REQUEST FOR BID
Substation Inspection, Testing, and Maintenance Services
South Dakota Science and Technology Authority
SDSTA RFB 2024-17
July 10, 2024

The South Dakota Science and Technology Authority (SDSTA) is seeking bids for Inspection, Testing, and Maintenance Services on three medium voltage substations at Sanford Underground Research Facility (SURF).

Documents included in this Request for Bid include:

A. Draft Contract 2024-17
   - Exhibit A: Insurance Requirements
   - Exhibit B: Environment, Safety, and Health (ESH) Requirements
B. Attachment 1: Annual Inspection Tests
C. Attachment 2: Extensive Inspection Tests
D. Attachment 3: Substation Bid Form

1.0 Background

SDSTA is a quasi-governmental agency established by the State of South Dakota to operate and manage SURF at the former Homestake Gold mine in Lead, SD. This facility has been rehabilitated and developed to support a variety of scientific experiments, including physics, biology, geology, and others.

2.0 Scope

This contract will cover services required to perform preventive maintenance on the medium voltage (1,000 V to 100,000 V) substations on the surface at SURF. Preventive maintenance shall include, but not be limited to inspections, testing, and maintenance. Medium voltage electrical devices and equipment that shall be included in the Contractor's scope of work include circuit breakers (vacuum, oil, gas, & air), circuit switchers, power fuses, switching devices, grounding/bonding systems, lightning protection systems, surge arrestors, control power transformers, protective relay devices, instrument transformers, substation batteries, substation battery chargers, power transformers, power capacitors, metering devices, switchgear, metal enclosed busways, cables, and outdoor bus structures. Any major discrepancies found during the inspection and testing that require substantial effort to repair will be handled outside of the scope of this contract via change order or separate contracting means.

This contract will be three years in length and require an annual PM on each of three substations. Each year will require an extensive PM service to one substation that requires one or multiple outages, and a less extensive round of inspection/testing of the other two substations (while energized). Prior to the start of each year of the contract a detailed plan of maintenance will be developed and approved by the SDSTA. The schedule of work would be as follows:

- Year 1:
  - Planned outage(s) at Ross Substation so that extensive preventative maintenance campaign can be carried out per ANSI/NETA MTS-2023

        - See attached list of extensive PM tasks.
    - Inspection and testing campaign at Oro Hondo Substation and East Switchyard while energized.
        - See attached list of annual PM tasks
- Year 2:
    - Planned outage(s) at Oro Hondo Substation so that extensive preventative maintenance campaign can be carried out per ANSI/NETA MTS-2023.
        - See attached list of extensive PM tasks
    - Inspection and testing campaign at Ross Substation and East Switchyard while energized.
        - See attached list of annual PM tasks
- Year 3:
    - Planned outage(s) at East Switchyard so that extensive preventative maintenance campaign can be carried out per ANSI/NETA MTS-2023.
        - See attached list of extensive PM tasks
    - Inspection and testing campaign at Oro Hondo Substation and Ross Substation while energized.
        - See attached list of annual PM tasks

Additional details about the substations are below:

Ross Substation
The Ross substation was built in 1989 and had upgrades in 1994, 1996/97, 2005, and 2019. The substation has a total capacity of 30 megavolt-amps (MVA); 20 MVA at 12kV and 10 MVA at 2400 volts. The 12kV system provides power from a single 69kV to 12kV transformer to the underground on two power cables located in the Ross shaft. The 12kV transformer and cables primarily power the dewatering system and experiments on the 4850 level. All of the systems that were originally powered from the 69kV to 2400-volt transformer have been de-commissioned.

Oro Hondo Substation
The Oro Hondo substation was built in 1965 and had upgrades in 1994 and 2005. The total capacity of the substation is 14 MVA at 12kV. A single 14 MVA, 69kV to 12kV transformer supplies power on overhead lines to #5 Shaft, the Grizzly Gulch Dam area, and the Yates Complex (East Switchyard.) The transformer also supplies power to the Oro Hondo Fan Site through an underground duct bank that was installed in 2022.

East Substation (Switchyard)
The East substation, located on the Yates Complex, underwent significant modifications around 1995. The substation is fed by a 12kV line that runs overhead from the Oro Hondo substation, across Kirk Canyon, and then through an underground duct bank through the Yates Complex. The East substation distributes power to the Yates Hoist substation, Foundry substation, the wastewater treatment plant (WWTP), and the 4850 level via a single power cable in the Yates Shaft. Power in the Yates shaft is primarily used to supply the Davis Campus on the 4850 level. Power to the rest of the Yates Complex comes from the Yates Hoist and Foundry substations.

3.0 SDSTA Additional Requirements

3.1 Any interruptions to normal electrical services must be kept to less than 6 hours and discussed with SDSTA prior to work beginning.

3.1.1 A detailed maintenance plan will be provided and reviewed by SDSTA on an annual basis prior to the commencement of the work.

4.0 Schedule

The activities noted in the Scope section above should commence following the award of the contract. The schedule for completion of this project is negotiable and flexible to accommodate the contractor's availability. The proposed schedule for the project is:

RFB Posted	July 10, 2024
Register For Site Visit	July 22, 2024 by 4pm
Mandatory Pre-bid Meeting	July 24, 2024 at 9am
Questions Submitted	July 30, 2024 by 4pm
Q&A Posted	August 5, 2024 by 4pm
RFB Responses Due	August 16, 2024 by 4pm
Contract Awarded By (Target)	August 23, 2024

5.0 Progress Reporting and Communication

The SDSTA contact person for this work is Tim Baumgartner. Each annual service will require a report detailing the work performed and additional findings from each substation.

6.0 Bid Elements

The bid in response to this RFB must contain the following:

6.1 Provide annual cost to perform work as outlined in section 2.0 for the entirety of the three-year contract (Attachment 3: Bid Form).

6.2 Provide list of three examples of similar work performed at industrial medium voltage substation(s).

6.3 Provide list of project management complete with resumes and information about experience / qualifications.

6.4 Provide rate sheet for additional work or repairs that would be handled with a change-order to this contract (Attachment 3: Bid Form).

6.5 Provide list of exceptions to scope of work listed in section 2.0.

7.0 Bid Requirements

7.1 Bidders should submit an electronic copy (.pdf format) of the bid to:

Benjamin Brack
Senior Contracts Specialist
SD Science and Technology Authority

630 East Summit Street
Lead, SD 57754
bbrack@sanfordlab.org

7.2 Questions must be sent in writing by email to Benjamin. Answers will be emailed to all prospective proposers and posted to the sanfordlab.org website. Prospective proposers must coordinate with Benjamin regarding attendance at the site visit in Lead, SD.

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

7.4 All communications regarding this procurement between RFB release and contract award shall be directed to Benjamin. Communications with other SDSTA staff regarding this procurement in advance of the contract award are not allowed.

8.0 Selection Process

The SDSTA will review all submitted bids for adherence to this request's requirements and capabilities and select the firm providing the Lowest Cost Technically Acceptable bid.

Revision History

Rev	Date	Section	Paragraph	Summary of Change	Authorized by
01	5/17/2022	NA	NA	Initial issue	CCR 573
02	12/1/2022	NA	NA	Change document number from OC to COM	CCR 655