (Program) was initiated on January 1, 2007 between Nebraska, Wyoming, Colorado, and the Department of the Interior to address endangered species issues in the central and lower Platte River basin. The species considered in the Program, referred to as “target species”, are the whooping crane, piping plover, interior least tern, and pallid sturgeon. Program participants have reached an agreement for participation in the First Increment of the Program for the period from 2007 through 2019.

A Governance Committee (GC) reviews, directs, and provides oversight for activities undertaken during the Program. The GC is comprised of one representative from each of the three states, three water user representatives, two representatives from environmental groups, and two members representing federal agencies. The GC has named Dr. Jerry Kenny to serve as the Program Executive Director (ED). Dr. Kenny established Headwaters Corporation as the staffing mechanism for the Program. Program staff are located in Nebraska and Colorado and are responsible for assisting in carrying out Program-related activities.

The Program’s First Increment water objective is to provide water capable of reducing shortages to U.S. Fish and Wildlife Service (FWS) target flows by an average of 130,000-150,000 acre-feet per year. The Program daily target flows are provided in the Program Document Attachment 5 Water Plan, Section 11 Water Plan Reference Material, Appendix A-5. The Program also plans to augment short-duration high flows (SDHF) which in the context of the Program, are defined as flows of approximately three to five days duration with magnitudes approaching but not exceeding bankfull channel capacity in the habitat reach. These flows are desired on an annual or near-annual basis to help scour vegetation encroaching on channel habitat areas and to mobilize sand and build ephemeral sandbars to benefit the target species.

The J-2 Regulating Reservoir (also referred to as re-regulating) was identified under the Program’s Reconnaissance-Level Water Action Plan (WAP) as one of thirteen water projects capable of being combined to meet the Program’s water objective (Water Plan, 2006). To address the ability to deliver Program water at the appropriate time, place, and quantities, including a SDHF, the Governance Committee completed a Water Management Study (WMS). The WMS was completed in two phases. Phase I evaluated the ability of the existing river and



irrigation/hydropower systems to be operated to achieve these flows. WMS Phase I concluded that capacity constraints in the Platte River and in the Nebraska Public Power District (NPPD) and Central Nebraska Public Power and Irrigation District (CNPPID) systems' current infrastructure prohibit a SDHF of the magnitude desired without additional new infrastructure. This conclusion was made even after modeling the North Platte River capacity at 3,000 cfs at North Platte, in anticipation of improvements being made under the Program. The WMS Phase I study recommended storage near the associated habitat to help achieve the SDHF objective.

The purpose of the WMS Phase II was to identify, screen, and evaluate the technical, cost, environmental, and institutional attributes of selected water storage projects that could contribute to Program flow objectives. The WMS Phase II concluded that storage near the associated habitat could theoretically suffice in augmenting a SDHF and contributing to the AMP experiments, but that costs may be prohibitive considering the estimated yield of water produced toward Program water objectives and the Water Plan budget of \$90.14 million (in 2005 dollars) for water conservation/supply activities.

The WMS results prompted the Program to initiate a pre-feasibility and feasibility study to evaluate the use of a potential new regulating reservoir(s) under the CNPPID system for Program purposes to supplement a SDHF. The reservoir pre-feasibility study identified design alternatives related to making SDHF releases and reducing FWS target flow shortages in the Platte River (i.e. "target flow operations"). During the feasibility study phase, Nebraska Department of Natural Resources (NDNR) expressed interest in the project to reduce shortages to target flows under its Depletions Plan and CNPPID expressed interest in using the project to mitigate hydrocycling impacts to the river and in using a portion of the project storage to improve hydrocycling flexibility during irrigation season deliveries to the Phelps County Canal. The purpose of the hydrocycling mitigation is to smooth the release pattern from the J-2 Hydro Plant to remove fluctuations to the river, which are of concern to the FWS. In summary, the J-2 Regulating Reservoir project is being designed for several CNPPID and Program purposes:

- a) Mitigating hydrocycling impacts to the Platte River associated with CNPPID operations.
- b) Improving CNPPID's hydrocycling flexibility during the irrigation season.
- c) Reducing deficits to FWS target flows for the Program purposes and in support of the NDNR Depletions Plan.
- d) Providing releases of 2,000 cubic feet per second (cfs) for three days to augment Program SDHFs.

An independent engineering review of the structural design components of the feasibility study is being solicited under this RFP, including the following:

- **Review of Available Information** – Perform a general review of all feasibility-level information, related to the design of the various project structures.
- **Geotechnical Review** – Conduct a review to determine whether the design adequately addresses the anticipated range of operating and storage level conditions.
- **Specific Project Element Review** – Provide a detailed technical review of major project



elements including the outlet works, inlet and Phelps Canal gates, reservoir liner, slope protection and stability, uplift pressure analysis, reservoir and canal operations, seepage control, and Phelps Canal enlargement and related siphon works, bridge replacement and accessory items such as roads, fencing, etc.

- **Risk Assessment** – Conduct a risk assessment of dam failure and potential seepage impacts.
- **Integration of Newly Recommended Elements/Facilities** – Prepare preliminary design and provide opinion of probable cost for any newly recommended project concepts by the Consultant, if any.
- **Cost Evaluation** – Conduct a review of preliminary construction cost, operations and maintenance estimates, and provide an opinion of probable costs.

While the feasibility study included reservoir modeling related to hydrocycling mitigation and yield toward reducing deficits to FWS target flows, additional yield modeling is not anticipated unless a substantially different design alternative is recommended. Should additional yield modeling be needed, the EDO will provide such services. Much of the information provided in the previous studies (WMS and pre-feasibility) is referenced above to provide the Consultant with the history of the project, and a better understanding of the operational goals for this project. The engineering review services being requested herein will focus on the structural components of the project, based on a general understanding of how the project will be operated.

The GC submits this Request for Proposals (RFP) to solicit proposals from Consultants to provide an independent engineering review of the project feasibility. The scope of services includes engineering review, design, and opinion of probable costs. In order to provide these review services, Consultant must maintain complete independence from the feasibility investigation effort. The term Consultant shall be used throughout this document to describe both the RFP Respondent providing the proposal and Consultant (the successful Respondent) who would be performing the work upon award of the project.

II. PROJECT DESCRIPTION

The study area is located within Gosper and Phelps Counties, Nebraska just below the CNPPID J-2 Hydropower Plant near Overton, Nebraska. The pre-feasibility study recommended construction of a two-cell reservoir complex (referred to as Area 1 and Area 2) and enlargement of an existing canal that would be used to reduce flow variability associated with operations of the J-2 Hydropower Plant, regulate available excess flows to reduce shortages to the FWS recommended target flows, to facilitate/augment short duration high flows to either preserve or create Program habitat. "Reservoir Project" shall mean two new regulating reservoirs and related facilities to be acquired, constructed, and operated to regulate water in Central's system below the J-2 Hydro.

During the J-2 Regulating Reservoir preliminary design phase, several major design components were identified to satisfy the various purposes of the combined reservoir uses as described in Section I above. The major design components include the following:



- Two adjacent reservoir cells with compacted clay liners. Combined capacity of approximately 14,000 acre-feet and combined footprint of approximately 1,000 acres. Reservoir cells operate independently.
- Phelps Canal delivery system upgrade including widening the canal to increase capacity from 1,000 cfs to 1,675 cfs, modification of the Plum Creek siphon, and replacement of bridges.
- Outlet works from each reservoir cell to the Platte River with the ability to release 2,000 cfs for 3 days for Short Duration High Flows and lower flows to mitigate hydrocycling and reduce deficits to FWS target flows.
- Inlet works for each reservoir cell from the Phelps Canal with a maximum hydraulic capacity of 1,675 cfs.
- Phelps Canal control gate downstream of the reservoirs to maintain sufficient water surface elevation in the canal for reservoir storage and irrigation delivery operations.

The purpose of the services described under this RFP is to conduct an independent review of the recently completed pre-feasibility study for construction of the J-2 Regulating Reservoir Project and to provide an opinion of probable costs for the various project elements including operations and maintenance. The effort will also include an assessment of risk associated with dam failure. The emphasis of the review will be focused on structural integrity and longevity (a minimum 50-year projected life cycle) and project operations. The Consultant will provide an opinion of probable costs for any recommended improvements to the project, i.e. recommended changes in components or facility operations that may improve longevity or reduce the overall cost of the project.

III. SCOPE OF WORK

The Consultant will be responsible for providing an independent engineering review of the J-2 Regulating Project and opinion of probable cost to verify the pre-feasibility study conclusions. The scope and appropriate methods for performing independent analyses will be discussed with the Executive Director's Office of the Program (EDO) and CNPPID prior to performing the analyses. General Consultant services to be completed for this RFP are as follows:

- 1) Scoping and Pre-meetings
 - a) Project Kick-Off Meeting and Work Session between the Consultant, EDO, and CNPPID will be conducted early in the project schedule. The purpose is to discuss the Consultant's approach to the project, refine the scope of work, and identify potential project issues.
 - b) Two additional project meetings/work sessions will be conducted as necessary for the coordination of project activities and for keeping the EDO and CNPPID informed of progress.
 - c) Two formal progress meetings with the Program's Water Advisory Committee should be planned and should be coordinated to coincide with site visits or fieldwork, if fieldwork is determined to be necessary.
 - d) The Consultant will be responsible for setting and conducting the informal and formal meetings in coordination with the EDO and CNPPID. No meeting will be conducted



without approval in advance by the EDO ad CNPPID. The consultant will prepare all notices, necessary materials for the meetings, and all meeting summary notes in Microsoft Word format.

2) General Review of Available Information

- a) The EDO will provide the J-2 Regulating Reservoir preliminary design and operations documentation and calculations to the Consultant. Consultant will gather and review any additional existing information related or pertinent to the J-2 Regulating Reservoir Project available through the EDO, CNPPID, NDNR, Federal Energy Regulatory Commission (FERC), or other entities/agencies that possess jurisdictional prerogatives relative to the Project engineering design.
- b) Consultant will review and familiarize themselves with available information prior to initiation of Project Kickoff Meeting and develop a technical memorandum that will be used to organize and direct subsequent task activities. The Consultant will review the existing J-2 Project as configured under the feasibility study, and identify any issues/problems related to either construction or operation of the Project. Consultant will also make recommendations for any additional project features not included in the feasibility study (e.g. SCADA). The Consultant will also provide recommendations to correct the issues/problems identified. The Consultant will come to the Kickoff Meeting prepared to seek additional information or clarification about operational and design considerations based on their review of the background information.
- c) In advance of the Kickoff Meeting, the Consultant will prepare a preliminary agenda for the Kickoff Meeting, provide a list of questions, issues, and discussion topics to be addressed during the Kickoff Meeting, and provide a preliminary outline of an engineering review report to be submitted at the conclusion of the project.

3) Geotechnical Review

- a) Using geotechnical data provided by the EDO, the Consultant will review the adequacy of the J-2 project recommendations in terms of embankment and canal slope stability, uplift protection, slope protection, groundwater intrusion, seepage potential, supporting subgrade, and seismic perspectives to determine whether concerns associated with various reservoir operating conditions (e.g. rapid reservoir drawdown/evacuation) have been adequately addressed.
- b) Consultant will recommend any project components that should be further reviewed in detail, in addition to those listed in item 4 below.

4) Detailed Project Component Review

- a) Consultant will provide a detailed review of the following major project components, along with any others identified during the Kickoff Meeting:
 1. Outlet Works – The Consultant will review existing recommendations pertaining to sizing and operating the outlet works for all identified operational purposes including hydro-cycling mitigation, target flow releases, and releases to augment SDHFs. The proposed location of the gates shall be evaluated. Of particular interest, due to their high cost, is the feasibility study-recommended use of radial gates to augment a



- SDHF once every two to three years, and whether less expensive (from both capital cost and operation and maintenance perspectives) alternatives might be available.
2. Inlet and Canal Gates – The Consultant will review existing recommendations pertaining to sizing and operating the proposed Phelps Canal gate and inlet gates to both reservoirs from the Phelps Canal.
3. Reservoir Liner – The Consultant will review existing geotechnical data and data related to groundwater elevation and its potential influence on the recommended liner and whether other cost-effective alternative technologies are available that would avoid maintaining a minimum two feet of water in the bottom of the reservoir.
4. Phelps Canal Enlargement – The Consultant will review existing recommendations pertaining to the Phelps Canal enlargement and related siphon works, bridge replacement and accessory items such as roads, fencing, etc.
5. Land – The Consultant will review whether additional construction easements may be required to build the project.
6. Any other project components recommended for further review during the geotechnical review task described above.

5) Risk Assessment

- a) The Consultant will conduct a risk assessment for a “clear day” dam break and a risk assessment for Platte River high flows jeopardizing the structural integrity. The risk assessment will also include identification of any critical project element, which if failed, would lead to a dam break or reduce the ability of the project to operate as intended. The assessment will conform to any procedures, rules and/or regulations promulgated by the dam safety divisions of the NDNR and FERC. The risk assessment will consider the following categories:
 1. The Capital Value of the Project – This includes the capital value of the project elements, which would be destroyed or damaged, and the loss of the benefits, services, revenues, or aesthetics provided by the project.
 2. Potential for Loss of Life – This includes considerations for: the population at risk in downstream areas; the catastrophic nature of the dam breach flood; the adequacy of warning to downstream inhabitants; and the potential for future downstream development.
 3. Potential for Property Damage – This includes the amount of damage to: residential and commercial property; transportation facilities such as roads and bridges; damage and disruption of lifeline and community service facilities; and potential environmental degradation.
 4. Operational Plan – This includes any recommendations for operational plans to address potential dam failure under various scenarios of river flow and reservoir storage levels.
- b) If absent in the existing project configuration, the Consultant will also recommend measures and provide estimated costs for recommended measures that would lessen risk associated with the Project due to overtopping by floodwaters or erosion from Platte River flows; internal erosion of foundations and embankments caused by seepage, seepage along outlet works; deterioration of outlet works and of any man made materials



- used in construction; and impacts on local groundwater levels due to reservoir seepage.
- c) Consultant will consider the need for and any anticipated issues in obtaining a floodplain development permit.
- 6) Integration of Newly Recommended Elements/Facilities
- a) The Consultant will prepare preliminary designs associated with any newly recommended approach or re-configuration of the project recommended by the Consultant as a result of their review.
- 7) Cost Evaluation
- a) The feasibility study cost estimates were conducted at a reconnaissance level, and included a twenty-five percent (25%) contingency. To establish a budget reflective of actual construction costs, the Consultant will develop an updated in-depth opinion of probable costs (similar to a feasibility level or pre-final design level that is based on costs of construction of recently completed similar projects or components of projects) and projected annual operation and maintenance expenses. The Consultant will also include the costs/savings associated with any recommendations changes from the feasibility report. The Consultant will recommend the appropriate level of construction cost contingency to include at this time, based upon their review.
- 8) Discretionary Task
- a) The Consultant will reserve 10% of the total project budget for a discretionary task line item. This task is to allow changes in the scope as the project develops or as new issues are discovered. No work will be initiated or funds spent for this task without written authorization from the EDO.
- 9) Draft, Final, and Executive Summary Reports
- a) The report will follow the outline developed by the Consultant as part of Task 2 and discussed with the EDO and CNPPID during the Kickoff Meeting and subsequent meetings. The report will include an overview of the review process, a summary of the items reviewed, reasons for any newly recommended project elements/facilities, and opinion of probable costs.
- 10) Results Presentation
- a) Upon completion of the draft final report, the Consultant will present their findings to the Program's Water Advisory Committee. The Consultant shall coordinate scheduling of the results presentation meeting and the presentation materials with the EDO.

IV. PROJECT BUDGET

The Program budget for this project is on the order of \$200,000. However, an estimated project budget should **NOT** be submitted in the proposal and proposals will not be evaluated based on cost. A final scope of work and project budget will be negotiated prior to commencement of work.



V. CONTRACT TERMS

The selected Consultant will be retained by:

Nebraska Community Foundation
PO Box 83107
Lincoln, NE 68501

Proposal should indicate whether the Consultant agrees to the contract terms as outlined in the attached Program's Consultant Contract (**Attachment A**), or provide a clear description of any exceptions to the terms and conditions.

The initial term of the contract will be for a period beginning in **June 2012 and terminating in December 2012**. Contracted services will be performed on a time and material not to exceed basis. Under the final contract, written Notice to Proceed from the Executive Director will be required before works begins. All work will be contingent on availability of Program funding.

The selected Consultant may be requested to negotiate additional design services, with the option to renew, re-compete, or cancel at the discretion of the EDO and CNPPID. This contract or any follow-up contract may be transferred from the Program to CNPPID, if agreed upon by the EDO on behalf of the Program, CNPPID, and the Consultant.

VI. SUBMISSION REQUIREMENTS

All interested parties having experience providing the services listed in this RFP are requested to submit a proposal.

Instructions for Submitting Proposals

One paper copy and one electronic (PDF) copy of your proposal must be submitted to Beorn Courtney at the Program office in Denver, Colorado *no later than 5:00 p.m. Central time on June 6, 2012*. Maximum allowable proposal PDF size is 8MB, and proposals are to be limited to a total of 50 pages or less. A proposal is late if received by the office any time after 5:00 p.m. Central time and will not be eligible for consideration.

Questions regarding the information contained in this RFP should be submitted to Beorn Courtney at courtneyb@headwaterscorp.com. A list of compiled Consultant questions and responses will be maintained on the Program web site (www.PlatteRiverProgram.org) in the same location as this RFP solicitation.

RFP Schedule

The ED Office expects to complete the selection process and award the work by approximately **June 15, 2012**. The following table represents the RFP schedule:

Comment [bac1]: Discuss project schedule timeframe related to J2 Reservoir Agreement committee request for 90-day review.



Description	Date	Time (Central)
Issue RFP	May 1, 2012	NA
Pre-proposal meeting	May 17, 2012	2:00 PM
Last day for respondents to submit questions regarding the RFP	May 22, 2012	5:00 PM
Proposals due from respondents	June 6, 2012	5:00 PM
Evaluation of proposals	June 12, 2012 thru June 15, 2012	
Award of Work	On or before June 15, 2012	
Start of Work	Approximately June 18, 2012	
Completion of Work	Approximately December 31, 2012	

Pre-Proposal Meeting via Conference Call

A mandatory pre-proposal meeting of interested parties will be held on May 17, 2012 from 2:00 to 3:30 p.m. Central Time via conference call for the purpose of familiarizing the respondents with the work scope and requirements included herein before submitting a response to this RFP. Please email Beorn Courtney (courtneyb@headwaterscorp.com) for the conference call dial-in information along with a list of people from your party expected to join in the pre-proposal conference call by 3:00 p.m. Central Time on May 14, 2012.

The meeting will include a brief overview by the ED Office regarding the objectives of the project, the scope of services, and the timeline. It is the respondent's responsibility, while at the pre-proposal meeting/conference call, to ask questions necessary to understand the RFP so the respondent can submit a proposal that is complete and according to the RFP requirements. No minutes will be distributed by the ED Office regarding the meeting.

Proposal Content

Proposals should respond to the following general topics:

- 1) **Project understanding:** Discussion that demonstrates the Consultant's understanding of key project design elements and operational goals and constraints.
- 2) **Project approach:** Discussion of the Consultant's approach to providing the engineering review and opinion of probable costs including critical issues, tasks, or considerations that may have shaped your approach. This section should not be a reiteration of the general scope of work presented in Section III of this RFP. That scope was provided as general guidance and original thinking and/or discussion of improvements to that approach are welcome.
- 3) **Qualifications and project experience:** Provide project team organization, resumes/qualifications, and responsibilities. Identify relevant project experience including the involvement/role of the proposed team in those projects. A Nebraska licensed professional engineer is not required, but considered desirable and may be factored under the proposal evaluation criteria.



- 4) **Schedule:** Identify general schedule and critical issues for tasks. Given that the final scope will be developed following Consultant selection, the schedule discussion should focus on critical tasks, potential constraints or challenges.
- 5) **Conflict of interest statement:** addressing whether or not any potential conflict of interest exists between this project and other past or on-going projects, including any projects currently being conducted for the Program.
- 6) **Description of insurance:** shall be provided with the proposal. Proof of insurance will be required before a contract is issued. Minimum insurance requirements are described in the attached Program's Consultant Contract (**Attachment A**).
- 7) **Acceptance of the terms and conditions** as outlined in the attached Program's Consultant Contract, or clear description of any exceptions to the terms and conditions.

Criteria for Evaluating Proposals

The Governance Committee appointed a Proposal Selection Panel that will evaluate all proposals and select a Consultant based on the following principal considerations:

1. The Consultant's understanding of the overall project goals, constraints, design elements, and operational scenarios and project approach.
2. Qualifications and the relevant experience of the proposed project team members and firm.

Interviews may be held if necessary, as determined by the Proposal Selection Panel.

Award Notice

After completing the evaluation of all proposals and, if deemed necessary, interviews, the Proposal Selection Panel will select a Consultant. That firm will negotiate with the ED Office to establish a fair and equitable contract. If an agreement cannot be reached, a second firm will be invited to negotiate and so on. If the Program is unable to negotiate a mutually satisfactory contract with a Consultant, it may, at its sole discretion, cancel and reissue a new RFP.

Program Perspective

The Governance Committee of the Program has the sole discretion and reserves the right to reject any and all proposals received in response to this RFP and to cancel this solicitation if it is deemed in the best interest of the Program to do so. Issuance of this RFP in no way constitutes a commitment by the Program to award a contract, or to pay Consultant's costs incurred either in the preparation of a response to his RFP or during negotiations, if any, of a contract for services. The Program also reserves the right to make amendments to this RFP by giving written notice to Consultants, and to request clarification, supplements, and additions to the information provided by a Consultant.



By submitting a proposal in response to this solicitation, Consultants understand and agree that any selection of a Consultant or any decision to reject any or all responses or to establish no contracts shall be at the sole discretion of the Program. To the extent authorized by law, the Consultant shall indemnify, save, and hold harmless the Nebraska Community Foundation, the states of Colorado, Wyoming, and Nebraska, the Department of the Interior, members of the Governance Committee, and the Executive Director's Office, their employees, employers, and agents, against any and all claims, damages, liability, and court awards including costs, expenses, and attorney fees incurred as a result of any act or omission by the Consultant or its employees, agents, sub-Consultants, or assignees pursuant to the terms of this project. Additionally, by submitting a proposal, Consultants agree that they waive any claim for the recovery of any costs or expenses incurred in preparing and submitting a proposal.

VII. AVAILABLE INFORMATION

The following pertinent Program-related documents can be accessed from the Program web site (www.PlatteRiverProgram.org):

- *Platte River Recovery Implementation Program, Final Program Document*. October 24, 2006.
- *Platte River Recovery Implementation Program, Attachment 5, Water Plan*. October 24, 2006.
- *Water Management Study Phase I – Evaluation of Pulse Flows for the Platte River Recovery Implementation Program*. April 8, 2008.
- *Water Management Study Phase II – Evaluation of Pulse Flow for the Platte River Recovery Implementation Program*. December 31, 2008.
- *CNPPID Reregulating Reservoir Elwood and J-2 Alternatives Project Report*. February 18, 2010.

The J-2 Regulating Reservoir feasibility study will be provided to those contractors expressing intent on responding to this RFP by contacting Beorn Courtney. (courtneyb@headwaterscorp.com).

Attachment A – Standard Consultant Contract