

SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY

REQUEST FOR PROPOSAL ARCHITECT-ENGINEER SERVICES ARC FLASH STUDY RFP #2019-14

1. PURPOSE

This Request for Proposal (RFP) is issued by the South Dakota Science and Technology Authority (SDSTA) for Architect-Engineer (A-E) Services for an engineering study on arc flash and shock hazard. Some applicable federal, state and industry standards are referenced below for additional emphasis. All applicable industry and regulatory standards and codes, including those not referenced or listed, constitute criteria for this project.

2. SCOPE OF WORK

Services are required to conduct an arc flash & shock hazard study at the Sanford Underground Research Facility (SURF). The main deliverables of this study will be computer models of the electrical system, equipment arc flash & shock hazard label data, and an arc flash & shock hazard study report.

The A-E will provide an arc flash & shock hazard study in accordance with the NFPA 70E-2018 – *Standard for Electrical Safety in the Workplace* and IEEE Standard 1584-2018 – *Electrical Guide for Performing Arc Flash Hazard Calculations*. The A-E will collect electrical system information at the Sanford Underground Research Facility, both aboveground and underground. The collected information will then be used by the A-E to generate a model of the electrical system using SKM Power Tools software. Small portions of the electrical system have a higher voltage than what is covered under the scope of IEEE Standard 1584-2018. For these portions, the A-E will use ARCPRO software to determine the incident energy and fault current values feeding the lower voltage systems modeled in SKM Power Tools. SKM Power Tools will be the primary software used to perform the short-circuit analysis, coordination study, and arc-flash calculations. The results of the study will allow equipment to be properly labeled and would allow SDSTA and electrical contractors to provide the correct arc flash and shock protection PPE to employees (Ref. 30 CFR 57.15006, 29 CFR 1910.269 Appendix E, and NEC 110.16). The study results will also provide information necessary for designing and installing future additions and modifications to the facility's power distribution system while observing equipment interrupt and withstand ratings (29 CFR 1910.303(b)(4), 29 CFR 1910.303(b)(5), NEC 110.9, and NEC 110.100).

3. SELECTION CRITERIA

The selection criteria for this project are as follows:

- a. Specialized experience and technical competence in: (1) Arc flash studies, (2) short circuit analysis, (3) device coordination studies, (4) use of SKM power tools and ARCPRO software packages, (5) producing spreadsheets used to generate equipment arc flash and shock hazard labels, and (6) familiarity with substations and underground mine environments. The evaluation will consider the management approach, quality control procedures, prior safety performance, and prior experience of the prime firm and any significant subcontractors on similar projects.
- b. Qualified professional personnel in the following key disciplines: electrical engineering. The lead engineer must be registered to practice in the State of South Dakota in the appropriate professional field. The evaluation will consider education, certifications, training,

- registration, overall & relevant experience, and longevity with the firm.
- c. 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.
- d. Capacity to submit the study's final report and computer models by December 2019 and apply equipment arc flash and shock hazard labels by January 2020.
- e. Experience of the firm and any consultants in similar size projects, including the availability of an adequate number of personnel in key disciplines.

4. PROPOSAL INSTRUCTIONS:

Interested firms having the capabilities to perform this work must submit a project specific technical qualifications proposal to the above address not later than 4:00 PM on the response date indicated above. The proposal shall not exceed 50 pages (8.5" x 11"). Each side of a sheet of paper is a page. Use no smaller than 12-point font. In general, the technical proposal should seek to provide the following information:

- a. Professional qualifications of the firm and the specific individuals who will be assigned to the work.
- b. Specialized experience and technical competence of the firm and individuals in the type of work described in the solicitation.
- c. Capacity and capability of the firm to perform the services.
- d. Method of approach demonstrating the firm's understanding of the project, risks, challenges, and strategy that will be employed to complete the project on time and under budget.
- e. Demonstrated success on similar projects, including past performance on contracts in terms of cost control, quality and schedule.
- f. Identification of any requested changes to the attached contract template.

Specifically Requested Proposing Firm Information:

- a. Name of principal representative.
- b. Firm name and address.
- c. Year established under current name.
- d. Type of ownership or legal structure of the firm (*i.e.*, sole proprietor, partnership, corporation, joint venture).
- e. Number of employees by discipline.
- f. Profile of firm's experience which most accurately reflects the firm's technical capabilities and project experience.
- g. Provide the contractual relationship, name, and a brief description of the role of each firm that will be involved in performance of this project. If a firm has branch offices, indicate each individual branch office that will have a key role on the team. Include the estimated percentage of work the firm will be involved in. Note that the named subcontractors and outside associates or consultants must be used, and any change must be approved by SDSTA.
- h. Provide an organizational chart of proposed team.
- i. Provide resumes of key personnel proposed for this contract, including:
 - 1) Years of experience to include with the present firm, present location, education, current professional registration and other professional qualifications.
 - 2) Include up to five projects in which the person had a significant role that demonstrates the person's capability relevant to their proposed role in this project.
- j. Provide projects which illustrate proposing team's qualification for this contract, including:
 - 1) Title and location
 - 2) Period of performance
 - 3) Project owner and a project point of contact
 - 4) Discussion of the relevance of the previous project to the proposed project

- 5) Firms from proposed team involvement/roles in previous projects
- 6) Key personnel participation in previous projects

Submit one electronic copy of the proposal to mbaumann@sanfordlab.org by 10:00 a.m. July 1, 2019. The SDSTA reserves the right to conduct interviews as required.

A project-specific quality control plan must be prepared and approved by the SDSTA as a condition of contract award but is not required with this submission. This is not a request for cost proposal. A firm fixed price contract will be negotiated. The contract is anticipated to be awarded in July 2019 and completed by January 2020. To be eligible for contract award, a firm must be registered as a business entity with the South Dakota Secretary of State.

Please direct all questions in writing to Michele Baumann at mbaumann@sanfordlab.org by close of business June 19, 2019. Questions and answers will be posted as an amendment to this RFP by 5:00 p.m. MT June 21, 2019.

SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY

CONTRACT FOR CONSULTING SERVICES

by and between

Company	South Dakota Science and Technology Authority
Address	630 East Summit Street
City, State ZipCode	Lead, SD 57754

Referred to as “Consultant” or “Contractor”	Referred to as “SDSTA” or “Owner”
--	--

**PROJECT: Architect-Engineer Services Arc Flash Study
SDSTA Contract #2019-14**

THIS CONTRACT, made effective the Xst day of July, 2019, is made for the described services with the Consultant for the consideration stated herein. The Consultant represents itself as competent and qualified to accomplish the specific requirements of this contract to the satisfaction of SDSTA. Incorporated into this Contract are the following exhibits:

- Exhibit A: Insurance Requirements
- Exhibit B: Environment Health and Safety Requirements
- Exhibit C: Scope of Work
- Exhibit D: Consultant’s Proposal

In consideration of the mutual promises contained herein, the parties agree to the following:

1. Administration: **Name (email)** shall be SDSTA’s designated representative in all matters pertaining to this Contract. **Name (email)** shall be the Consultant’s designated representative in all matters pertaining to this Contract.
2. Applicable Law/Jurisdiction: This Contract shall be governed and interpreted according to the laws of the State of South Dakota, and the appropriate forum for any litigation or other dispute resolution pertaining to this Contract shall be decided in the state courts of South Dakota. The parties consent to the jurisdiction of such court and hereby waive any claims of lack of personal jurisdiction or inconvenience of the chosen forum.
3. Assignment: This Contract, or any part thereof, may not be assigned, transferred, or subcontracted by the Consultant without the prior written consent of SDSTA. The Consultant shall not engage the services of any subcontractors not expressly designated in Exhibit D without the prior written consent of SDSTA.
4. Contract Sum: For performance of the work specified in the Contract Documents, SDSTA pay Consultant a firm fixed price fee of **Amount (\$x,xxx)**. In no event may the total amount paid to Consultant during the term of this Contract exceed **Amount (\$x,xxx)**.

Reimbursement for pre-approved travel expenses, if any, will not exceed Federal Travel Regulations (FTR) standard rates for the applicable travel location.
5. Contract Term: This Contract shall commence on **Month Day, 2019** and shall terminate on **Month Day, 2020**, unless terminated earlier as provided in this Contract.
6. Insurance: During the term of this Contract, Consultant shall maintain in effect at all times, and provide proof of such coverage to SDSTA, insurance as described on the attached Exhibit A, which is incorporated herein by this reference. By executing this Contract, Consultant authorizes SDSTA to make direct inquiry of Consultant’s insurer or insurance agent concerning the status of the insurance required by this Contract.

7. Conflict of Interest: No officer or employee of SDSTA shall participate in any decision relating to this Contract which affects his or her personal interest in any entity in which he or she directly or indirectly has interest. No employee of SDSTA shall have any interest, direct or indirect, in this Contract or its proceeds.
8. Confidentiality: All reports, plans, specifications, engineering calculations, technical data, miscellaneous drawings, and information contained therein provided to or prepared by Consultant, its owners, officers, employees, agents, consultants, suppliers, and subcontractors in connection with Consultant's performance under this Contract are confidential and the Consultant, its owners, officers, employees, agents, consultants, suppliers, and subcontractors shall not disclose this information to any person, individual, or entity without the express written permission of SDSTA.
9. Contract Validity/Severability: In the event that any court of competent jurisdiction shall hold any provision of this Contract unenforceable or invalid, such holding shall not invalidate or render unenforceable any other provision hereof.
10. Debarment or Suspension: By signing this Contract, the Consultant certifies to the best of its knowledge and belief that it and all persons associated with the Contract, including persons or corporations who have critical influence on or control over the Contract, are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation by any federal department or agency.
11. Entire Contract: This Contract sets forth the entire agreement between the parties and replaces and supersedes all prior arrangements on the subject, whether oral or written, expressed or implied. Documents, information and data provided to SDSTA pursuant to the terms of this Contract may be subject to examination and review by representatives of the Homestake Mining Company of California pursuant to the terms of the Property Donation Agreement or by representatives of federal, state or local governmental entities, including, but not limited to, the South Dakota Department of Legislative Audit. Anything elsewhere in this Contract to the contrary notwithstanding, any such documents, information or data may become public records open to public inspection.
12. Force Majeure: Neither party shall be liable to the other or be deemed to be in breach of this Contract for any failure or delay in rendering performance arising out of causes beyond its reasonable control and without its fault or negligence. Such clauses may include, but are not limited to, acts of God or of a public enemy, fires, floods, epidemics, strikes, embargoes, or unusually severe weather. Dates or times of performance shall be extended to the extent of delays excused by this section provided that the party whose performance is affected notifies the other promptly of the existence and nature of such delay.
13. Headings: The headings in this document are for convenience of reference only and do not define, describe, extend, or limit the scope or intent of this Contract, or the scope or intent of any provision contained in this Contract, and thus shall not be used in interpretations of this Contract. Except where the context requires otherwise, whenever used the singular includes the plural, the plural includes the singular, the use of any gender is applicable to all genders and the word "or" has the inclusive meaning represented by the phrase "and/or." Whenever this Contract refers to a number of days, unless otherwise specified such number refers to calendar days. The wording of this Contract shall be deemed to be the wording mutually chosen by the parties and no rule of strict construction shall be applied against any party.
14. Indemnification: Consultant agrees to hold harmless and indemnify SDSTA, the State of South Dakota, and their officers and employees from and against any and all actions, suits, damages, liability or other proceedings which may arise as a result of the negligence, misconduct, error or omission of any officer, agent, subconsultant or employee of Consultant, but only to the extent of such negligence, misconduct, error or omission. This section does not require the Consultant to indemnify SDSTA or State of South Dakota, or their officers, agents or employees from claims or liability to the extent such claims or liability arise from the acts or omissions of SDSTA, the State of South Dakota or their officers, agents or employees.
15. Independent Consultant: Consultant warrants that it is regularly engaged in business of which the services provided in this Contract are typical. The parties understand that SDSTA will file annual information returns as required by the Internal Revenue Service with copies sent to Consultant. Consultant will be responsible for compliance with all applicable laws, rules, and regulations involving but not limited to, employment, labor, worker's compensation, hours of

work, working conditions, payment of wages, and payment of taxes, such as unemployment, social security, and other payroll taxes, including other applicable contributions as required by law.

16. Licensing: Consultant shall secure in its name and at its expense all federal, state, and local licenses and permits required for completion of work under this Contract. Consultant shall provide proof of such licensure or permit to SDSTA upon request.

17. Modification: This Contract may be modified or amended only in writing signed by both parties. SDSTA, without invalidating the Contract, may order changes in the Scope of Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and the Contract Time being adjusted accordingly.

18. Non-Discrimination: Consultant shall not discriminate and shall comply with applicable laws and SDSTA policies prohibiting discrimination on the basis of race, color, religion, national origin or citizenship status, age, disability, or veteran status. SDSTA encourages the employment of individuals with disabilities.

19. Notice: All notices, demands and other communications required by this Contract shall be in writing and shall be deemed to have been duly given if emailed, personally delivered or mailed first class, postage prepaid:

• **If to Consultant:**

Company Name
Attn: Name
Street
City State ZipCode
Email

• **If to SDSTA:**

Mike Headley
Executive Director
630 East Summit Street
Lead, SD 57754
MHeadley@sanfordlab.org

Timothy M. Engel
Counsel for the SDSTA
503 S. Pierre Street, P.O. Box 160
Pierre, SD 57501

Either party may change the addresses set forth for notice herein upon written notice thereof to the other.

20. Ownership of Documents: Any plans, specifications, engineering calculations, technical data, reports, miscellaneous drawings, and all information contained therein provided by SDSTA, its consultants, employees, contractors and agents to the Consultant for the Consultant's performance of its obligations under this agreement are the property of SDSTA. They are to be used only with respect to this project and are not to be used for any other project. The Consultant may not retain any such document for its own use, nor disseminate these materials to any person or entity nor may the Consultant use these materials for purposes other than work for SDSTA, without the express written approval of SDSTA. SDSTA shall not unreasonably withhold such approval for dissemination of these materials to subcontractors and suppliers. All documents covered by this article shall be delivered to the SDSTA Representative at the completion of the Scope of Work.

No. Project Deliverables: Consultant will provide all working documents relevant to the contract scope upon contract termination or completion including drawings, specifications, software files, and other instruments of service. Reuse of any documents pertaining to this project by SDSTA on extensions of this project or on any other project shall be at SDSTA's risk. SDSTA agrees to defend, indemnify, and hold harmless Consultant from all claims, damages, and expenses including attorney's fees arising out of such reuse of the documents by SDSTA or by other acting through SDSTA.

21. Payments to Consultant: SDSTA shall make payments on a monthly basis for work accomplished in accordance with this Contract. Payment will be made upon receipt of Invoice or Payment Request Form. Invoices or Payment Request Forms are to be addressed to South Dakota Science and Technology Authority, 630 East Summit Street, Lead,

SD, 57754, and may be submitted by email to: ap@sanfordlab.org. Invoices are to be submitted to SDSTA by the 3rd day of the month for work performed in the previous month. Invoices received after the 3rd day of the month will be considered to have been received the following month. Final Invoices or Payment Request Forms must be received within thirty days of completion of this Contract. No payments will be made for invoices received later than thirty days past the ending date of this Contract.

Reimbursement for pre-approved travel expenses, if any, will not exceed Federal Travel Regulations (FTR) standard rates for the applicable travel location. Lodging expenses will be reimbursed at FTR rates or the actual lodging cost, whichever is less; airfare shall be reimbursed at the actual cost of a coach class ticket. No additional burdens or overheads will be applied to travel expense reimbursements.

22. Safety: Consultant's responsibility for project safety is attached hereto as Exhibit B, and incorporated herein by reference.

23. Publicity, Publication: Unless otherwise provided by law or SDSTA, title and possession of all data, reports, programs, software, equipment, furnishings, and any other documentation or product paid for with SDSTA funds shall vest with SDSTA. Consultant shall at all times obtain the written approval of SDSTA before Consultant makes any statement bearing on the work performed or data collected under this Contract to the press or issues any material for publication through any medium of communication. If Consultant publishes a work dealing with any aspect of performance under this Contract, or of the results and accomplishments attained in such performance, SDSTA shall have a royalty free, non-exclusive and irrevocable license to reproduce, publish, or otherwise use and authorize others to use the publication.

24. Record Keeping, Audit, and Inspection of Records: Consultant shall maintain books, records, and other compilations of data pertaining to the requirements of this Contract to the extent and in such detail as shall properly constitute claims for payment. All such records shall be kept for a period of seven years or for longer period if specified herein. All retention periods start on the first day after the final payment of the Contract. If any litigation, claim, negotiation, audit, or other such action involving the records is commenced prior to the expiration of the applicable retention period, all records shall be retained until completion of the action and resolution of all issues resulting therefrom, or until the end of the applicable retention period, whichever is later. SDSTA or the grantor agency (if any), or any of their authorized representatives shall have the right at reasonable times and upon reasonable notice, to examine and copy the books, records, and other compilations of Consultant's data pertaining to this Contract. Such access shall include onsite audits.

25. Scope of Work: The Consultant agrees to perform the Scope of Work as described in Exhibit C, hereby incorporated by reference.

26. Compliance with Federal Regulations: Consultant agrees that the federal regulations outlined in Exhibit E are hereby incorporated by reference as part of the terms and conditions of this Agreement.

Consultant agrees to use the E-Verify System (www.uscis.gov/i-9-central/about-form-1-9/e-verify-and-form-i-9) to verify the employment eligibility of all employees assigned to this Contract and all new hires working in the United States. Consultant further agrees to maintain an active registration, during the term of this Contract, with the System for Award Management (SAM) (www.sam.gov).

27. Termination:

A. This Contract depends upon the continued availability of appropriated funds. This Contract will be terminated by SDSTA if the appropriated funds or grant expenditure authority is discontinued. Termination for this reason is not a default by SDSTA nor does it give rise to a claim against SDSTA. Termination for this cause shall be treated in the manner set forth in paragraph B of this article.

B. SDSTA may terminate this Contract at any time without cause, in whole or in part, upon giving Consultant notice of such termination. Upon such termination, Consultant shall immediately cease work and remove from the project

site all its labor forces and such of its materials as SDSTA elects not to purchase or to assume. Consultant shall receive as full compensation for termination and assignment all amounts then otherwise due under the terms of this Contract and amounts due for work performed subsequent to the latest request for payment through the date of termination.

C. If Consultant is in default under the provisions of this Contract, SDSTA may, without prejudice to any other right or remedy and upon written notice to the Consultant, terminate the Contract.

28. Professional Judgment: Consultant intends to serve as SDSTA's professional representative for those services as defined in this Contract and to provide advice and consultation to SDSTA as a professional exercising the same degree of care and skill as would be exercised by others in the same profession in South Dakota. Any opinions of probable project cost, approvals, and other decisions made by Consultant for SDSTA are rendered on the basis of experience and qualifications and represent Consultant's professional judgment.

29. This agreement shall not be construed as giving Consultant the responsibility or authority to direct or supervise construction means, methods, techniques, sequences, or procedures of construction selected by any contractors or subcontractors or the safety precautions and programs incidental to the work of any contractors or subcontractors.

IN WITNESS HERETO, the parties signify their agreement by signatures affixed below on the day and year above first written.

COMPANY

**SOUTH DAKOTA SCIENCE AND
TECHNOLOGY AUTHORITY**

By: _____
Name _____ Date _____
Title _____

Mike Headley _____ Date _____
Executive Director

EXHIBIT A
INSURANCE REQUIREMENTS

A. Minimum Insurance

Prior to the commencement of work, the Contractor will procure and maintain the following insurance:

1. Business automobile liability insurance with limits not less than \$1 million per occurrence. Such insurance shall include coverage for owned, non-owned and hired automobiles.
2. Workers compensation insurance as required by South Dakota law.

B. Special Provisions Applicable to All Coverages

1. The Contractor or Project Sponsor must provide the South Dakota Science and Technology Authority 30 days' notice of cancellation/material change, reserving the right to obtain replacement coverage if Contractor does not and deducting the cost from the contract total.
2. Self-insured retentions and/or deductibles greater than \$50,000.00 must be declared and approved by the Authority.

C. Evidence of Insurance

Prior to commencement of work, the Contractor or Project Sponsor shall furnish the South Dakota Science and Technology Authority with certificates evidencing compliance with the insurance requirements above. The Contractor or Project Sponsor must agree to provide complete, certified copies of all required insurance policies if requested by the Authority.

D. Acceptability of Insurers

Insurance shall be placed with insurers acceptable to the South Dakota Science and Technology Authority.

EXHIBIT B
ENVIRONMENT, SAFETY AND HEALTH REQUIREMENTS –
A/E SERVICES CONTRACTOR’S / CONSULTANT’S
RESPONSIBILITY FOR PROJECT SAFETY

1. The requirements contained herein are specifically related to the Environment, Safety and Health (ESH) associated with the performance of the consulting work for this contract and focused on protecting the Contractor and Subcontractor employees and the environment in which they work. These requirements are not intended to infer any responsibility for the work performed to construct or utilize the work product of this contract, nor to replace codes and standards used in the design process.

2. Contractor recognizes the importance of performing the work in a safe and responsible manner so as to prevent damage, injury, or loss to individuals, the environment, and the Project, including materials and equipment incorporated into the Project or stored on-site or off-site. Contractor assumes responsibility for following all ESH precautions and programs related to the performance of the Project.

3. Contractor and Subcontractors shall comply with all legal and Owner-specific reporting requirements relating to ESH set forth in the Contract Documents. Contractor will immediately report orally, and in writing within one (1) day, any ESH related injury, loss, damage, or accident arising from the work to Owner’s Representative and, to the extent mandated by legal requirements, to all government or quasi-government authorities having jurisdiction over safety-related matters involving the Project. Contractor will also immediately notify Owner of any failure to comply with state and federal environmental laws, rules, and regulations.

4. Contractor’s responsibility for ESH under this Article is not intended in any way to relieve Subcontractors and Subcontractors of their own contractual and legal obligations and responsibilities.

ESH Requirements and Coordination

5. Safety and protection of the environment are of the utmost concern on this Contract. Safety in this context refers to the health and safety of people and the protection of the environment. Nothing contained herein relieves the Contractor from complying with all applicable standards and regulations found in 29 CFR Part 1926 (the OSHA construction standard), 40 CFR Parts 261-265 (solid and hazardous waste management), as applicable. Site specific safety requirements are defined in the “Contractor Safety Policy,” located at: <http://sanfordlab.org/ehs/manual/22-construction-ehs-manual-policy>. MHSA compliance may be acceptable after review.

6. The Contractor will address the safety requirements defined. Contractor costs associated with the implementation of the requirements will be borne by the Contractor.

7. If Contractor performs any work onsite at the Sanford Underground Research Facility (SURF), the Contractor shall be accompanied at all times by an Owner’s representative.

8. If Contractor performs any work onsite at the SURF, the Contractor is expected to follow a work planning process that is acceptable to the Owner. The work planning process must be conducted and documented prior to the start of Work. The work planning process follows these steps and is documented in the form of a Job Hazards Analysis (JHA):

- a) Define the scope of the work.
- b) Analyze hazards in a step by step fashion.
- c) Develop and implement hazard controls and regulatory compliance.
- d) Perform the work and monitor the effectiveness of the hazard controls.
- e) Provide feedback to improve the process (e.g. routine workplace inspections, auditing compliance during work performance, job briefing postings, lessons learned, etc).

A JHA, developed with the Owner, must be completed and reviewed with the individual(s) expected to participate in the task(s) prior to beginning a specified task. Copies of JHAs must be present at the location where tasks are being performed and accessible to the individuals performing the tasks and to Owner representatives.

9. If Contractor performs any work onsite at the SURF, the Owner will conduct a work planning meeting (tailgate/toolbox talk) including, when necessary, Subcontractor employees, prior to the beginning of each shift. This talk will include the plan for the day, a review of hazards and potential regulatory issues, and the review of applicable JHAs.

10. Contractor shall provide all common Personal Protective Equipment (PPE) required for the Work (hard hats, safety toe boots, safety glasses) unless otherwise stated in the Scope of Work. Owner shall provide non-standard PPE for the Contractor's use if required. Non-standard PPE may include items such as fall protection, lights and self rescuers for underground work, etc.

11. The Contractor is responsible for screening all Subcontractors with respect to safety and to adopt a safety selection process consistent with requirements defined herein. In addition, Contractor is responsible for flowing down all ESH requirements of the Contract to its Subcontractors, including monitoring and enforcing compliance.

12. The Contractor is responsible for assuring that all Contractor employee safety training is completed in compliance with Owner guidelines, policies, and 29 CFR 1926. The following training is required for all Contractor personnel before they start work:

(a) Documented compliance with OSHA 1910 and 1926 along with training requirements as applicable is required. Note that current MSHA training certification is also acceptable.

(b) For all Contractors on site beyond the common office areas:

i. Site Specific ESH Orientation and Training (plan for a 1 to 2-hour on-site training course conducted by Owner's representatives).

ii. Any other training requirements identified by the Contractor or by the Owner and communicated to the Contractor, during the bid process and Site Specific ESH Program review.

13. If the Owner perceives the Contractor has created or is exposed to an imminent danger or a non-compliance situation, the Owner will suspend work until safe conditions are re-established. Such stoppages will be at the expense of the Contractor and will not add time to the completion date of the Contract.

14. In the event of an incident occurring at the Owner's facility, Owner will conduct an incident investigation in accordance with the Owner's policies. The investigation will include preparing a written report summarizing the results of the investigation, corrective actions taken to prevent a reoccurrence, and any lessons learned. The Owner will facilitate the incident investigation with Contractor participation. Time and expense incurred by Contractor performing an incident investigation will be at the Contractor's expense.

15. All chemicals to be used at the Owner's facility must be approved by the Owner and Safety Data Sheets (SDS) must be maintained by the Contractor.

16. Smoking, use of tobacco products, alcohol, controlled substance or weapons are not allowed within the boundaries of the Owner's facility. All property owned and operated by SDSTA is designated as tobacco-free. This applies to all areas of the surface and the underground. The Contractor shall manage and maintain a drug and alcohol policy that aligns with that of the Owner's written policy and procedures. ESH department review of this document may be required.

17. Contractor acknowledges that periodic drills and exercises are required by Owner to validate the adequacy and effectiveness of Owner's Emergency Response Plan. Contractor also recognizes that such drills and exercises enhance its employees' understanding of Owner's Emergency Response Plan. Contractor agrees to participate in quarterly drills, which may or may not be scheduled in advance, during the term of this Contract. It is understood that Contractor will not be entitled to any additional compensation for participating in these drills or exercises.

18. Contractor agrees to assess whether Contractor's employees have the physical, mental, and emotional capacity to perform assigned tasks competently, and in a manner that does not unreasonably threaten safety, health, or property, including participation in emergency procedures applicable to Contractor's work location.

19. Owner reserves the right to restrict or deny access of any Contractor employee to the work location.

20. Contractor shall report the hours worked on site by Contractor's employees on a monthly basis to ESH Safety Coordinator, Michelle Andresen (mandresen@sanfordlab.org) and to the SDSTA Representative named in the

Contract. Hours should be emailed to both Ms. Andresen and the SDSTA Representative no later than the 3rd day of the month for hours worked the previous month.

EXHIBIT C

SCOPE OF WORK

Services are required to conduct an arc flash & shock hazard study at the Sanford Underground Research Facility (SURF). The main deliverables of this study will be computer models of the electrical system, equipment arc flash & shock hazard label data, and an arc flash & shock hazard study report.

The Architect-Engineer (A-E) will provide an arc flash & shock hazard study in accordance with the NFPA 70E-2018 – *Standard for Electrical Safety in the Workplace* and IEEE Standard 1584-2018 – *Electrical Guide for Performing Arc Flash Hazard Calculations*. The A-E will collect electrical system information at the Sanford Underground Research Facility, both aboveground and underground. The collected information will then be used by the A-E to generate a model of the electrical system using SKM Power Tools software. Small portions of the electrical system have a higher voltage than what is covered under the scope of IEEE Standard 1584-2018. For these portions, the A-E will use ARCPRO software to determine the incident energy and fault current values feeding the lower voltage systems modeled in SKM Power Tools. SKM Power Tools will be the primary software used to perform the short-circuit analysis, coordination study, and arc-flash calculations. The results of the study will allow equipment to be properly labeled and would allow SDSTA and electrical contractors to provide the correct arc flash and shock protection PPE to employees (Ref. 30 CFR 57.15006, 29 CFR 1910.269 Appendix E, and NEC 110.16). The study results will also provide information necessary for designing and installing future additions and modifications to the facility's power distribution system while observing equipment interrupt and withstand ratings (29 CFR 1910.303(b)(4), 29 CFR 1910.303(b)(5), NEC 110.9, and NEC 110.100).

EXHIBIT D
CONSULTANT'S PROPOSAL