

REQUEST FOR Proposal: Ross Hoist Rope Change

RFP Posted: August 10, 2020

Question Due: August 21, 2020 2:00 P.M.

Question Posted: August 26, 2020 2:00 P.M.

Proposal Due Date: September 9, 2020 2:00 P.M.

The South Dakota Science and Technology Authority (SDSTA) is requesting proposals for the following items:

Service Hoists

- Prior mobilization/setup so the rope change (or tasks that can't be completed without the hoist) begins on Monday October 25, 2020
- Removal of 6350 ft of 1 5/8" wire rope from the cage drum
- Installation of 6350 ft of 1 5/8" wire rope supplied by SDSTA on the cage drum
- Installation and connection of the M26 spelter socket supplied by SDSTA to the rope and cage (vendor must supply wire lock epoxy resin)
- Removal of 6100 ft of 1 5/8" wire rope from the counterweight drum
- Installation of 6100 ft of 1 5/8" wire rope supplied by SDSTA on the counterweight drum
- Installation and connection of the M26 spelter socket supplied by SDSTA to the rope and counterweight (vendor must supply wire lock epoxy resin)

The above tasks and associated requirements will be discussed in greater detail in the following sections.

Documents included in this request for proposal include:

- A. This Request for Proposal
- B. Ross Shaft Headhouse 001 (for equipment layout)
- C. Ross Hoist Area (for equipment layout)

The RFP is organized as follows:

- Section 1.0 – Introduction
- Section 2.0 – SDSTA Requirements
- Section 3.0 – Scope of Work
- Section 4.0 – Selection Criteria & Proposal Structure
- Section 5.0 – General Requirements
- Section 6.0 – Proposal Submission Requirements

REQUEST FOR PROPOSAL: Ross Hoist Rope Change

1.0 Introduction

The Sanford Underground Research Facility (SURF) relies on the Ross Shaft to transport people and supplies underground using cage, work deck, or skip style conveyances. The shaft is utilized by a production hoist (2 skips counterbalanced off each other) and a service hoist (man/material conveyance counterbalanced using a counterweight). These conveyances rely on wire rope and the power of hoists to raise or lower the conveyances within the 5,000 ft deep mine shaft. The wire ropes connected to these hoists and various conveyances are routinely inspected using Non-Destructive Testing (NDT) methods. Currently the Ross cage and counterweight ropes (Figure 1 below) are nearing the changeout threshold. The area surrounding the Ross headframe is shown in Figure 2 below.



Figure 1. Ross Cage and Counterweight Hoist Rope Drums

Regulations require that NDT tests be performed on the ropes twice per year, and if the personnel hoisting rope exceeds a 10% loss of strength, it shall be taken out of service. Testing has indicated a significant loss of strength within the first 200' from the top of the cage Ross cage hoist rope.

REQUEST FOR PROPOSAL: Ross Hoist Rope Change



Figure 1. Area Surrounding the Ross Headframe

A similar loss was evident in the counterweight rope; however, this section was cut off a few years ago. Doing so however has made the rope just long enough for the cage to travel the full length of the shaft without a stop to maneuver the counterweight so the cage can travel down to the 5000L. The option for an additional rope cut in the future does not exist for the cage rope since access to the 5000L would then become impossible. Both Ross cage and counterweight ropes were installed in 1998 and 1997. These have seen active use for nearly 20 years. Corrosion and wear has taken its toll on these ropes. While all hoist ropes are NDT tested regularly, current NDT tests show considerable loss of strength and will most likely fail the NDT test within a years' time period depending on hoist usage.

To prepare for this project the SURF has acquired two spools of 1 5/8 rope (6x30G-SFC IPS U ZZ) containing 6,350 ft and 6,100 ft for the cage counterweight respectively. Additionally, a change in the normal rope attachment to the cage and counterweight will occur. Rather than the thimble and clip termination that has been a standard for SURF for many years, a new socket termination will be utilized on the service hoists. The new attachment style allows for more room between the rope termination to the sheave and for lowering longer slung loads under the cage.

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

REQUEST FOR PROPOSAL: Ross Hoist Rope Change

2.0 SDSTA Requirements

SDSTA has several requirements for the work associated with this project that must be met at a minimum. The project requirements are:

- All workers must attend 1 day of SDSTA safety training if on the property less than 40 hrs
- All workers must attend a 3 day general safety training if on the property more than 40 hrs
- Vendor will be responsible for submitting all JHA's (Job Hazard Analysis) that will be reviewed by SDSTA prior to the work beginning. All submitted JHA's must be comprehensive of the work that will be performed
- Vendor must supply SDSTA with a basic project schedule
- Delivery of all equipment must be coordinated with SDSTA at least 2 weeks prior to arrival.
- Vendor is responsible for transporting all materials and equipment to the headframe and hoist room (or wherever needed).
- Vendor will be responsible for supplying all equipment and materials necessary to remove the old hoist ropes and install the new hoist ropes and sockets (including spooler trucks, tensioner trucks, air tuggers and any ancillary equipment and tools needed to complete these tasks)
- Vendor must work within the shaft crew schedule. Available times to work within are Mon-Sun day shift 6am-6pm & night shift 6pm-6am
- Vendor must coordinate all equipment/material loads with SDSTA prior to arrival.
- Vendor must coordinate all work with the project manager
- Vendor must work with on-site hoist and shaft operations supervisors, hoist operators and the shaft crew.
- Supply SDSTA with all product manual and submittal information including socket test certifications.

3.0 Scope of Work & Requirements

The primary scope of work (SOW) for this project is focused around the removal and installation of new rope and socket connections on the Ross shaft cage and counterweight hoist ropes. The vendor will be responsible for completing the following items.

3.1 Cage and Counterweight Work

Cage Scope of Work:

REQUEST FOR PROPOSAL: Ross Hoist Rope Change

- Removal of 6350 ft of 1 5/8" wire rope from the cage drum
 - The Vendor shall assume the Ross Shaft crew will chair the cage and remove the rope from the thimble connection.
- Disposal of the used wire rope in disposal dumpster near the Ross headframe supplied by the SURF
- Movement of the new spool of 6350 ft of 1 5/8" wire rope from storage in the Yates crusher room to the Ross work area (approximately 1 mile away)
- Installation of 6350 ft of 1 5/8" wire rope supplied by SDSTA on the cage drum including drum connection
- Installation of a SURF supplied M26 spelter socket to the cage rope (vendor must supply wire lock epoxy resin)
- Certification of the M26 spelter socket connection
 - Must include all quality/verification documents
- Connection of the M26 spelter socket to the cage

Counterweight Scope of Work:

- Removal of 6100 ft of 1 5/8" wire rope from the counterweight drum
 - The Vendor shall assume the Ross Shaft crew will chair the counterweight and remove the rope from the thimble connection.
- Disposal of the used wire rope in disposal dumpster near the Ross headframe supplied by the SURF
- Movement of the new spool of 6100 ft of 1 5/8" wire rope from storage in the foundry to the Ross work area (approximately 1.5 miles away)
- Installation of 6100 ft of 1 5/8" wire rope supplied by SDSTA on the counterweight drum including drum connection
- Installation of a SURF supplied M26 spelter socket to the counterweight rope (vendor must supply wire lock epoxy resin)
- Certification of the M26 spelter socket connection
 - Must include all quality/verification documents
- Connection of the M26 spelter socket to the counterweight

3.2 Vendor Timeframe Requirements

All projects that require all or substantial use of the Ross shaft directly impact long term project schedules at the Sanford Lab. To minimize schedule impacts as much as possible the vendor must:

- Mobilize and setup for this project prior to the start date of Monday October 26, 2020 (vendor will have full hoist access until project completion).

REQUEST FOR PROPOSAL: Ross Hoist Rope Change

- Coordinate the setup/staging listed above with the project manager so the rope change (or tasks that can't be completed without the hoist) begin on Monday October 26, 2020. This will require the vendor to mobilize and setup on the weekend (or sooner) depending on the anticipated setup/staging duration.

3.3 Rope Tension

The Sanford Lab requests that a minimum rope tension of 5,000 lbs be applied to the hoist ropes during removal and installation. The vendor completing this work is responsible for providing all equipment necessary to meet this requirement. If the vendor feels that a greater pretension is needed, they must propose the suggested amount and the reason for the increase in their proposal.

The vendor may use the following information to propose a different rope tension:

Wire rope: Two spools of 1 5/8 rope (6x30G-SFC IPS U ZZ (RL)) containing 6,350 ft and 6,100 ft for the cage counterweight respectively. Minimum Breaking Force = 225,000 lbs

Hoist Drums: Individual cage and counterweight conical drums with spiral grooves. Both cage and counterweight drums contain their respective quantities of rope on a single layer (the rope doesn't wrap to a second layer at any point).

3.4 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 task order 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 Selection Criteria & Proposal Structure

All submissions for this project will be evaluated based on low price technically acceptable. Proposals must be broken down into the following level of detail:

- Spelter socket installation cost
 - o Including all resin, certifications, mobilization and equipment
- Rope removal and installation cost

REQUEST FOR PROPOSAL: Ross Hoist Rope Change

- o Including all mobilization, equipment and disposal
- Any additional costs for commissioning/site visits etc.
- Any exceptions taken to the requirements listed in Sections 2.0, 3.0

All submissions must also include the following items:

- Basic project schedule calling out setup time and other major activities
- List of setup activities that need to take place prior to full hoist turnover for the project beginning on Monday October 25, 2020
- Basic layout of equipment placement during rope change (use attached drawings if needed)

5.0 General Requirements

4.0 The selected Vendor 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 submittals received 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 an Offeror by consensus based on low price technically acceptable.

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 RFP.

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

REQUEST FOR PROPOSAL: Ross Hoist Rope Change

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.

6.0 Proposal Submission Requirements

The Vendor shall submit an electronic copy (.pdf format) of the proposal no later than 2:00 p.m. September 9, 2020, to: mbaumann@sanfordlab.org. Late submissions will not be accepted.

Questions need to be submitted by Month DD

Questions/Answers will be emailed to all prospective proposals and posted to the sanfordlab.org website no later than August 26, 2020

The proposal 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 bidders by SDSTA.

All communications regarding this procurement between RFP release and award shall be directed by email to mbaumann@sanfordlab.org. Communications with other SDSTA staff regarding this procurement in advance of the award are not allowed.