August 3, 2016

Dear Interested Party:

EXPRESSION OF INTEREST (EOI) FOR WEATHER ENCLOSURE CRANE

The purpose of this expression of interest (EOI) is to identify potential firms interested in designing, fabricating, and testing an overhead bridge crane that will be used for maintenance inside of the Low-Activity Waste Pretreatment System (LAWPS) process building. The process building is referred to as the weather enclosure. Technical requirements for the crane are provided in Document No. 15-2-007, Rev. B (draft), *Weather Enclosure Crane Specification*. Administrative and Quality Assurance requirements are described in Statement of Work for the Weather Enclosure Crane, Rev. A (draft).

Background

Washington River Protection Solutions (WRPS) is the Tank Operating Contractor for the U.S. Department of Energy-Office of River Protection (DOE-ORP) on the Hanford Site near Richland, Washington. The Hanford Site stores an estimated 56 million gallons of mixed radioactive and chemically hazardous waste in large underground tanks. Washington River Protection Solutions is in the process of designing the LAWPS to produce Low Activity Waste (LAW) from Hanford tank waste. The LAW will be transferred to the Waste Treatment and Immobilization Plant (WTP) LAW Vitrification Facility, where the hazardous constituents in the LAW will be immobilized in a glass waste form for disposal.

Current Approach

The crane will be dedicated to the hoisting, removal, and transport of process cell cover plates, and for maintenance of the process equipment located beneath the cover plates within the process building. The maintenance activities include both manned operation and remote operation of the crane due to potential elevated radiation levels of some of the components being handled. The bridge crane is expected to be classified as a CMAA #70, Service Class D crane, with ASME NOG-1, Section 4150 seismic design criteria.

The crane design is expected to be classified as Safety Significant (SS) to meet the following safety functions: 1. Prevent damaging interactions with other safety significant structures, systems, and components during a design basis natural phenomenon hazards events. 2. Maintain control of lifted loads during normal operations. 3. Maintain control of lifted loads during design basis seismic event. The crane does not need to be operable after the event. Elements of the crane design necessary to achieve the safety function and functional requirements stated above will be designed, built, and tested under an ASME NQA-1-2008/2009a Quality Assurance Program.

The equipment to be designed, fabricated, furnished and delivered will consist of a top running, double-girder bridge crane with an integral custom trolley running on top of the bridge girders. The crane is expected to be designated as a CMAA #70, Service Class D crane with a 30 ton main hoist. Two 1 ton auxiliary hoists mounted on an independent trolley are included primarily for pipe jumper installation and removal. The crane will be both wired and wireless. This allows operators to command the crane using a remote CCTV system, or locally using a mobile radio control unit. It will be complete with electrification system, accessories, and finish painted to form a complete and operable unit. The crane consist of the following features (see 15-2-007 for details):

1. Bridge and electric bridge drive
2. Bridge end trucks

3. Main and auxiliary trollies, trolley drives and rails
4. Main wire rope hoist with true vertical lift
5. Two (2) auxiliary chain hoists mounted on a common motorized swivel
6. Two self-setting brakes upon power loss on the main hoist.
7. Two upper limit switches and two lower limit switches on the main hoist.
8. Hoist mis-reeve limit switch on the main hoist.
9. Unbalanced load limit switch on the main hoist.
10. Safety drum support in case of wire rope drum shaft or coupling failure.
11. Bridge and trolley power conductors, including (as required) festoon trolleys, or cable reels, etc. and their supports.
12. Personnel safety guards and access ways on the crane, including grated platforms, and fixed steps or ladders as required to facilitate maintenance.
13. Complete set of instruments, safeguards, and controls required for operation, including CCTV cameras and lighting to allow remote operation of crane functions to help limit personnel exposure.
14. Mechanical stops with electrical interlocks to prevent unsafe operation of the crane.
15. Capability to recover the crane both with a mechanical cable/chain system in case of a mechanical or electrical failure.
16. Two (2) full function mobile radio control units (one operating and one spare), plus a hardwired remote CCTV operating station.

The specific areas of contract responsibility for supply, design, material and services are summarized below:

1. The Supplier responsibilities will include design, detailing, procurement, fabrication, in-process and final manufacturing inspection and testing, factory acceptance testing, shop assembly and packaging for shipment of the bridge crane and accessories.
2. Drawing and data submittals in accordance with requirements of the contract.
3. Work will conform to the requirements of the codes and standards as specified in the specification.
4. Engineering, design drawings, and data that is required for design and installation of the interfacing steel supports, and for installation of interfacing equipment that is supplied by others.
5. The Supplier will provide structural and seismic analyses in accordance with the codes and standards specified in the contract, including providing appropriate seismic restraints and anchors. The Supplier will provide loading information for design of the support structure. The Buyer will provide the in-structure seismic response spectra to be used in the crane analysis.
6. Other services include:
    - Supplier field installation, testing and startup consultant at the Hanford Site,
    - operations and maintenance training at the Hanford Site,
    - inspection and maintenance of the installed crane at the Hanford Site (SOW Option 1), and
    - long-term storage and periodic maintenance (SOW Option 2).

Vendor Responses

WRPS is currently requesting that interested firms provide information regarding rough order magnitude cost and delivery, and their capabilities. Responses should discuss the following:

- Rough Order Cost Estimate
- Rough Order Cost Estimate for Buyer Option 1 and Buyer Option 2
- Rough Order Design Schedule
- Rough Order Manufacturing and Delivery Schedule
- Recommended Alternative Approaches
- Location of facilities
- Office space for engineering and administrative staff
- Engineering capabilities including engineering disciplines, registered professional engineers, analytical software, etc.
- Crane equipment codes and standards work capabilities and experience.
- Manufacturing space and manufacturing capabilities
- Identification of subcontracted engineering and manufacturing services
- Personnel qualifications and certifications for special process procedures and inspections such as nondestructive examinations, weld inspections, etc.
- Description of NQA-1 quality assurance program.
- Commercial Grade Dedication program description and implementation experience.
- Description of similar and relevant work and industry/customer serviced

Please send all correspondence regarding this EOI to Alice Hendrickson @ Alice_R_Hendrickson@rl.gov. Please use **2DB00-ARH-16-024** in the e-mail subject line. Alice may be reached by telephone at (509) 376-9225. Responses are due by August 18, 2016. Response to this EOI is required to be considered in forthcoming procurements related to this EOI.

Attachments:

The following attachments are DRAFT and are not intended to be the final documents for bidding purposes until review and approvals are complete. These documents are to be used for the purpose of responding to the EOI and your ROM estimated in this EOI.

Quality Assurance Requirements (QAR) **Draft**

LAWPS Weather Enclosure Bridge Crane Data Sheet **Draft**

Weather Enclosure Crane Specification B **Draft**

Statement of Work **Draft**

WRPS General Provisions Rev. 4 dated 02/01/2016

Closing Remarks

Please be aware WRPS does not intend to award a contract on the basis of this notification, nor pay for information solicited. Vendors are encouraged to share industry knowledge and experience; however the sharing of proprietary knowledge is prohibited.

We look forward to hearing from you regarding our request and seeing you in the near future.

Sincerely,

Alice Hendrickson,

Procurement Specialist Procurement

Attachments: 5

cc: file