

July 17, 2014

Dear Interested Party:

EXPRESSION OF INTEREST (EOI) FOR IN-TANK LIGHTING SYSTEMS

Washington River Protection Solutions (WRPS) is the Tank Operating Contractor (TOC) for the U.S. Department of Energy Hanford site. The Hanford Site stores mixed radioactive and chemically hazardous waste in large underground tanks. Hanford has 149 older Single Shell Tanks (SST) and 28 newer double-shell tanks (DST) grouped together in tanks farms. The SSTs have capacities from 500,000 up to 1,000,000 gallons; and measure up to 75' in diameter and 45' in depth. Multiple openings in the dome of the tanks, called risers, provide access into the tank for operational activities.

Background

All of the SSTs have exceeded their design life, and a few have leaked or are assumed to have leaked waste to the environment. Retrieval of the radioactive waste from the SST and transfer to the DSTs has been on-going for a number of years. The TOC has used modified sluicing, enhanced sluicing using the Extended Reach Sluicing System (ERSS), saltcake dissolution and the Mobile Arm Retrieval System (MARS) as the baseline waste retrieval technologies to retrieve the waste and pump it into the DSTs. The tank waste generally consists of a surface liquid layer (supernate), an intermediate layer of sludge material, and a bottom layer of solidified (hardcake or saltcake) materials. To support the retrieval operations "In Tank" lights are lowered down small diameter (4"-12" Sch 40 pipe) risers into the tanks, to support video/photo activities necessary for the operators.

Current Approach

The TOC utilizes closed circuit television type camera systems installed inside the SSTs to monitor and support retrieval operations. The camera systems require in-tank lighting to provide quality video resolution. Currently Ahlberg Electronics S80-1000 lights are used to provide the required illumination.

Technology Need

As we move into the next series of tanks to be retrieved, several of the tanks have considerably higher radioactive dose rates; (up to 43,000 R/hr. total Beta at the surface of the waste, and 136 R/hr. Gamma at 10' above the surface of the waste) than the SST retrieved to date. Additionally equipment/materials that were left in the tanks present obstacles that require more lighting (higher luminous flux) or multiple lights to observe/support retrieval operations. The need is for small diameter high radiation tolerant lighting systems that can withstand hostile in-tank environments of dampness, high humidity, high temperatures, and splashing liquids that can dry on the light surface and reduce brightness or cause failure. The lights are not submerged into the waste liquid, so underwater type lighting that relies on water cooling effects can be subject to high temperatures. The lighting systems ultimately will be required to pass inspection through a NRTL prior to utilization in the tank farms.

Vendor Responses

WRPS is currently requesting that interested firms send marketing information on what technology(ies) they have available along with brief explanations on how the technology(ies) could be applied to meet the needs expressed in this EOI.

Please send all correspondence regarding this EOI to Ricky Franzen @ Ricky_L_Franzen@rl.gov . Please use EOI 2DB00-RLF-14-012 in the e-mail subject line. Ricky may be reached by telephone at (509) 373-7141. Responses are due by July 31, 2014. Response to this EOI is required to be considered in forthcoming procurements related to this EOI.

WRPS will then evaluate the available technologies and make presentations to the Department of Energy (DOE). (The) selected technology(ies) will then be pursued with (a) related solicitation(s).

Closing Remarks

Please be aware WRPS does not intend to award a contract on the basis of this notification, nor pay for information solicited. WRPS intends to conduct a Waste Retrieval Technology Development Workshop to investigate potential new technologies to aide in retrieval from SSTs in the next planned farms that have different constraints than those retrieved to date. The workshop will include a lead-in presentation by WRPS personnel and a group question and answer session. Following the presentation and group questions and answers session there will be opportunities for individual vendors to meet separately with WRPS personnel to discuss their technologies.

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,

Ricky Franzen, Contract Specialist

Procurement

cc: file