SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY

REQUEST FOR BIDS
FIRE SAFETY CONTROLS, REFUGE CHAMBERS
Contract #2019-46

Questions Due:December 17, 2019

Questions Posted:December 20, 2019

Bid Due Date:January 10, 2020 2:00 P.M.

The South Dakota Science and Technology Authority (SDSTA) is seeking bids at the Sanford Underground Research Facility located in Lead South Dakota for the following items:

- 3 portable mine refuge chambers meeting SDSTA specifications
  Or
- 1 portable mine refuge chamber meeting SDSTA spec with a bid to refurbish 2 outdated refuge chambers

Documents included in this request for bid include:

A. This Request for Bid
B. Current refuge chamber info: Guardian Portable Refuge Chamber.pdf

The RFB is organized as follows:

1.0 Introduction

The pumping system at SDSTA is responsible for removing all the natural water inflows that accumulate through the vast underground workings. Without this pumping system, natural water accumulation underground would continue to rise eventually inundating the lab spaces and levels. The pumping system removes water from the underground using a deep pool pump and 4 pump rooms. The water is pumped in "lifts" from the deep pool to pump rooms located at the 5000, 3650, 2450, and 1250 levels and finally to the waste water treatment plant (Figure 1).

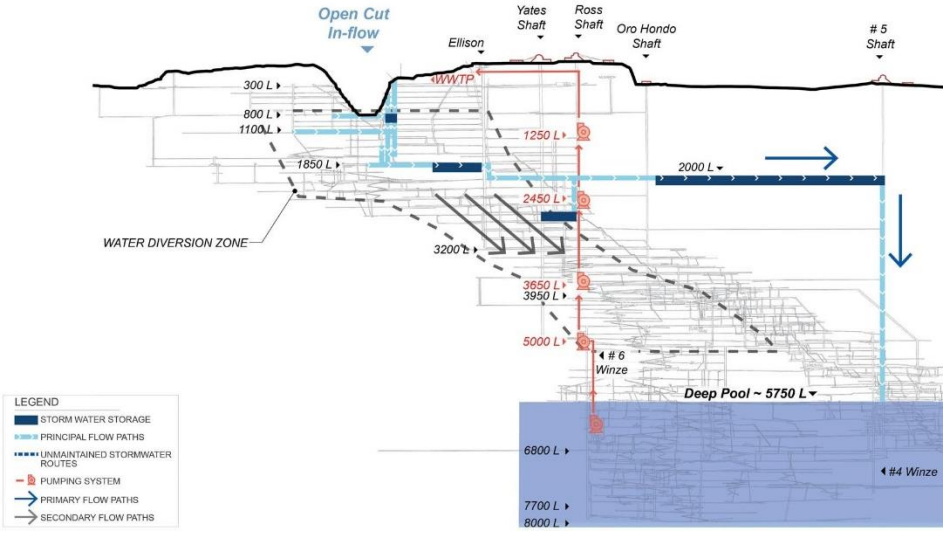

Figure 1. General of the Pumping System at the Sanford Lab

The 4 pump rooms require weekly maintenance and can only be accessed from the Ross shaft. The pump rooms (Figure 2) have no means of an emergency "secondary" egress. When 1-4 maintenance technicians access these rooms, the Ross shaft cage hoist must be kept at the station (providing primary egress) or there must be an emergency refuge chamber near the pump room to provide maintenance workers refuge in the event of an emergency. The current configuration of refuge chambers at the pump room levels is:

- 1250L has 1 outdated 6 man chamber at the station
- 2450L has 1 outdated 6 man chamber at the station
- 3650L has 1 brand new 4 man chamber near the station
- 5000L does not have any refuge chamber currently

The refuge chambers at the 1250 and 2450 levels (Figure 3), while adequate for emergency use, need refurbishment. However, the manufacturer that supplied these units is no longer in business making servicing these units challenging. The refuge chamber at the 3650 is brand new and will not be a part of this procurement.

Figure 2. Photo of the Pump Room on the 5000L

The purchase and installation of a new refuge chambers at the 1250 (or update existing), 2450 (or update existing), & 5000 will free up the Ross elevator to move people and materials during pump room maintenance activities.

The detailed breakdown of the vendor's responsibilities is listed in Section 3.0. Bids for this project must address all these items at a minimum.

Figure 3. Outdated 6 Man Refuge Chamber at the 2450

2.0 SDSTA Requirements

SDSTA has several requirements for the new refuge chambers that must be met at a minimum. SDSTA's requirements are:

- SDSTA must approve the submitted shop drawings before the refuge chambers are fabricated.
- Delivery of all refuge chambers/equipment must be coordinated with SDSTA at least 2 weeks prior to arrival.
- All proposals must include freight to SDSTA (630 East Summit Street, Lead, SD, 57754). SDSTA will offload the refuge chambers.
- Meet the specifications listed in section 3.0 at a minimum
- Supply SDSTA with all product manuals and submittal information.

3.0 Scope of Work & Technical Specifications

The primary scope of work for this project is focused around the vendor selecting one of the following options:

- 3.1: The purchase of 3 new refuge chambers
- 3.2: Refurbishment of the existing two chambers and the purchase of 1 new chamber.

Regardless of the option chosen, the vendor will be responsible for making sure all refuge chambers meet the following specifications at a minimum.

3.1 Specifications for New Refuge Chambers

- Chamber size limits (LxWxH): 141 in (L) x 52 in (W) x 74 in (H)
- Total chamber weight is limited by the payload of the Ross hoist which is 6,000 lbs. This weight restriction may be exceeded if the chambers can be shipped underground in smaller pieces (weighing less than 6,000 lbs) and then reassembled.
- All items weighing more than 1,000 lbs must have attachment points for lifting
- Minimum personnel capacity of 4
- Provide HVAC for the chamber that will condition the space to a wet bulb temperature of 84 Fahrenheit (95 Steadman) at a maximum. HVAC design shall assume 400 Btu/person with a sensible heat ratio (SHR) of 50%.
- Support the rated capacity for a minimum of 96 hours and include air, food, water, scrubbing cartridges, HVAC electricity and all other essential items to last the duration.
- Allow for external compressed air hookup and include a compressed air filter suitable for personnel breathing
- Allow for external electrical connection

- Battery backup to the refuge chambers shall be a skid/frame mounted enclosure (not attached to the main chamber). The main chamber shall have a designated electrical hookup for the detached battery frame
- Dimensions (inches) and weight (lbs) for the chamber and detached battery box must be clearly listed on the doors of each unit.
- Clear and concise operation instructions within the chamber
- Complete operation and maintenance manual for maintaining the chambers
- One vendor lead training course on the operation and maintenance of the chambers with up to four SDSTA staff members present.

3.2 Specifications for Updating Current Chambers

- Chamber size Assembled (LxWxH): 132 in (L) x 72 in (W) x 72 in (H)
- Minimum personnel capacity of 6
- Support the rated capacity for a minimum of 96 hours and include air, food, water, scrubbing cartridges and all other essential items to last the duration.
- Allow for external compressed air hookup and include a compressed air filter
- Allow for external electrical connection
- Battery backup to the refuge chambers shall be a skid/frame mounted enclosure (not attached to the main chamber). The main chamber shall have a designated electrical hookup for the detached battery frame
- Dimensions (inches) and weight (lbs) for the chamber and detached battery box must be clearly listed on the doors of each unit.
- Provide HVAC for the chamber that will condition the space to a wet bulb temperature of 84 Fahrenheit (95 Steadman) at a maximum. HVAC design shall assume 400 Btu/person with a sensible heat ratio (SHR) of 50%.
- Clear and concise operation instructions within the chamber
- Complete operation and maintenance manual for maintaining the chambers
- One vendor lead training course on the operation of the chambers with up to four SDSTA staff members present.
- Factory information, specifications, and operation of the current refuge chambers are listed in the attachment: Guardian Portable Refuge Chamber.pdf

Bids for this project shall be broken down into the following level of detail for the selected

option above (3.1 or 3.2):

3.1: The purchase of 3 new refuge chambers

- Unit cost of the refuge chambers being supplied along with total cost
- Estimated total freight to the delivery locations noted in section 2.0
- Any additional costs for commissioning/site visits etc.
- Technical specifications/information detailing how the proposed chamber will meet SDSTA's needs
- Company's experience selling refuge chambers in the mining industry
- Any exceptions taken to the above specifications

3.2: Updating the current refuge chambers

- Unit cost to update the current refuge chambers along with total cost
- Estimated total freight (to vendor and back for offsite updating if needed)
- Any additional costs for commissioning/site visits etc.
- Technical specifications/information detailing how the proposed chamber upgrade/rehabilitation will meet current mining regulations pertaining to refuge chambers
- Company's experience upgrading/rehabilitating refuge chambers in the mining industry
- Any exceptions taken to the above specifications

Bids for this project must be good for 90 days.

3.3 Transfer of Records

All records (project reports, meeting notes, data files, project data, original tracings, maps, field sketches, lab reports, test data, design calculations, graphic originals, electronic files, etc.) generated shall be the property of SDSTA and shall be turned over to SDSTA upon completion of the project or as directed.

All deliverables shall be required to be delivered to SDSTA in hardcopy and electronic (original software and PDF) format. Depending on the size of the electronic deliverables, the consultant may be required to provide and utilize portable hard drive(s) for delivery.

4.0 General Requirements

4.0 The selected Contractor will be required to abide by all applicable federal, state and local laws and ordinances, as amended from time to time. Including, but not limited to, the applicable local laws and ordinances.

4.1 The SDSTA may at its sole and absolute discretion reject any and all, or parts of any and all submissions; re-advertise this solicitation; postpone or cancel at any

time this solicitation process; or waive any irregularities in this solicitation or in the submittalsreceived as a result of this solicitation.

4.2 All expenses involved with the preparation and submission of materials to The SDSTA, or any work performed in connection therewith, shall be borne by the Offeror(s). No payment will be made for any responses received, nor any other effort required of or made by the Offeror(s) prior to commencement of work as defined by a contract approved by SDSTA.

4.3 The materials will be evaluated by the Selection Committee appointed by the SDSTA. The Selection Committee will recommend and Offeror by consensus based on best value.

4.4 The SDSTA reserves the right to enter contract negotiations with the selected Offeror. If the SDSTA and the Offeror do not agree to terms of a Contract, the SDSTA may elect to terminate negotiations and begin negotiating with the second-ranked Offeror and so forth. This process will continue until a contract has been executed, or, all submittals have been rejected. No Offeror shall have any claims and/or rights against the SDSTA arising from such negotiation and/or the qualification process.

4.5 The SDSTA reserves the right to contract for all or part of the work program described in the RFB.

4.6 Offeror(s) submitting materials should not submit any information in response to this solicitation which the Offeror(s) considers to be a trade secret or confidential. The submission of any information in connection with this solicitation shall be deemed conclusively to be a waiver of any trade secret or other protection, which would otherwise be available to the Offeror. In the event that the Offeror submits information in violation for this restriction, either inadvertently or intentionally and clearly identifies that information in the submission as protected or confidential, the SDSTA will endeavor to redact and return that information to the Offeror. The Selection Committee will then evaluate the balance of the submission. The redaction or return of information pursuant to this clause may render a submission nonresponsive.

5.0 Bid Submission Requirements

Please direct all questions in writing to Michele Baumann at mbaumann@sanfordlab.org by close of business December 17, 2019. Questions and answers will be posted as an amendment to this RFB by 2:00 p.m. MT December 20, 2019.

Submit one electronic copy (.pdf format) of the quotes no later than 2:00 p.m. January 10, 2020, to: mbaumann@sanfordlab.org. Late submissions will not be accepted.

The bid period may be extended at the discretion of SDSTA based on the quantity and/or complexity of questions. Any notices of extension of time to respond will be distributed to all prospective offeror by SDSTA.