



CH2M HILL
Plateau Remediation Company
PO Box 1600
Richland, WA
99352

August 3, 2017

CHPRC-RRU-17-001

Dear Interested Parties:

REQUEST FOR INFORMATION - WASTE BIN RADIATION ASSAY SYSTEM AND SHIELDED PROBE COLLIMATOR SYSTEM

CH2M Hill Plateau Remediation Company, LLC (CHPRC), Richland, Washington as a prime contractor to the U.S. Department of Energy expects to issue a Request for Proposal (RFP) for the subject scope on or about the week of August 21, 2017, for award of Firm Fixed Price contract. Contract Award is anticipated the week of October 23, 2017.

RFP SCHEDULES/OPENING DATES ARE SUBJECT TO CHANGE

Introduction

CHPRC is interested in identifying potential suppliers, which can include teaming arrangements that have the capability to supply the waste bin radiation assay system and shielded probe collimator system to support the removal of highly contaminated soils beneath the B-Cell of the Radiochemical Engineering Complex (REC) of the 324 Building, a non-reactor, Category 2 nuclear facility located in the 300 Area of the United States DOE Hanford Site.

WASTE BIN RADIATION ASSAY SYSTEM

Background

A waste bin radiation assay system is needed to provide gamma spectroscopy information on radiologically contaminated soils removed as part of the 300-296 Remote Soil Excavation Project. The waste bin radiation assay system will be installed in the REC airlock (which is a high-radiation and radiologically contaminated environment) and remotely operated from the adjacent cask handling area. It is anticipated that all work under this solicitation will be performed at the vendor's off-site location.

The system will assay waste bins containing radioactive soils removed from beneath the B-Cell. The waste bins will be transported to; placed on; and removed from the waste bin radiation assay system by others.

The waste bin radiation assay system shall consist of:

1. A carousel (a.k.a., turntable) with a load cell incorporated.



2. All necessary cables and equipment to operate the carousel and load cell.
3. A Canberra CZT (Kromek GR1-A+) detector with tungsten collimator, USB cabling and powered USB hub.
4. A 32 bit desktop computer with LaserJet printer and associated Non-destructive Assay/MCNP modeling and ISOCS efficiency calibration software.
5. An RO-7 radiation detector and cabling.
6. Two 3-inch probe tubes for radiation monitoring during the assay process.
7. One 13-inch sleeve to fit into the airlock transfer port to house the two probe tubes and an 8-inch tube for routing cords and hoses.

Functional Requirements

The waste bin radiation assay system shall:

1. provide for the determination of radiation levels on each of the four sides of the waste bin, one side at a time;
2. be capable of performing its intended functions while located in a background radiation dose rate of 200 mrem/hr and a radiation field of up to 13,000 R/hr from the waste bin;
3. be capable of weighing a fully loaded bin (approximately 2000 pounds) and operating under the weight of a fully loaded waste bin;
4. be remotely operated from controls located in the cask handling area (adjacent to the airlock) in order to minimize worker radiological exposure;
5. be designed so that the carousel can be picked up and placed by facility cranes.

The gamma spectroscopy portion of the system shall:

1. be capable of quantifying a minimum of 1 $\mu\text{Ci}/\text{gram}$ ^{137}Cs in a waste bin containing soil with up to 400 $\mu\text{Ci}/\text{gram}$ ^{90}Sr (decay daughters $^{137\text{m}}\text{Ba}$ and ^{90}Y will be in secular equilibrium with ^{137}Cs and ^{90}Sr);
2. have a simple user interface with an “execute” function that automates the process. (For example, once the waste bin is properly positioned the user will press “Go” and the system will perform the count for that side of the bin. The user will then be prompted to rotate the bin 90 degrees so that the assay can continue. This process will be repeated until all four sides of the bin have been counted.);
3. maintain a database of gamma spectroscopy count data and associated reports that can be exported to portable media, such as a USB thumb drive;
4. be capable of receiving manual input of the individual radiation readings obtained on each of the four sides of a waste bin with the RO-7;



5. be capable of recording the weight of the waste bin with the associated waste bin number.

SHIELDED PROBE COLLIMATOR SYSTEM

Background

A shielded probe collimator system is needed to provide gamma dose-rate information as part of the 300-296 Remote Soil Excavation Project. The shielded probe collimator system will be positioned by crane into the excavation beneath the B-Cell (which is a high-radiation and radiologically contaminated environment) and remotely operated from the adjacent service gallery. It is anticipated that all work under this solicitation will be performed at the vendor's off-site location.

The shielded probe collimator system shall consist of:

1. a handheld radiation detector (e.g., Ludlum 9-7 or Eberline RO-7);
2. a collimator with stainless steel shielding, lifting bails, crane extension, and mounting equipment;
3. a collimator with lead shielding, lifting bails, crane extension, and mounting equipment;
4. all necessary cabling and support equipment.

Functional Requirements

The shielded probe collimator system shall:

1. be capable of operating in a radiation field of up to 13,000 R/hr;
2. be remotely operated;
3. be capable of reaching all areas of B-Cell, including down into the excavation;
4. be capable of being used vertically (directly on the soil) or horizontally (to measure radioactivity along the excavation trench wall);
5. be designed for easy change-out of detectors.

RESPONDING TO THE RFI

RFI responses shall be a Letter of Interest that should include:

1. Name of Organization(s)
 - a. Name of the primary point of contact for the response including:
 - i. E-mail address



- ii. Phone number
 - b. If teaming, include the names/organizations of those teaming partners and the expected role assigned to each
- 2. Submittal of Qualifications
 - a. Specific capabilities and recent relevant experience in successfully developing, manufacturing, testing, and delivering similar type equipment as the aforementioned systems
 - b. Have engineering, quality, fabrication, manufacturing, procurement and testing capabilities

Schedule is of significant importance on this project. Of particular interest to CHPRC are the advantages that a contractor could offer with respect to shortening the development and fabrication schedule to deliver the aforementioned systems for installation and training. Current schedule anticipates delivery and installation for acceptance testing on/or before April 4, 2018. This information could support future decisions by the 300-296 Remote Soil Excavation Project in developing its procurement strategy for the system.

Information provided in response to this RFI will be treated as proprietary. If CHPRC chooses to engage a contractor to provide the waste bin radiation assay system and shielded probe collimator system through an RFP, it is possible that the RFP will include an option to fabricate a second waste bin radiation assay system for installation within the 324 Building. The selected contractor would not install equipment, but may be requested to provide installation support.

RESPONSE SUBMISSION DEADLINE

Responses to this RFI must be submitted no later than 1:00 pm Pacific Standard Time on August 16, 2017. RFI submissions will be accepted as e-mail attachments only. All responses must be sent to Rayna Uptmor, at Rayna_R_Uptmor@rl.gov, with “RFI 300-296 Waste Bin Radiation Assay System Response” in the subject line.

CHPRC has determined that North American Industry Classification System (NAICS) Code 5413300, Engineering Services, applies to this acquisition. Therefore, the size standard for determining whether an Offeror is a small business in regard to this acquisition is \$15M. If an RFP is issued, CHPRC retains the option of issuing the RFP as a small business set aside.

Only those contractors who submit a response to this RFP will be invited to participate if an RFP is issued.



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QUESTIONS AND COMMENTS REGARDING THE RFI

The Contractors shall submit any comments or questions regarding the RFI to the Contract Specialist in writing no later than August 9, 2017. The Contractor may transmit questions and comments via fax or e-mail. The Contract Specialist will answer all questions in writing and post all questions and answers on the CHPRC website.

SUBMITTAL ADDRESS

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