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**SOUTH DAKOTA SCIENCE AND TECHNOLOGY  
AUTHORITY**

**REQUEST FOR PROPOSALS**

***Ross 4850L Substation***

**RFP #2025-13**

Mandatory Site Visit:	August 26, 2025 7:30 am MST
Pre-Registration for Site Visit	August 21, 2025, 4:00 pm MST
Questions Posted:	August 28, 2025, 4:00 pm MST
Questions & Answers Posted:	September 2, 2025, 4:00 pm MST
Proposal Due Date:	September 10, 2025, 2:00 pm MST

**1. PURPOSE:**

This Request for Proposal (RFP) is issued by the South Dakota Science and Technology Authority (SDSTA) for Construction Services for the installation and painting of CMU walls and steel doors, and installation of a ventilation fan and ductwork on the Ross 4850 Level. An individual firm will be selected for a fixed price contract based on the total of the quantities and unit costs listed on the project bid sheet, demonstrated competence, and qualifications for the required work. Documents included with this RFP include:

- A. Draft Contract (2025-13)
- B. Draft Construction General Conditions Agreement
- C. Bid Security Form (to be submitted with proposal)
- D. Payment and Performance Bond Form (informational – to be submitted with contract)
- E. SDSTA Bid Sheet
- F. SDSTA Design Documents
  - a. *Design Drawings - ROSS 4850L Substation.pdf* – Project design drawings to describe and specify the project.
  - b. *Project Specifications - ROSS 4850L Substation.pdf*
- G. Contractor Pre-Qualification & ESH Questionnaire
- H. Exhibits:
  - a. *Exhibit 1 - Logistics General Information.pdf*

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## 2. PROJECT BACKGROUND:

Power to the underground is distributed at 12,470-volts (12kV). 12kV is fed to an existing substation on the 4850L near the Ross shaft. Equipment at the existing substation needs to be replaced but the substation is too small to accommodate new equipment. A new substation will be built on the 4850 level. The purpose of this project is to enclose an existing space to create a substation room and to provide a ventilation system for that room. **The electrical work for the new substation will be performed as a separate project.**

## 3. EXISTING CONDITIONS:

The Ross 4850L Station, Connecting Drifts, and Substation Area are the primary work areas for this project. The photos in **Figure 1** are provided for information purposes only. The work area conditions will differ depending on other construction activities occurring simultaneously with the substation construction.



**Figure 1.** (left to right) 4850L Station, Waste Access Drift, Substation Cavern

General access and site conditions are summarized by the following:

**Offeror Parking:** The work area at the Ross 4850L is accessed through the Ross shaft. Parking and space surrounding the Ross shaft is limited by other construction activities happening on the surface and underground. The Offeror will be required to shuttle their workers to/from the Ross using the following arrangement:

- Offeror employees park their personal vehicles in the Yates administrative parking lot.
- Employees board a shuttle/personal vehicle (provided by the Offeror).
- The shuttle transports workers (approximately 1 mile) to the Ross shaft.
- Offeror parks shuttle in designated parking area and walks approximately 200 ft to the Ross shaft for transportation underground.

The shuttle route and designated parking areas are shown on slide 1 of **Exhibit 1**. The Offeror will be required to leave the keys in the shuttle so it can be moved by SDSTA if needed.

**Environment:** The underground environment is approximately 75 degrees Fahrenheit with 80% relative humidity.

**Sanitation:** SDSTA has portable toilets on the 4850L. The contractor will be allowed to use these portable toilets for the duration of the project. The toilets are pumped weekly.

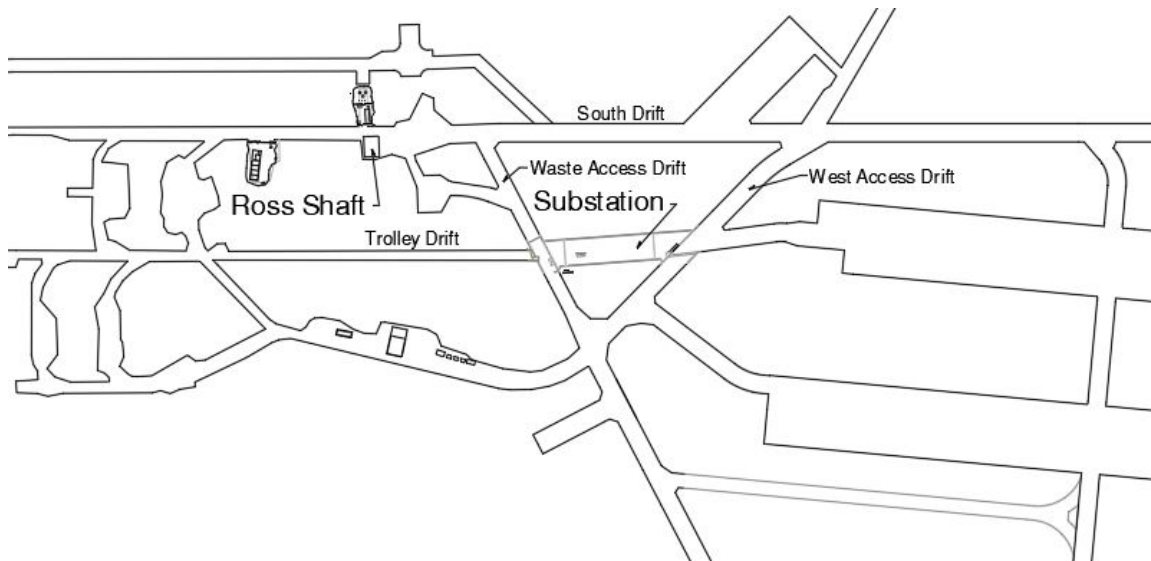
**Utilities:** Site power, industrial water and compressed air are to be supplied by SDSTA at the Ross Station and Ross Shaft area electrical distribution center(s). Costs for power, water and compressed air are borne by SDSTA. Distribution of power, water, and compressed air from the SDSTA Ross Station/electrical distribution center is to be planned, supplied, and borne by the contractor.

- 480V, 3-phase power is available at existing Ross substation adjacent to the Ross Shaft.
- Industrial Water is available within 200 feet of the substation area. It is supplied via a 2" diameter pipe and has a nominal header pressure of 120psi.
- Compressed air is available within 200 feet of the substation area. It is supplied via a 2" diameter pipe and has a nominal header pressure of 100psi.

**General Access & Work Area:** The substation space is located approximately 200 feet southeast of the Ross shaft and can be accessed through the Waste Access Drift. The specific work areas for this project include:

- 4850L station near the Ross shaft
- South Drift
- Waste Access Drift
- West Access Drift
- Substation Cavern

These areas are shown in **Figure 2** and on slide 2 of **Exhibit 1**.



**Figure 2. 4850L Ross Campus**

The substation space is approximately 120 feet long by 23 feet wide and is open at both ends. The side walls (rib) and ceiling (back) have been fully ground supported and shotcreted. The floor (sill) is a concrete slab. The back height of the West Access Drift is approximately 20 feet high and has been shotcreted. Scissor Lifts will be required for installing anchor bolts and hanging ductwork.

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Development of the Long-Baseline Neutrino Facility (LBNF) is currently in progress at the 4850L near the Ross Shaft and Ross Campus. Operations on the adjacent Ross Campus will also be in progress. Coordination with other contractors and projects will be required for the duration of this project.

**Safety Training:** The Offeror shall have all the employees coming to site receive safety training. The amount of training depends on time spent on site or previous training received at the SDSTA. The training categories are listed below:

- SURF Safety Orientation for new workers who intend to be on site less than 40 hours/year. Includes the surface safety orientation video, underground safety orientation video, and the IMS training document. – Estimated to take about 45 minutes.
- General Safety Basic (GSB) class for new workers who intend to be on site more than 40 hours/year. Includes PowerPoint formatted training. – Estimated to take about 4 hours.
- Annual refresher training for returning underground personnel. Includes the surface safety orientation video, underground safety orientation video, and the IMS training document. – Estimated to take about 45 minutes.

The SDSTA requires that contractors have an individual trained and qualified as a SURF Guide for each area that the contractor will be working at all times. It is recommended that the offeror have at least two employees (a primary and a backup) guide trained for the areas they will work in. Guide training consists of the following:

- SURF Guide Classroom Orientation that will familiarize the guide with the work area, communication methods, and systems to allow work underground without continuous SDSTA supervision. – Estimated to take about 6 hours.
- SURF Guide Field Orientation that will involve 3 trips to the work area with an SDSTA safety representative to demonstrate competency in the training received above. These trips can be done concurrently with the work when the SDSTA safety representative visits the work area– Estimated to take about 6 hours total.

All training needs to be administered by an SDSTA authorized individual and training is preferred to be given onsite (but can be done over Zoom if needed). SDSTA offers orientation and refresher classes each day at 7:30am, Mon-Fri and offers General Safety Basic (GSB) every other Monday. Guide training will be scheduled as needed.

**Ross Shaft Access & Working Near the Shaft:** The offeror will be required to work within the Ross cage times. The following cage time is available for offeror access to the 4850L and associated work areas: Cage times down 7:00 and 7:30 AM, Cage times up 4:00 and 4:30 PM.

All portions of work requiring use of the Ross conveyance will be performed by SDSTA crews. The offeror will be required to coordinate equipment deliveries with SDSTA. The general workflow of this arrangement will be as follows:

Offeror Load Transportation to/from the 4850L Station area:

- Offeror notifies/coordinates with SDSTA for load movement.
  - 1 day notice for material/load transportation that fit inside the cage.

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- Offeror delivers loads to the Ross Complex (near headframe/station.)
  - SDSTA loads conveyance with offeror's supplied loads.
  - SDSTA delivers loads at least 20 ft from the Ross Shaft (headframe/station.)
  - Offeror coordinates with SDSTA transporting loads from Ross Shaft to the work area.

**Material/Equipment Access:** The offeror will be required to provide the specialty equipment needed for concrete, masonry, and metal work. SDSTA can provide standard equipment to contractors such as a locomotive & operator, skid-steer loader, and a Telehandler for moving palletized loads.

Additionally, all materials & equipment brought underground must fit inside the Ross cage.

Ross Cage Dimensional Limits:

- Height = 122 inches
- Width = 52.5 inches
- Length = 143.5 inches
- Payload = 13,000 lbs.

Equipment, containers, materials, devices, and attachments must fit within the nominal cage dimensions and capacity limits. A height of 18 inches should be budgeted for a standard rail car used to load and unload materials and equipment onto the cage and for transportation in the underground drifts.

The offeror is ultimately responsible for determining the equipment that is needed to complete this project and ensuring that all items can fit inside the Ross cage.

The offeror is responsible for minimizing the buildup of materials that constitute a fire load. The offeror must maintain a clean construction area and clean up all construction materials and debris generated by the project during and at the end of construction.

#### **4. SCOPE OF WORK:**

Design drawings and project specifications are attached to this RFP. The scope of work includes the following:

Item A: Procure, and install two 2-hour fire rated walls:

- Construct CMU walls across each end of the substation.
- Walls must follow the non-uniform contour of the rib and back.
- Walls must be pinned to rib and back (refer to *Design Drawing S-101*.)
- West wall approximate dimensions: 26 feet long by 13 feet high.
- West wall must contain the following openings:
  - 10-foot-wide x 6-foot-high opening for fire/smoke dampers.
  - Opening for 6-0 x 7-0 walk-in double door.
  - Two 4-foot-wide x 6-inch-high fire-stopped openings for conduit penetrations.
- East wall approximate dimensions: 36 feet long by 19 feet high.
- East wall must contain the following openings:

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- Opening for a duct penetration.
  - Opening for 3-0 x 7-0 walk-in single door.
  - Opening for a 8-0 x 10-0 manually operated coiling overhead door.
  - 3-foot 4-inch-wide x 6-inch-high fire-stopped opening for conduit penetrations.
  - All finished walls, door frames, and walk-in doors must be painted.

Item C: Provide and install 1 1/2-hour fire rated steel doors:

- Walk-through doors shall open outward.
- Walk-through doors shall include panic hardware for emergency egress.
- 6-0 by 7-0 double-door, active leaf with narrow door lite in the west wall.
- 3-0 by 7-0 door, with narrow door lite in the east wall.
- 8-0 by 10-0 manually operated coiling door in the east wall.

Item D: Install a concrete housekeeping pad:

- The housekeeping pad shall be 4-inches thick by 5-foot-wide by approximately 80-feet long.
- The pad shall include steel reinforcement.
- The pad shall contain a UFER grounding system (installed by others) with bare copper grounding pigtails protruding out for electrical bonding to equipment. (Refer to *Design Drawings*.)

Item B: Procure, and install a Ventilation System:

- The ventilation system shall draw air in through the east wall and draw air out through the west wall of the substation.
- The ventilation system shall be ducted north through the West Access drift and exhaust into the South Drift.
- The ventilation system shall maintain a nominal 85 degrees Fahrenheit room temperature with a heat load of 32,000 btu, and a maximum of 104 degrees Fahrenheit with a maximum heat load of 80,000 btu.
- The ventilation system consists of a 30,000 CFM, belt driven, axial vane fan located in the West Access Drift and approximately 260 feet of ductwork.
- Work includes the installation of rock/masonry anchors and hanger hardware to support the fan and ductwork.
- Provide and install 2-hour fire rated fire/smoke dampers:
  - 60 square feet of inlet fire/smoke dampers in the west wall.
  - A fire/smoke damper on the inlet to the ventilation duct at the east wall.

## 5. TECHNICAL EVALUATION CRITERIA:

A best value selection process will be used to award this contract. Selection will be made based on tradeoffs between price and non-price evaluation criteria. The selection criteria are listed below:

- a. Total project cost.

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- b. The offeror's project package, including proposed project team that will actually be performing the work, and other technical requirements defined in this document.
  - c. Specialized experience and technical competence in:
    - Masonry and Concrete Work
    - Door, Frame, and Hardware Installation
    - Ventilation System Installation
  - d. Construction safety practices, procedures, and safety record relating to the scope of work.
  - e. Qualified professional personnel in the following key areas: 1) Project Management, 2) Project Supervision, 3) CMU Construction, 4) Door and Hardware Installation, 5) Ventilation System Installation.
  - f. Past performance on SDSTA, US Department of Energy, State of South Dakota or other contracts with respect to cost control, quality of work, and compliance with performance schedules.

## **6. SUBMISSION REQUIREMENTS:**

### **Submission Requirement: General**

To be eligible for contract award, a firm must be registered as a business entity with the South Dakota Secretary of State.

Proposals should be provided in digital format as a pdf file with standard letter size format. Note that there is a 50-page limit for proposals. Proposals must contain the following:

- Description of the working relationship between each of the overall team members, including a personnel specific organization chart. Note that the named subcontractors and outside associates or consultants must be used for project execution. Any change in subcontractors must be approved in advance by the SDSTA.
- Primary points of contact for the proposed team.
- Description of the approach to cost and schedule control. What tools are used and how is information to be communicated to the project team and SDSTA?
- Any exceptions to the draft contract, terms and conditions, or other RFP materials.

### **Submission Requirement: Similar Projects**

Describe at least two similar projects that the Contractor/Subcontractor has installed and commissioned within the past ten years. Example projects should be equivalent in size and scope. Examples should note the customer, location, and date of the project.

### **Submission Requirement: Safety**

Provide a description of the safety programs of contractors and subcontractors who would be

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performing work at SURF under this contract. Demonstrate the firm's understanding and awareness of all ESH issues that will be present on this project.

- Include safety records for the past five years (incident/injury records, OSHA 300 logs, and EMR data) of contractors and subcontractors who would be performing work at SURF under this contract.

#### **Submission Requirement: Quality Control**

Provide a description of the QC programs of contractors and subcontractors who would be performing work under this contract. QC manuals will not count toward the 50-page limit.

#### **Submission Requirement: Qualifications**

Provide resumes for key personnel proposed for this project. Include project manager and project superintendent. Resumes should include qualifications, certifications, and experience in the specific role proposed with relevant projects.

#### **Submission Requirement: Schedule**

The total project duration shall be within 120 days of the Notice to Proceed (NTP). Note that liquidated damages of \$75/day will be applied for additional schedule days after the approved contract completion date. Refer to section **X** of the draft contract for additional details.

#### **Submission Requirement: Price**

Provide a project pricing breakdown as detailed on the attached SDSTA Bid Sheet. The offeror's fixed price shall constitute full payment for the work, materials, services, quality control testing, other items required, and include all applicable federal, state use, sales, and local taxes, duties, permits, bonding, and all the Subcontractor's other obligations related to such work.

#### **Submission Requirement: Mandatory Site Visit**

All offerors are required to attend an onsite pre-proposal conference & site visit **XX XX XXXX** from 10:00-12:00 p.m. MT at the SURF, 630 East Summit Street, Lead South Dakota. Pre-registration is required. Email **(name)**@sanfordlab.org by close of business **XX XX XXXX** to receive instructions and directions. Only companies represented at the pre-proposal conference will be eligible to submit proposals. Contractors' subcontractors are encouraged, but not required, to attend.

### **7. DELIVERABLES:**

Refer to SDSTA Division 1 and other technical specifications for deliverables required after contract award but before the start of work and during project execution. While not a complete list, key deliverables include:

- Safety Plan
- Quality Control Plan
- Construction Schedule
- Schedule of Prices
- Submittal Register

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- Shop Drawings
  - Contractor Daily Reports
  - Test Reports
  - As-Built Drawings
  - O&M Manuals and Warranties

## **8. PROPOSALS DUE:**

Offerors should submit an electronic copy (pdf format) of the proposal no later than 2:00 pm on September 10, 2025 David Raad, draad@sanfordlab.org. Late submissions will not be accepted.

Questions are due by 4:00 pm on August 28, 2025.

Questions must be sent in writing by email to David Raad (draad@sanfordlab.org). Answers will be emailed to all prospective proposers and posted to the Sanfordlab.org website. Prospective proposers must coordinate with David Raad regarding attendance at the site visit in Lead, SD.

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 offerors by SDSTA.

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