



Department of Energy

Office of Science
Integrated Support Center - Chicago Office
9800 South Cass Avenue
Lemont, Illinois 60439

Dear Recipient:

SUBJECT: AWARD NO. DE-SC0020216, BASE AWARD

Attached is a signed copy of the subject award which provides Department of Energy (DOE) support as shown therein.

If the modification is acceptable, please have an authorized official of your organization sign and date the Assistance Agreement page in Blocks 22, 23, and 24. The fully executed copy must be returned via FedConnect within five days of your receipt of this package.

Please be aware that non-Federal entities that expend \$750,000.00 or more during the non-Federal entity's fiscal year in Federal awards are subject to the audit requirements of 2 CFR 200.501, Audit Requirements, and are responsible for compliance with those requirements. An electronic version of 2 CFR 200.501 may be accessed at: https://www.ecfr.gov/cgi-bin/text-idx?SID=df89717b12a0d28ba2a8efac90f54a6f&mc=true&node=se2.1.200_1501&rgn=div8

Please be advised that by acceptance of the subject award, recipients are responsible for compliance with the "National Policy Assurances To Be Incorporated as Award Terms", in effect on the date of award. The National Policy Assurances may be accessed at <https://www.energy.gov/management/downloads/national-policy-assurances-be-incorporated-award-terms>.

10 CFR Part 1040, Nondiscrimination in Federally Assisted Programs, is applicable to this award. To assist you in complying with this requirement, the poster entitled "*Equal Employment Opportunity is the Law*" may be found at http://www.eeoc.gov/employers/upload/eeoc_self_print_poster.pdf and the poster entitled "*Know Your Rights*" is attached. Both posters should be displayed in prominent locations. The full text of 10 CFR 1040 is available at http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title10/10cfr1040_main_02.tpl.

It is DOE policy to eliminate fraud, waste and abuse in DOE programs and to ensure that corrective action is taken when such acts of misconduct are uncovered. As a DOE award recipient, such violations should also be of concern to you and your employees. DOE is requesting voluntary compliance and cooperation from its awardees to help eliminate such violation by displaying the DOE Office of Inspector General Hotline poster found at <https://www.energy.gov/sites/prod/files/2017/05/f34/HotlinePoster.pdf> in a conspicuous location in your facility.

All final scientific/technical reports must be submitted electronically via the DOE Energy Link System (E-Link) which is accessible at <http://www.osti.gov/mlink-2413>. Refer to the Federal Assistance Reporting Checklist and Instructions incorporated in your award as an attachment for more detailed instructions regarding the applicable scientific/technical reporting requirements under this agreement.

Detailed guidance regarding the contents and format of scientific/technical reports is provided by the DOE Scientific and Technical Information Program (STIP). The STIP home page may be accessed at www.osti.gov/stip. If you have any questions using E-Link, please contact Kim Buckner, Office of Scientific and Technical Information, at (865) 576-1228 or by e-mail at 241user@osti.gov.

As noted in the Federal Assistance Reporting Checklist and Instructions, Management Reports and Scientific/Technical Reports must not contain any Protected Personally Identifiable Information (PII). Protected PII is defined as an individual's first name or first initial and last name in combination with any one or more of the following types of information, including, but not limited to: social security number, passport number, credit card numbers, security clearances, bank numbers, biometrics (e.g., fingerprint, iris scan, DNA), date and place of birth, mother's maiden name, criminal, medical and financial records, educational transcripts, etc.

To assist you in complying with the lobbying provisions applicable to this DOE financial assistance award, DOE has developed a lobbying brochure entitled, "What You Should Know As A Federal Employee, Contractor, Cooperative Agreement Participant, or Grantee", which provides an overview of lobbying policies. The brochure may be accessed at: <http://energy.gov/management/lobbying>.

As indicated in the Special Terms and Conditions for Use in Most Grants and Cooperative Agreements incorporated in and attached to your award, the payment method will be reimbursement through the Automated Clearing House (ACH) Vendor Inquiry Payment Electronic Reporting System (VIPERS). Requests for reimbursements must be made electronically through Department of Energy's Oak Ridge Financial Service Center (ORFSC) VIPERS. To access and use VIPERS, you must enroll at <https://vipers.doe.gov/>. Detailed instructions on how to enroll are provided on the web site.

Standard Form (SF) 425, Federal Financial Report must be completed and submitted in accordance with the requirements of the Federal Assistance Reporting Checklist and Instructions provided as an attachment to your Assistance Agreement. The report and instructions may be found at <https://www.grants.gov/web/grants/forms/post-award-reporting-forms.html>.

As stated in the Invention Reporting and Patent Responsibility letter attached to this assistance agreement, which discusses important information regarding title, data and patent rights, any questions regarding the patent and data provisions of your agreement should be addressed directly with the Intellectual Property Law Division of the Chicago Office. Contact information is provided in the aforementioned letter.

If you have any questions regarding the above, please contact me via one of the following methods:

Telephone: (630) 252-2657
Facsimile: (630) 252-4798
E-mail: jill.jonkouski@science.doe.gov

If you have any comments concerning the quality or timeliness of our service, please contact Cynthia Anderson, Director, Operations Division – Group II, Office of Acquisition and Assistance at (630) 252-2844 or cynthia.anderson@science.doe.gov.

Sincerely,

Jill Jonkouski, Contract Specialist
Operations Division
Office of Acquisition and Assistance

Attachments:

1. Assistance Agreement
2. Special Terms and Conditions for Use in Most Grants and Cooperative Agreements
3. Invention Reporting and Patent Responsibility Letter (IPL Provisions) and financial Assistance Intellectual Property Provisions
4. Federal Assistance Reporting Checklist and Instructions
5. Budget Page(s)
6. Statement of Substantial Involvement
7. Poster entitled, "Know Your Rights"

ASSISTANCE AGREEMENT

1. Award No. DE-SC0020216		2. Modification No.	3. Effective Date 09/30/2019	4. CFDA No. 81.049	
5. Awarded To SOUTH DAKOTA SCIENCE & TECHNOLOGY AUTHORITY Attn: Nancy Geary 630 E SUMMIT ST LEAD SD 57754		6. Sponsoring Office Office of Science SC-1 U.S. Department of Energy 1000 Independence Avenue, S.W. Washington DC 20585		7. Period of Performance 09/30/2019 through 09/29/2024	
8. Type of Agreement <input type="checkbox"/> Grant <input checked="" type="checkbox"/> Cooperative Agreement <input type="checkbox"/> Other	9. Authority Public Law 95-91, U.S. Department of Energy Organization Act		10. Purchase Request or Funding Document No. 19SC503834		
11. Remittance Address SOUTH DAKOTA SCIENCE & TECHNOLOGY AUTHORITY Attn: SD SCIENCE & TECHNOLOGY AUTHORITY 630 E. SUMMIT LEAD SD 577541700		12. Total Amount Govt. Share: \$123,458,448.00 Cost Share : \$0.00 Total : \$123,458,448.00		13. Funds Obligated This action: \$1,200,000.00 Total : \$1,200,000.00	
14. Principal Investigator Mike Headley Phone: 605-722-4060		15. Program Manager Michael P. Procaro Phone: 301-903-2890		16. Administrator Office of Science - Chicago U.S. Department of Energy Office of Acquisition & Assistance 9800 South Cass Avenue Lemont IL 60439	
17. Submit Payment Requests To OR for Chicago U.S. Department of Energy Oak Ridge Financial Service Center P.O. Box 6017 Oak Ridge TN 37831		18. Paying Office OR for Chicago U.S. Department of Energy Oak Ridge Financial Service Center P.O. Box 6017 Oak Ridge TN 37831		19. Submit Reports To See Federal Assistance Reporting Checklist and Instructions	
20. Accounting and Appropriation Data KA2202040					
21. Research Title and/or Description of Project SANFORD UNDERGROUND RESEARCH FACILITY (SURF) - OPERATIONS					
For the Recipient			For the United States of America		
22. Signature of Person Authorized to Sign			25. Signature of Grants/Agreements Officer		
23. Name and Title		24. Date Signed	26. Name of Officer Michael D. Hill		27. Date Signed 09/30/2019

CONTINUATION SHEET

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NAME OF OFFEROR OR CONTRACTOR
SOUTH DAKOTA SCIENCE & TECHNOLOGY AUTHORITY

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	<p>DUNS Number: 153564971 SCHEDULE</p> <div data-bbox="516 342 802 457" style="border: 2px solid blue; border-radius: 15px; padding: 10px; display: inline-block; text-align: center;"> <p style="font-size: 24px; font-weight: bold; color: blue; margin: 0;">DRAFT</p> </div> <p>PURPOSE:</p> <p>This bilateral new award obligates funds on an incremental basis for the budget period commencing on the effective date specified in Block No. 3 and continuing through the Period of Performance end date specified in Block No. 7. The Special Terms and Conditions, attached hereto, are made a part hereof.</p> <p>Additionally, the following terms and conditions are hereby incorporated into this award:</p> <p>"A. Conditional Availability of Funds</p> <p>With respect to Clause FA-TC-0027.1, CONDITIONAL AVAILABILITY OF FUNDS, the application/proposal is definitized, except for the following:</p> <ul style="list-style-type: none"> • Subawards/Consortium/Contractual Costs - \$3,521,407.00 • Critical Upgrades - \$3,624,593.00 • Infrastructure Improvement Projects - \$3,181,481.00 <p>Definitization is dependent upon DOE evaluation and approval of the following information to be provided by the recipient:</p> <ul style="list-style-type: none"> • Subawards/Consortium/Contractual Costs - A detailed explanation of what constitutes the "Advertising", "Drinking Water", "Miscellaneous", and "WWTP Consulting" costs included in the historical average used to estimate the budgeted costs for this category. • Critical Upgrades and Infrastructure Improvement Projects - A detailed quotation or budget and budget justification for each Critical Upgrade Project or Infrastructure Improvement Project, including, at a minimum, labor categories, labor hours per category, labor rates per category, types of materials, number of units per type, and any additional costs. DOE may elect to approve individual project costs as adequate information for each project is provided and evaluated. <p>Continued ...</p>				

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NAME OF OFFEROR OR CONTRACTOR
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ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	<p>Unless and until these costs are definitized through a modification(s) to this award, expenditure of funds in these budget categories are at the Recipient's own risk. If any of these budget categories or costs are not definitized, DOE will unilaterally de-obligate the funds for the budget items that are not definitized."</p> <p>"B. LBNF/DUNE Costs</p> <p>Notwithstanding any information in the Application/Proposal regarding the Long Baseline Neutrino Facility and Deep Underground Neutrino Experiment (LBNF/DUNE) project, costs incurred specifically for the LBNF/DUNE project are not allocable or allowable as costs under this award. However, costs for basic support, identified in FA-TC-0078a-SURF, NON-PROPRIETARY USAGE OF THE SURF, provided to LBNF/DUNE are allocable and allowable under this award. Notwithstanding FA-TC-0078a-SURF, utilities provided to LBNF/DUNE are limited to pre-excavation activities."</p> <p>The recipient must complete Block Nos. 22, 23, and 24, and return this Assistance Agreement via FedConnect within five business days of receipt of the agreement.</p> <p>CONTACT INFORMATION:</p> <p>Recipient Business Officer:</p> <p>Sharon Hemmingson Phone: 605-722-4044 email: shemmingson@sanfordlab.org See Address in Block 5 of Assistance Agreement</p> <p>DOE Program Manager (Block 15 Continued):</p> <p>Michael Procaro Phone: 301-903-2890 email: michael.procaro@science.doe.gov See Address in Block 6 of Assistance Agreement</p> <p>Continued ...</p>				



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NAME OF OFFEROR OR CONTRACTOR
SOUTH DAKOTA SCIENCE & TECHNOLOGY AUTHORITY

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	<p>DOE Assistance Agreement Administrator (Contract Specialist):</p> <p>Jill Jonkouski Phone: 630-252-2657 email: jill.jonkouski@science.doe.gov See Address in Block 16 of Assistance Agreement</p> <p>DOE Contracting Officer:</p> <p>Michael Hill Phone: 630-252-2338 email: michael.hill@science.doe.gov See Address in Block 16 of Assistance Agreement</p> <p>THE TEXT BELOW IS FOR DOE INTERNAL USE ONLY: ASAP: NO: STD IMMEDIATE Extent Competed: NOT COMPETED Davis-Bacon Act: NO PI: MIKE HEADLEY Fund: 00500 Appr Year: 2019 Allottee: 61 Report Entity: 481037 Object Class: 41020 Program: 2924335 Project: 1022601 WFO: 0000000 Local Use: 0000000</p>				

DRAFT

SPECIAL TERMS AND CONDITIONS – OPERATIONS**FA-TC-0001-CH****LEGAL AUTHORITY AND EFFECT (DECEMBER 2014)**

- a. A DOE financial assistance award is valid only if it is in writing and is signed, either in writing or electronically, by a DOE Contracting Officer. This individual is reflected as the Grants/Agreements Officer on the Assistance Agreement.
- b. Recipients are free to accept or reject the award. Acceptance of the award is effected by:
 1. Performance;
 2. Recipient's submission of a request for payment;
 3. Recipient's withdrawal of funds obligated; or
 4. Recipient's signature on the Assistance Agreement.

FA-TC-0001A**RESOLUTION OF CONFLICTING CONDITIONS**

Any apparent inconsistency between Federal statutes and regulations and the terms and conditions contained in this award must be referred to the DOE Award Administrator for guidance.

FA-TC-0001B.1**AWARD AGREEMENT TERMS AND CONDITIONS (APRIL 2017)**

This award/agreement consists of the Assistance Agreement cover page, plus the following:

- a. Special terms and conditions-Operations.
- b. Attachments:

<u>Attachment No.</u>	<u>Title</u>
1	Intellectual Property Provisions
2	Federal Assistance Reporting Checklist and Instructions
3	Final Budget Pages
4	If the award is for research, the Federal-Wide Research Terms and Conditions and DOE Agency Specific Requirements, available at https://www.nsf.gov/awards/managing/rtc.jsp
5	Statement of Substantial Involvement (SSI)
6	List of Federally-Owned property accountable under this award (None)
- c. Applicable program regulations: Not Applicable
- d. DOE Assistance Regulations, 2 CFR part 200 as amended by 2 CFR part 910 at <http://www.eCFR.gov>.
- e. Application/proposal as approved by DOE.
- f. National Policy Assurances to Be Incorporated as Award Terms in effect on date of award at <http://www.nsf.gov/awards/managing/rtc.jsp>.

FA-TC-0001C**AWARD PROJECT PERIOD AND BUDGET PERIODS**

The Project Period for this award is 09/30/2019 through 09/29/2024 consisting of the following Budget Period.

Budget Period	Start Date	End Date	Government Share
1	09/30/2019	09/29/2024	\$ 123,458,448.00

FA-TC-0002.1**CONFERENCE SPENDING (FEBRUARY 2015)**

The recipient shall not expend any funds on a conference not directly and programmatically related to the purpose for which the grant or cooperative agreement was awarded that would defray the cost to the United States Government of a conference held by any Executive branch department, agency, board, commission, or office for which the cost to the United States Government would otherwise exceed \$20,000, thereby circumventing the required notification by the head of any such Executive Branch department, agency, board, commission, or office to the Inspector General (or senior ethics official for any entity without an Inspector General), of the date, location, and number of employees attending such conference.

FA-TC-0003.3 CH (Modified) PAYMENT PROCEDURES - REIMBURSEMENT THROUGH THE AUTOMATED CLEARING HOUSE (ACH) VENDOR INQUIRY PAYMENT ELECTRONIC REPORTING SYSTEM (VIPERS)

a. Method of Payment. Payment will be made by reimbursement through ACH.

b. Requesting Reimbursement. Requests for reimbursements must be made electronically through Department of Energy's Oak Ridge Financial Service Center (ORFSC) VIPERS. To access and use VIPERS, you must enroll at <https://vipers.doe.gov/>. Detailed instructions on how to enroll are provided on the web site.

For non-construction awards, you must submit a Standard Form (SF) 270, "Request for Advance or Reimbursement" at <https://vipers.oro.doe.gov/> and attach a file containing appropriate supporting documentation. The file attachment must show the total federal share claimed on the SF 270, the non-federal share claimed for the billing period if cost sharing is required, and cumulative expenditures to date (both Federal and non-Federal) for each of the following categories: salaries/wages and fringe benefits; equipment; travel; participant/training support costs, if any; other direct costs, including subawards/contracts; and indirect costs. For construction awards, you must submit a SF 271, "Outlay Report and Request for Reimbursement for Construction Programs," through VIPERS.

c. Timing of submittals. Submittal of the SF 270 or SF 271 should coincide with your normal billing pattern, but not more frequently than every week. Requests for reimbursement must be limited to the amount of disbursements made during the billing period for the federal share of direct project costs and the proportionate share of any allowable indirect costs incurred during that billing period.

d. Adjusting payment requests for available cash. You must disburse any funds that are available from repayments to and interest earned on a revolving fund, program income, rebates, refunds, contract settlements, audit recoveries, credits, discounts, and interest earned on any of those funds before requesting additional cash payments from DOE/NNSA.

e. Payments. The DOE approving official will approve the invoice as soon as practicable but not later than 30 days after your request is received, unless the billing is improper. Upon receipt of an invoice payment authorization from the DOE approving official, the ORFSC will disburse payment to you. You may check the status of your payments at the VIPER web site. All payments are made by electronic funds transfer to the bank account identified on the ACH Vendor/Miscellaneous Payment Enrollment Form (SF 3881) that you filed.

FA-TC-0004.2**INCREMENTAL FUNDING AND MAXIMUM OBLIGATION - COEXTENSIVE BUDGET PERIOD AND PROJECT PERIOD**

This award is funded on an incremental basis. The maximum obligation of the DOE is limited to the amount shown on the Award Agreement. You are not obligated to continue performance of the project beyond the total amount obligated and your pro rata share of the project costs, if cost sharing is required. Additional funding is contingent upon (1) availability of funds appropriated by Congress for the purpose of this program; (2) the availability of future-year budget authority; and (3) substantial progress towards meeting the objectives of the award.

FA-TC-0007.1CH (Modified) REBUDGETING AND RECOVERY OF DIRECT AND INDIRECT COSTS - REIMBURSABLE INDIRECT COSTS AND FRINGE BENEFITS

- a. If actual allowable indirect or direct costs are less than those budgeted and funded under the award, you may use the difference to pay additional allowable direct or indirect costs during the project period. If at the completion of the award the Government's share of total allowable costs (i.e., direct and indirect), is less than the total costs reimbursed, you must refund the difference.
- b. Recipients are expected to manage their indirect costs. DOE will not amend an award solely to provide additional funds for changes in indirect cost rates. DOE recognizes that the inability to obtain full reimbursement for indirect costs means the recipient must absorb the under-recovery. Such under-recovery may be allocated as part of the organization's required cost sharing.
- c. If at any time during the award, actual indirect costs are projected to significantly exceed budgeted indirect costs, the recipient shall notify the Contracting Officer and the DOE Program Manager (listed on page 2 of the Assistance Agreement), as soon as is practical.

FA-TC-0009.1 CH (Modified) USE OF PROGRAM INCOME - ADDITION

If you earn program income during the project period as a result of this award, you may add the program income to the funds committed to the award and use it to further eligible project objectives. Program income will be reported, per the Federal Assistance Reporting Checklist and Instructions, on the SF-425 Federal Financial Report. The purposes to which program income is applied will be reported to the DOE Contracting Officer, and DOE Program Manager, as identified on the Assistance Agreement Continuation Sheet, via e-mail at the time of submission of the Financial Report.

FA-TC-0010 STATEMENT OF FEDERAL STEWARDSHIP

DOE will exercise normal Federal stewardship in overseeing the project activities performed under this award. Stewardship activities include, but are not limited to, conducting site visits; reviewing performance and financial reports; providing technical assistance and/or temporary intervention in unusual circumstances to correct deficiencies which develop during the project; assuring compliance with terms and conditions; and reviewing technical performance after project completion to ensure that the award objectives have been accomplished.

FA-TC-0011.2 STATEMENT OF SUBSTANTIAL INVOLVEMENT PROVIDED AS ATTACHMENT

A Statement of Substantial Involvement applicable to this cooperative agreement is provided as Attachment 5 to this award.

FA-TC-0012 SITE VISITS

DOE authorized representatives have the right to make site visits at reasonable times to review project accomplishments and management control systems and to provide technical assistance, if required. You must provide, and must require your subrecipients to provide, reasonable access to facilities, office space, resources, and assistance for the safety and convenience of the government representatives in the performance of their duties. All site visits and evaluations must be performed in a manner that does not unduly interfere with or delay the work.

FA-TC-0013**REPORTING REQUIREMENTS**

- a. Requirements. The reporting requirements for this award are identified on the Federal Assistance Reporting Checklist and Instructions, DOE F 4600.2, attached to this award. Failure to comply with these reporting requirements is considered a material noncompliance with the terms of the award. Noncompliance may result in withholding of future payments, suspension, or termination of the current award, and withholding of future awards. A willful failure to perform, a history of failure to perform, or unsatisfactory performance of this and/or other financial assistance awards, may also result in a debarment action to preclude future awards by Federal agencies.
- b. Dissemination of scientific/technical reports. Scientific/technical reports submitted under this award will be disseminated on the Internet via the DOE Information Bridge (www.osti.gov/bridge), unless the report contains patentable material, protected data, or SBIR/STTR data. Citations for journal articles produced under the award will appear on the DOE Energy Citations Database (www.osti.gov/energycitations).
- c. Restrictions. Reports submitted to the DOE Information Bridge must not contain any Protected Personal Identifiable Information (PII), limited rights data (proprietary data), classified information, information subject to export control classification, or other information not subject to release.

FA-TC-0014-CH (Modified)**PUBLICATIONS**

- a. You are encouraged to publish or otherwise make publicly available the results of the work conducted under the award.
- b. To the extent possible, an acknowledgment of Federal support and/or a disclaimer must appear in the publication of any material, whether copyrighted or not, based on or developed under this project, as follows:

Acknowledgment: "This material is based upon work supported by the U.S. Department of Energy, Office of Science, Office of High Energy Physics and used resources of the Sanford Underground Research Facility (SURF), which is a federally sponsored research facility under Award Number DE-SC0020216."

Disclaimer: "This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof."

FA-TC-0015**FEDERAL, STATE, AND MUNICIPAL REQUIREMENTS**

You must obtain any required permits and comply with applicable federal, state, and municipal laws, codes, and regulations for work performed under this award.

FA-TC-0015.1-SURF**FEDERAL EXPORT CONTROL LAWS**

The recipient will comply with all Federal Export Control laws, rules, and regulations which generally regulate the export of sensitive technologies, equipment, software, and related data and services such as: the Export Administration Act and Export Administration Regulations (“EAR”); the Atomic Energy Act of 1954; the Arms Export Control Act and the International Traffic in Arms Regulations (“ITAR”); and the Trading with the Enemy Act and the Foreign Asset Control Regulations.

FA-TC-0016**INTELLECTUAL PROPERTY PROVISIONS AND CONTACT INFORMATION**

- a. The intellectual property provisions applicable to this award are provided as an attachment to this award or are referenced on the Assistance Agreement Face Page. A list of all intellectual property provisions may be found at <http://energy.gov/gc/standard-intellectual-property-ip-provisions-financial-assistance-awards>.
- b. Questions regarding intellectual property matters should be referred to the DOE Award Administrator and the Patent Counsel designated as the service provider for the DOE office that issued the award. The IP Service Providers List is found at <http://energy.gov/gc/downloads/intellectual-property-ip-service-providers-acquisition-and-assistance-transactions>.

FA-TC-0017.1**NATIONAL SECURITY: CLASSIFIABLE RESULTS ORIGINATING UNDER AN AWARD (DECEMBER 2014)**

- a. This award is intended for unclassified, publicly releasable research. You will not be granted access to classified information. DOE/NNSA does not expect that the results of the research project will involve classified information. Under certain circumstances, however, a classification review of information originated under the award may be required. The Department may review research work generated under this award at any time to determine if it requires classification.
- b. Executive Order 12958 (60 Fed. Reg. 19,825 (1995)) states that basic scientific research information not clearly related to the national security shall not be classified. Nevertheless, some information concerning (among other things) scientific, technological, or economic matters relating to national security or cryptology may require classification. If you originate information during the course of this award that you believe requires classification, you must promptly:
1. Notify the DOE Project Officer and the DOE Award Administrator;
 2. Submit the information by registered mail directly to the Director, Office of Classification and Information Control, SO-10.2; U.S. Department of Energy; P.O. Box A; Germantown, MD 20875-0963, for classification review.
 3. Restrict access to the information to the maximum extent possible until you are informed that the information is not classified, but no longer than 30 days after receipt by the Director, Office of Classification and Information Control.
- c. If you originate information concerning the production or utilization of special nuclear material (i.e., plutonium, uranium enriched in the isotope 233 or 235, and any other material so determined under section 51 of the Atomic Energy Act) or nuclear energy, you must:
1. Notify the DOE Project Officer and the DOE Award Administrator;
 2. Submit the information by registered mail directly to the Director, Office of Classification and Information Control, SO-10.2; U.S. Department of Energy; P. O. Box A; Germantown, MD 20875-0963 for classification review within 180 days of the date the recipient first discovers or first has reason to believe that the information is useful in such production or utilization; and
 3. Restrict access to the information to the maximum extent possible until you are informed that the information is not classified, but no longer than 90 days after receipt by the Director, Office of Classification and Information Control.

- d. If DOE determines any of the information requires classification, you agree that the Government may terminate the award with consent of the recipient in accordance with 2 CFR part 200.339(a)(3). All material deemed to be classified must be forwarded to the DOE, in a manner specified by DOE.
- e. If DOE does not respond within the specified time periods, you are under no further obligation to restrict access to the information.

FA-TC-0020**NOTICE REGARDING THE PURCHASE OF AMERICAN-MADE EQUIPMENT AND PRODUCTS -- SENSE OF CONGRESS**

It is the sense of the Congress that, to the greatest extent practicable, all equipment and products purchased with funds made available under this award should be American-made.

FA-TC-0023**ENVIRONMENTAL, SAFETY AND HEALTH (ES&H) PERFORMANCE OF WORK AT DOE FACILITIES**

With respect to the performance of any portion of the work under this award which is performed at a DOE-owned or controlled site, the recipient agrees to comply with all State and Federal ES&H regulations and with all other ES&H requirements of the operator of such site.

Prior to the performance on any work at a DOE-Owned or controlled site, the recipient shall contact the site facility manager for information on DOE and site specific ES&H requirements.

The recipient shall apply this term to its sub-recipients and contractors.

FA-TC-0025A**INSURANCE COVERAGE (DECEMBER 2014)**

See 2 CFR 200.310 for insurance requirements for real property and equipment acquired or improved with Federal funds.

FA-TC-0025B**REAL PROPERTY (DECEMBER 2014)**

Subject to the conditions set forth in 2 CFR Part 200.311, title to real property acquired or improved under a Federal award will vest upon acquisition in the non-Federal entity.

The non-Federal entity cannot encumber this property and must follow the requirements of 2 CFR Part 200.311 before disposing of the property.

Except as otherwise provided by Federal statutes or by the Federal awarding agency, real property will be used for the originally authorized purpose as long as needed for that purpose. When real property is no longer needed for the originally authorized purpose, the non-Federal entity must obtain disposition instructions from the Federal awarding agency or pass-through entity. The instructions must provide for one of the following alternatives: (a) retain title after compensating the Federal awarding agency as described in 2 CFR Part 200.311(c)(1); (b) Sell the property and compensate the federal awarding agency as specified in CFR Part 200.311(c)(2); or (c) transfer title to the Federal awarding agency or to a third party designated/approved by the Federal awarding agency as specified in CFR Part 200.311(c)(3).

See 2 CFR Part 200.311 for additional requirements pertaining to real property acquired or improved under a Federal award. Also see 2 CFR Part 910.360 for additional requirements for Real Property for For-Profit recipients.

FA-TC-0025C**FEDERALLY OWNED AND EXEMPT PROPERTY
(DECEMBER 2014)**

See the following Attachment for a listing of Federally-Owned property accountable under this award:
NONE.

Title to Federally owned property remains vested in the Federal government.

Federally-Owned property shall be managed in accordance with 2 CFR Part 200.312 and reported as prescribed in Attachment 2, Federal Assistance Reporting Checklist and Instructions.

FA-TC-0025D-CH (Modified) EQUIPMENT

Subject to the conditions provided in 2 CFR Part 200.313, title to equipment (property) acquired under a Federal award will vest conditionally with the non-Federal entity.

The non-Federal entity cannot encumber this property.

The non-Federal entity must use, manage and dispose of the equipment acquired under the award by the non-Federal entity in accordance with state laws and procedures.

Equipment must be used by the non-Federal entity in the program or project for which it was acquired as long as it is needed, whether or not the project or program continues to be supported by the Federal award.

See 2 CFR Part 200.313 for additional requirements pertaining to equipment acquired under a Federal award.

Also see 2 CFR Part 910.360 for additional requirements for Equipment for For-Profit recipients.

See also 2 CFR Part 200.439 Equipment and other capital expenditures.

FA-TC-0025D.1-SURF EQUIPMENT PURCHASES

Equipment purchases supporting capabilities and restoring capabilities described in the proposal are preapproved. Acquisition of equipment over \$25,000.00 and in support of new capabilities will require pre-approval from the DOE Contracting Officer.

FA-TC-0025E SUPPLIES (DECEMBER 2014)

See 2 CFR Part 200.314 for requirements pertaining to supplies acquired under a Federal award.

See also § 200.453 Materials and supplies costs, including costs of computing devices.

FA-TC-0025G PROPERTY TRUST RELATIONSHIP (DECEMBER 2014)

Real property, equipment, and intangible property that are acquired or improved with a Federal award must be held in trust by the non-Federal entity as trustee for the beneficiaries of the project or program under which the property was acquired or improved.

See 2 CFR Part 200.316 for additional requirements pertaining to real property, equipment, and intangible property acquired or improved under a Federal award.

FA-TC-0027.1 CONDITIONAL AVAILABILITY OF FUNDS (DECEMBER 2014)

Notwithstanding the obligation of funds shown on the Agreement Face Page, the parties hereby agree that the availability of funds to the Recipient for payment of costs incurred by the Recipient is conditioned upon Contracting Officer review and approval of the Recipient's application and completion of negotiations. When the parties have completed negotiations, the Contracting Officer shall issue an Amendment to this Award making available the obligated amount for payment in accordance with the payment terms contained in the Special Terms and Conditions of this Award. Failure by the Recipient to provide an application with supporting documentation acceptable to the Contracting Officer or complete negotiations may be deemed in Noncompliance pursuant to 2 CFR Part 910.338 and subject to the Remedies for Noncompliance contained in 2 CFR Parts 910.338 through 910.342.

FA-TC-0028 INSOLVENCY, BANKRUPTCY OR RECEIVERSHIP

a. You shall immediately notify the DOE of the occurrence of any of the following events: (i) you or your parent's filing of a voluntary case seeking liquidation or reorganization under the Bankruptcy Act; (ii) your consent to the institution of an involuntary case under the Bankruptcy Act against you or your parent; (iii) the filing of any similar proceeding for or against you or your parent, or its consent to, the dissolution, winding-up or readjustment of your debts, appointment of a receiver, conservator, trustee, or other officer with similar powers over you, under any other applicable state or federal law; or (iv) your insolvency due to your inability to pay your debts generally as they become due.

b. Such notification shall be in writing and shall: (i) specifically set out the details of the occurrence of an event referenced in paragraph a; (ii) provide the facts surrounding that event; and (iii) provide the impact such event will have on the project being funded by this award.

c. Upon the occurrence of any of the four events described in the first paragraph, DOE reserves the right to conduct a review of your award to determine your compliance with the required elements of the award (including such items as cost share, progress towards technical project objectives, and submission of required reports). If the DOE review determines that there are significant deficiencies or concerns with your performance under the award, DOE reserves the right to impose additional requirements, as needed, including (i) change your payment method; or (ii) institute payment controls.

d. Failure of the Recipient to comply with this term may be considered a material noncompliance of this financial assistance award by the Contracting Officer.

FA-TC-0031-CH (Modified) NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) REQUIREMENTS

You are restricted from taking any action using Federal funds, which would have an adverse effect on the environment or limit the choice of reasonable alternatives prior to DOE/NNSA providing either a NEPA clearance or a final NEPA decision regarding this project.

If you move forward with activities that are not authorized for federal funding by the DOE Contracting Officer in advance of the final NEPA decision, you are doing so at risk of not receiving federal funding and such costs may not be recognized as allowable cost share.

If this award includes construction activities, you must submit an environmental evaluation report/evaluation notification form addressing NEPA issues prior to DOE/NNSA initiating the NEPA process.

If SDSTA believes future scope funded under this cooperative agreement could be outside of the authorized

NEPA bounds, whether established in the original Environmental Assessment for the Construction and Operation of the Long Baseline Neutrino Facility and Deep Underground Neutrino Experiment issued in September, 2015, and the associated Finding of No Significant Impact signed on September 25, 2015, or a subsequent NEPA process, SDSTA shall complete another CH F 560 for a determination by DOE and support DOE in the NEPA compliance process accordingly. The recipient must notify DOE as soon as practical concerning any such new scope as NEPA compliance must be completed prior to any irreversible or irretrievable commitment of resources. The failure to comply with NEPA may result in certain scope not being funded or the cancellation of the Cooperative Agreement.

**FA-TC-0033-CH (Modified) DECONTAMINATION AND/OR DECOMMISSIONING (D&D)
OR DEMOLITION COSTS**

Notwithstanding any other terms of this Agreement, the Government shall not be responsible for or have any obligation, at the end of the project, to the recipient for (i) Decontamination and/or Decommissioning (D&D) or Demolition of any of the recipient's facilities, or (ii) any costs which may be incurred by the recipient in connection with the D&D or Demolition of any of its facilities due to the performance of the work under this Agreement, whether said work was performed prior to or subsequent to the effective date of this Agreement.

FA-TC-0040 HISTORIC PRESERVATION

Prior to the expenditure of Federal funds to alter any structure or site, the Recipient is required to comply with the requirements of Section 106 of the National Historic Preservation Act (NHPA), consistent with DOE's 2009 letter of delegation of authority regarding the NHPA. Section 106 applies to historic properties that are listed in or eligible for listing in the National Register of Historic Places. In order to fulfill the requirements of Section 106, the recipient must contact the State Historic Preservation Officer (SHPO), and, if applicable, the Tribal Historic Preservation Officer (THPO), to coordinate the Section 106 review outlined in 36 CFR Part 800. SHPO contact information is available at the following link: <http://www.ncshpo.org/find/index.htm>. THPO contact information is available at the following link: <http://www.nathpo.org/map.html>.

Section 110(k) of the NHPA applies to DOE funded activities. Recipients shall avoid taking any action that results in an adverse effect to historic properties pending compliance with Section 106.

Recipients should be aware that the DOE Contracting Officer will consider the recipient in compliance with Section 106 of the NHPA only after the Recipient has submitted adequate background documentation to the SHPO/THPO for its review, and the SHPO/THPO has provided written concurrence to the Recipient that it does not object to its Section 106 finding or determination. Recipient shall provide a copy of this concurrence to the Contracting Officer.

**FA-TC-0041 REPORTING SUBAWARDS AND EXECUTIVE
COMPENSATION**

a. Reporting of first-tier subawards.

1. Applicability. Unless you are exempt as provided in paragraph d. of this award term, you must report each action that obligates \$25,000 or more in Federal funds that does not include Recovery funds (as defined in section 1512(a)(2) of the American Recovery and Reinvestment Act of 2009, Pub. L. 111-5) for a subaward to an entity (see definitions in paragraph e. of this award term).
2. Where and when to report.
 - i. You must report each obligating action described in paragraph a.1. of this award term to <http://www.fsrs.gov>.
 - ii. For subaward information, report no later than the end of the month following the month in which the obligation was made. (For example, if the obligation was made on November 7,

2010, the obligation must be reported by no later than December 31, 2010.)

3. What to report. You must report the information about each obligating action that the submission instructions posted at <http://www.fsr.gov> specify.
- b. Reporting Total Compensation of Recipient Executives.
1. Applicability and what to report. You must report total compensation for each of your five most highly compensated executives for the preceding completed fiscal year, if
 - i. the total Federal funding authorized to date under this award is \$25,000 or more;
 - ii. in the preceding fiscal year, you received;
 - (A) 80 percent or more of your annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and subawards); and
 - (B) \$25,000,000 or more in annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and subawards); and
 - iii. The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/execomp.htm>.)
 2. Where and when to report. You must report executive total compensation described in paragraph b.1. of this award term:
 - i. As part of your registration profile at <http://www.sam.gov>.
 - ii. By the end of the month following the month in which this award is made, and annually thereafter.
- c. Reporting of Total Compensation of Subrecipient Executives.
1. Applicability and what to report. Unless you are exempt as provided in paragraph d. of this award term, for each first-tier subrecipient under this award, you shall report the names and total compensation of each of the subrecipient's five most highly compensated executives for the subrecipient's preceding completed fiscal year, if;
 - i. in the subrecipient's preceding fiscal year, the subrecipient received;
 - (A) 80 percent or more of its annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and subawards); and
 - (B) \$25,000,000 or more in annual gross revenues from Federal procurement contracts (and subcontracts), and Federal financial assistance subject to the Transparency Act (and subawards); and
 - ii. The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/execomp.htm>.)
 2. Where and when to report. You must report subrecipient executive total compensation described in paragraph c.1. of this award term:
 - i. To the recipient.
 - ii. By the end of the month following the month during which you make the subaward. For example, if a subaward is obligated on any date during the month of October of a given year (i.e., between October 1 and 31), you must report any required compensation information of the subrecipient by November 30 of that year.
- d. Exemptions

If, in the previous tax year, you had gross income, from all sources, under \$300,000, you are exempt from the requirements to report:

- i. Subawards, and
 - ii. The total compensation of the five most highly compensated executives of any subrecipient.
- e. Definitions. For purposes of this award term:
1. Entity means all of the following, as defined in 2 CFR part 25:
 - i. Governmental organization, which is a State, local government, or Indian tribe;
 - ii. A foreign public entity;
 - iii. A domestic or foreign nonprofit organization;
 - iv. A domestic or foreign for-profit organization;
 - v. A Federal agency, but only as a subrecipient under an award or subaward to a non-Federal entity.
 2. Executive means officers, managing partners, or any other employees in management positions.
 3. Subaward:
 - i. This term means a legal instrument to provide support for the performance of any portion of the substantive project or program for which you received this award and that you as the recipient award to an eligible subrecipient.
 - ii. The term does not include your procurement of property and services needed to carry out the project or program (for further explanation, see Sec. __.210 of the attachment to OMB Circular A-133, Audits of States, Local Governments, and Non-Profit Organizations).
 - iii. A subaward may be provided through any legal agreement, including an agreement that you or a subrecipient considers a contract.
 4. Subrecipient means an entity that:
 - i. Receives a subaward from you (the recipient) under this award; and
 - ii. Is accountable to you for the use of the Federal funds provided by the subaward.
 5. Total compensation means the cash and noncash dollar value earned by the executive during the recipient's or subrecipient's preceding fiscal year and includes the following (for more information see 17 CFR 229.402(c)(2)):
 - i. Salary and bonus.
 - ii. Awards of stock, stock options, and stock appreciation rights. Use the dollar amount recognized for financial statement reporting purposes with respect to the fiscal year in accordance with the Statement of Financial Accounting Standards No. 123 (Revised 2004) (FAS 123R), Shared Based Payments.
 - iii. Earnings for services under non-equity incentive plans. This does not include group life, health, hospitalization or medical reimbursement plans that do not discriminate in favor of executives, and are available generally to all salaried employees.
 - iv. Change in pension value. This is the change in present value of defined benefit and actuarial pension plans.
 - v. Above-market earnings on deferred compensation which is not tax-qualified.
 - vi. Other compensation, if the aggregate value of all such other compensation (e.g. severance, termination payments, value of life insurance paid on behalf of the employee, perquisites or property) for the executive exceeds \$10,000.

FA-TC-0042

**SYSTEM FOR AWARD MANAGEMENT AND UNIVERSAL
IDENTIFIER REQUIREMENTS**

A. Requirement for Registration in the System for Award Management (SAM)

Unless you are exempted from this requirement under 2 CFR 25.110, you as the recipient must maintain the currency of your information in SAM until you submit the final financial report required under this award or receive the final payment, whichever is later. This requires that you review and update the information at least annually after the initial registration, and more frequently if required by changes in your information or another award term.

If you had an active registration in the CCR, you have an active registration in SAM.

B. Requirement for Data Universal Numbering System (DUNS) Numbers

If you are authorized to make subawards under this award, you:

1. Must notify potential subrecipients that no entity (see definition in paragraph C of this award term) may receive a subaward from you unless the entity has provided its DUNS number to you.
2. May not make a subaward to an entity unless the entity has provided its DUNS number to you.

C. Definitions

For purposes of this award term:

1. System for Award Management (SAM) means the Federal repository into which an entity must provide information required for the conduct of business as a recipient. Additional information about registration procedures may be found at the SAM Internet site (currently at <http://www.sam.gov>).
2. Data Universal Numbering System (DUNS) number means the nine-digit number established and assigned by Dun and Bradstreet, Inc. (D&B) to uniquely identify business entities. A DUNS number may be obtained from D&B by telephone (currently 866-705-5711) or the Internet (currently at <http://fedgov.dnb.com/webform>).
3. Entity, as it is used in this award term, means all of the following, as defined at 2 CFR part 25, subpart C:
 - a. A Governmental organization, which is a State, local government, or Indian Tribe;
 - b. A foreign public entity;
 - c. A domestic or foreign nonprofit organization;
 - d. A domestic or foreign for-profit organization; and
 - e. A Federal agency, but only as a subrecipient under an award or subaward to a non-Federal entity.
4. Subaward:
 - a. This term means a legal instrument to provide support for the performance of any portion of the substantive project or program for which you received this award and that you as the recipient award to an eligible subrecipient.
 - b. The term does not include your procurement of property and services needed to carry out the project or program (for further explanation, see Sec. __.210 of the attachment to OMB Circular A-133, Audits of States, Local Governments, and Non-Profit Organizations).
 - c. A subaward may be provided through any legal agreement, including an agreement that you consider a contract.
5. Subrecipient means an entity that:
 - a. Receives a subaward from you under this award; and
 - b. Is accountable to you for the use of the Federal funds provided by the subaward.

FA-TC-0056.1-SURF

AUDIT REQUIREMENTS

Per 2 CFR 200.504(a), the Recipient undergoes Single Audits biennially. The Recipient agrees to undergo a yearly audit. The DOE shall reimburse the Recipient for the non-biennial audit as a direct charge. The audit may be a Single Audit or an incurred-cost audit at the discretion of the contracting officer. The Recipient

agrees that indirect charges shall not be applied to this direct charge.

FA-TC-0056.1 FINAL INCURRED COST AUDIT (DECEMBER 2014)

In accordance with 2 CFR Part 200 as amended by 2 CFR Part 910, DOE reserves the right to initiate a final incurred cost audit on this award. If the audit has not been performed or completed prior to the closeout of the award, DOE retains the right to recover an appropriate amount after fully considering the recommendations on disallowed costs resulting from the final audit.

FA-TC-0058 INDEMNITY

The Recipient shall indemnify the Government and its officers, agents, or employees for any and all liability, including litigation expenses and attorneys' fees, arising from suits, actions, or claims of any character for death, bodily injury, or loss of or damage to property or to the environment, resulting from the project, except to the extent that such liability results from the direct fault or negligence of Government officers, agents or employees, or to the extent such liability may be covered by applicable allowable costs provisions.

FA-TC-0065 LOBBYING RESTRICTIONS (MARCH 2012)

By accepting funds under this award, you agree that none of the funds obligated on the award shall be expended, directly or indirectly, to influence congressional action on any legislation or appropriation matters pending before Congress, other than to communicate to Members of Congress as described in 18 U.S.C. 1913. This restriction is in addition to those prescribed elsewhere in statute and regulation.

FA-TC-0066.1 CORPORATE FELONY CONVICTION AND FEDERAL TAX LIABILITY ASSURANCES (MARCH 2014)

By entering into this agreement, the undersigned attests that the awardee listed in Block 5 of the Assistance Agreement has not been convicted of a felony criminal violation under Federal law in the 24 months preceding the date of signature.

The undersigned further attests that the awardee listed in Block 5 of the Assistance Agreement does not have any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

For purposes of these assurances, the following definitions apply:

A Corporation includes any entity that has filed articles of incorporation in any of the 50 states, the District of Columbia, or the various territories of the United States [but not foreign corporations]. It includes both for-profit and non-profit organizations.

FA-TC-0068.1 NONDISCLOSURE AND CONFIDENTIALITY AGREEMENTS ASSURANCES (JUNE 2015)

(1) By entering into this agreement, the undersigned attests that the awardee listed in Block 5 of the Assistance Agreement **does not and will not** require its employees or contractors to sign internal nondisclosure or confidentiality agreements or statements prohibiting or otherwise restricting its employees or contractors from lawfully reporting waste, fraud, or abuse to a designated investigative or law enforcement representative of a Federal department or agency authorized to receive such information.

(2) The undersigned further attests that the awardee listed in Block 5 of the Assistance Agreement **does not and will not** use any Federal funds to implement or enforce any nondisclosure and/or confidentiality policy, form, or agreement it uses unless it contains the following provisions:

a. *“These provisions are consistent with and do not supersede, conflict with, or otherwise alter the*

employee obligations, rights, or liabilities created by existing statute or Executive order relating to (1) classified information, (2) communications to Congress, (3) the reporting to an Inspector General of a violation of any law, rule, or regulation, or mismanagement, a gross waste of funds, an abuse of authority, or a substantial and specific danger to public health or safety, or (4) any other whistleblower protection. The definitions, requirements, obligations, rights, sanctions, and liabilities created by controlling Executive orders and statutory provisions are incorporated into this agreement and are controlling.”

- b. The limitation above shall not contravene requirements applicable to Standard Form 312, Form 4414, or any other form issued by a Federal department or agency governing the nondisclosure of classified information.
- c. Notwithstanding provision listed in paragraph (a), a nondisclosure or confidentiality policy form or agreement that is to be executed by a person connected with the conduct of an intelligence or intelligence-related activity, other than an employee or officer of the United States Government, may contain provisions appropriate to the particular activity for which such document is to be used. Such form or agreement shall, at a minimum, require that the person will not disclose any classified information received in the course of such activity unless specifically authorized to do so by the United States Government. Such nondisclosure or confidentiality forms shall also make it clear that they do not bar disclosures to Congress, or to an authorized official of an executive agency or the Department of Justice, that are essential to reporting a substantial violation of law.

FA-TC-0070

REPORTING OF MATTERS RELATED TO RECIPIENT INTEGRITY AND PERFORMANCE (DECEMBER 2015)

a. General Reporting Requirement

If the total value of your currently active grants, cooperative agreements, and procurement contracts from all Federal awarding agencies exceeds \$10,000,000 for any period of time during the period of performance of this Federal award, then you as the recipient during that period of time must maintain the currency of information reported to the System for Award Management (SAM) that is made available in the designated integrity and performance system (currently the Federal Awardee Performance and Integrity Information System (FAPIIS)) about civil, criminal, or administrative proceedings described in paragraph 2 of this award term and condition. This is a statutory requirement under section 872 of Public Law 110-417, as amended (41 U.S.C. 2313). As required by section 3010 of Public Law 111-212, all information posted in the designated integrity and performance system on or after April 15, 2011, except past performance reviews required for Federal procurement contracts, will be publicly available.

b. Proceedings About Which You Must Report

Submit the information required about each proceeding that:

1. Is in connection with the award or performance of a grant, cooperative agreement, or procurement contract from the Federal Government;
2. Reached its final disposition during the most recent five year period; and
3. Is one of the following:
 - (A) Criminal proceeding that resulted in a conviction, as defined in paragraph 5 of this award term and condition;
 - (B) A civil proceeding that resulted in a finding of fault and liability and payment of a monetary fine, penalty, reimbursement, restitution, or damages of \$5,000 or more;
 - (C) An administrative proceeding, as defined in paragraph 5. of this award term and condition, that resulted in a finding of fault and liability and your payment of either a monetary fine or penalty of \$5,000 or more or reimbursement, restitution, or damages in excess of \$100,000; or

(D) Any other criminal, civil, or administrative proceeding if:

- (i) It could have led to an outcome described in paragraph 2.c.(1), (2), or (3) of this award term and condition;
- (ii) It had a different disposition arrived at by consent or compromise with an acknowledgment of fault on your part; and
- (iii) The requirement in this award term and condition to disclose information about the proceeding does not conflict with applicable laws and regulations.

c. Reporting Procedures

Enter in the SAM Entity Management area the information that SAM requires about each proceeding described in paragraph 2 of this award term and condition. You do not need to submit the information a second time under assistance awards that you received if you already provided the information through SAM because you were required to do so under Federal procurement contracts that you were awarded.

d. Reporting Frequency

During any period of time when you are subject to the requirement in paragraph 1 of this award term and condition, you must report proceedings information through SAM for the most recent five year period, either to report new information about any proceeding(s) that you have not reported previously or affirm that there is no new information to report. Recipients that have Federal contract, grant, and cooperative agreement awards with a cumulative total value greater than \$10,000,000 must disclose semiannually any information about the criminal, civil, and administrative proceedings.

e. Definitions

For purposes of this award term and condition:

1. Administrative proceeding means a non-judicial process that is adjudicatory in nature in order to make a determination of fault or liability (*e.g.*, Securities and Exchange Commission Administrative proceedings, Civilian Board of Contract Appeals proceedings, and Armed Services Board of Contract Appeals proceedings). This includes proceedings at the Federal and State level but only in connection with performance of a Federal contract or grant. It does not include audits, site visits, corrective plans, or A. Reporting of Matters Related to Recipient Integrity and Performance.
2. Conviction, for purposes of this award term and condition, means a judgment or conviction of a criminal offense by any court of competent jurisdiction, whether entered upon a verdict or a plea, and includes a conviction entered upon a plea of *nolo contendere*.
3. Total value of currently active grants, cooperative agreements, and procurement contracts includes—
 - (A) Only the Federal share of the funding under any Federal award with a recipient cost share or match; and
 - (B) The value of all expected funding increments under a Federal award and options, even if not yet exercised.

FA-TC-0071-SURF

DEFINITION OF SANFORD UNDERGROUND RESEARCH FACILITY

For purposes of this Cooperative Agreement, (DE- SC0020216 - Sanford Underground Research Facility), the term “SURF” shall mean, regardless of owner, all real property, including any facility and all personal property, tangible and intangible, including equipment, reimbursed by the Government, Federally-Owned property currently residing at the SURF, or contributed by the recipient (South Dakota Science and Technology Authority (SDSTA)) for the purpose of operating the proposed federally sponsored research facility under this Cooperative Agreement.

FA-TC-0072-SURF

OTHER USE OF SURF

Use of SURF for activities not performed under this agreement shall be conducted so as not to interfere with goals and activities performed under this agreement or incur costs to the award.

FA-TC-0073-SURF DESIGNATION OF SAFETY MANAGEMENT OFFICER

Within 90 days of the effective date of this award, the recipient shall designate, identify, and provide to the DOE Contracting Officer the name and contact information for the SURF Safety Management Officer responsible for Environment, Safety and Health (ES&H). The recipient may change the Safety Management Officer by written notice to the DOE Contracting Officer.

FA-TC-0074-SURF DESIGNATION OF QUALITY CONTROL MANAGEMENT OFFICER

Within 90 days of the effective date of this award, the recipient shall designate, identify, and provide to the DOE Contracting Officer the name and contact information for the SURF Quality Control Management Officer responsible for quality control. The recipient may change the Quality Control Management Officer by written notice to the DOE Contracting Officer.

FA-TC-0075-SURF ISO-9001, ISO-14001, AND ISO-45001 CERTIFICATIONS

The Recipient shall maintain and execute an effective ISO-9001 certified Quality Management System; ISO-14001 certified Environmental Management System; and ISO-45001 certified Occupational Health and Safety Management System. The ISO certifications must be issued by an accredited ISO registrar. The recipient must describe its plan and process to attain and maintain these ISO certifications. The recipient must submit its plan for attaining certification to the DOE within 90 calendar days of the commencement of the Cooperative Agreement. A phased, or sequenced, approach to attaining these ISO certifications within the 36 month timeframe is acceptable.

A copy of the ISO-9001, ISO 14001, and ISO-45001 Certifications, the corresponding ISO certification audit/assessment reports, corrective action plans, and subsequent annual re-certifications shall be provided to the DOE within 5 days of receipt from the certification body.

FA-TC-0076-SURF ENVIRONMENT, SAFETY, AND HEALTH PROGRAM, SAFEGUARDS AND SECURITY PROGRAM, EMERGENCY MANAGEMENT PROGRAM, AND QUALITY ASSURANCE PROGRAM

Existing policies and procedures governing the performance of work at SURF will be maintained and updated to ensure operations and other activities conducted at SURF are free from recognized hazards that are causing or have the potential to cause death or serious physical harm to workers, co-located workers, or visitors, the loss of Government property, or harm to environment. Copies of these policies and procedures will be provided to DOE Contracting Officer upon request.

The Recipient shall execute a documented Environment, Safety and Health (ES&H) Program, Safeguards and Security (S&S) Program, Emergency Management (EM) Program, and Quality Assurance (QA) Program. The Recipient shall provide a copy of these programs upon commencement of the Cooperative Agreement. Subsequent revisions to these programs will be provided to DOE within 5 days.

The Recipient's ES&H, S&S, EM, and QA Programs will provide the controls necessary to execute the work defined in the scope of the Cooperative Agreement, consistent with governmental requirements and recognized industry standards of practice. The Recipient shall identify and incorporate all regulations, codes, and consensus standards applicable to performance of the work in the respective program documents. The Recipient will flow-down its ES&H, S&S, EM, and QA Programs to sub-tier recipients or contractors, as determined applicable by SDSTA for the performance of the work of the sub-tier recipient or contractor at the SURF site.

The Recipient's ES&H, S&S, EM, and QA Programs must be maintained and implemented throughout the duration of the Cooperative Agreement. Upon attainment of the ISO certifications addressed in FA-TC-

0086-SURF, the Recipient's certified ISO-9001 Quality Management System will be documented in its Quality Assurance (QA) Program, and the certified ISO-14001 Environmental Management System and ISO-45001 Occupational Health and Safety Management System will be documented in its Environment, Safety and Health (ES&H) Program.

Copies of reports of external third-party QA reviews/audits/assessments and internal QA management/self-assessments, and corresponding corrective action documentation, of SDSTA management program implementation, shall be provided to DOE, within 5 days of receipt from the oversight body. A status report describing non-conformances identified through SDSTA quality control inspection, testing, monitoring, or surveillance activities, and the corresponding corrective actions implemented to resolve the non-conformances, shall be provided to DOE on a quarterly basis.

FA-TC-0077-SURF FOREIGN ACCESS POLICY

The recipient will comply with its policies, procedures, and 2 CFR 200.333 for foreign access, record retention, and verify the identity of foreign nationals at SURF for the purposes and as described in this term below to ensure that unauthorized access to information, equipment and technology is denied.

- a. These written policies/procedures shall be implemented within 180 days of the effective date of this award, and supporting electronic systems shall be implemented within 1 year from the effective date of this award. These policies/procedures will be made available to the DOE Contracting Officer, and DOE Program Manager, identified on the Assistance Agreement, upon request.
- b. The recipient will notify DOE of changes to the policies via an e-mail to the DOE Contracting Officer, and DOE Program Manager.
- c. The recipient will notify DOE of any violation of the policies via an e-mail to the DOE Contracting Officer, and DOE Program Manager.
- d. Beginning with the effective date of this award, the recipient will notify DOE of any actions involving SURF regarding Export Administration Regulations (EAR), International Traffic in Arms Regulations (ITAR), or access for foreign nationals by other state or federal agencies via an e-mail to the DOE Contracting Officer, and DOE Program Manager.
- e. The recipient will maintain a list of all foreign nationals requesting access to non-public areas of SURF regarding federally supported research for a period of seven years from the recipient's fiscal year end date.
- f. The recipient will maintain a list of all foreign nationals who are badged to enter the SURF in any area for a period of seven years from the recipient's fiscal year end date.
- g. Beginning with the effective date of this award, the lists in e. and f. above in this clause will be made available to the DOE Contracting Officer, and DOE Program Manager, as identified on the Assistance Agreement, upon request for a period of seven years from the recipient's fiscal year end date.
- h. Upon completion of the cooperative agreement, the records identified above, shall be retained in accordance with 2 CFR 200.333(a).

FA-TC-0078a-SURF NON-PROPRIETARY USAGE OF THE SURF

Basic support may be offered to non-proprietary users without charge, as described it in the application. Non-proprietary users are those whose work is directed towards non-proprietary basic science research, and who intend to publish the results of the work in open scientific literature. Basic support includes:

- the provision of useable underground space that includes ventilation, utilities, and water pumping;
- the volume of underground space should be appropriate to scientific need;
- access to the underground for the installation, operation, decommissioning of experiments;
- communication and networking services;
- scientific and engineering liaison with users needed to help them meet the unique environment of SURF; and
- the provision of usable above ground laboratory and setup space to prepare experiments.

This basic support should be appropriate to many users, but the recipient is not required to satisfy every request for these services without charge. Any services or needs over and above access to the facility and basic support as described above will need to be charged to the user.

Items not included in the basic support would include consumables like cryogenic liquids, use of clean rooms beyond what the recipient already provides.

Users shall not conduct research or activities concerning the production or utilization of special nuclear material (i.e., plutonium, uranium enriched in the isotope 233 or 235, and any other material so determined under section 51 of the Atomic Energy Act) or nuclear energy.

Users shall not be granted access to classified information and will not generate classified information.

FA-TC-0078b-SURF PROPRIETARY USAGE OF THE SURF

Full cost recovery is required for proprietary research conducted at the SURF. Proprietary research includes commercial or private research and development which is not being supported by Government funding, and there is no requirement that the result the research be published. Recipient will use the policies and procedures for determining the recovery of costs stated in OMB Circular A-25, Subject: User Charges. A review of the full cost recovery charge and Contracting Officer approval of the full cost recovery charge is required when it is first established. Thereafter, a review of the full cost recovery charge and Contracting Officer approval of the full cost recovery charge is required every two years.

1. SDSTA will calculate and charge hourly rates for proprietary usage of the SURF that will sufficiently and correctly recover all costs.
2. SDSTA will accurately record the total number of hours, per proprietary user, that the SURF is used for proprietary research.
3. SDSTA will collect payment for proprietary experiments in advance of services, or alternatively bill those entities on a monthly basis.
4. SDSTA will maintain a system that accurately reflects collection of the advances, the billing and the subsequent receipt of payment.
5. The payments collected to recover all costs from proprietary users will be reported on the quarterly SF 425.
6. SDSTA will periodically sample billings and experimental usage data to confirm quality and adequacy of controls.
7. SDSTA will periodically evaluate the adequacy of the system used to determine the duration of proprietary experiments.
8. SDSTA will notify the DOE Contracting Officer and DOE Operations Program Manager, as specified on Page 2 of the Assistance Agreement, if it believes the rates need to be reviewed and adjusted prior to the two-year anniversary date to adequately reflect all costs at the SURF.

9. SDSTA will maintain policies and procedures regarding proprietary usage of the SURF.

Users shall not conduct research or activities concerning the production or utilization of special nuclear material (i.e., plutonium, uranium enriched in the isotope 233 or 235, and any other material so determined under section 51 of the Atomic Energy Act) or nuclear energy.

Users shall not be granted access to classified information and will not generate classified information.

FA-TC-0079-SURF PROCUREMENT PROCEDURES

Within 90 days of the effective date of this award, the Recipient shall submit its written procurement procedures for Contracting Officer review for consistency with 2 CFR 200.318.

**FA-TC-0080-SURF CONFLICTS OF INTEREST FOR SANFORD UNDERGROUND
RESEARCH FACILITY (SURF)**

The recipient shall prepare and submit a Conflicts of Interest Management Plan (CMP) for Contracting Officer approval no later than sixty (60) days after award of the cooperative agreement. The CMP shall address conflicts of interest, ethics, and standards of conduct (as required by 2 CFR 200.112), policies and procedures applicable to all participants and employees.

FA-TC-0081-SURF INFORMATION RELEASE PROTOCOL

The Recipient must cooperate with the Department in releasing information to the public and news media regarding DOE policies, programs, and activities relating to its effort under the Cooperative Agreement.

The Recipient is responsible for the development, planning, and coordination of proactive approaches for the timely dissemination of information regarding SURF activities onsite and offsite, including, but not limited to, operations and programs. Proactive public affairs programs may utilize a variety of communication media, including public workshops, meetings or hearings, open houses, newsletters, press releases, conferences, audio/visual presentations, speeches, forums, tours, and other appropriate stakeholder interactions. The Recipient must ensure that all releases of information to the public and news media related to activities funded by this Cooperative Agreement are coordinated through, and approved by the Office of Science, Office of High Energy Physics, Facilities Division, Division Director.

The Recipient must notify the Contracting Officer and appropriate DOE public affairs personnel of activities or situations that may attract regional or national news media attention and of non-routine inquiries from national news media relating to the effort performed under the Cooperative Agreement.



FINANCIAL ASSISTANCE INTELLECTUAL PROPERTY PROVISIONS

The intellectual property provisions applicable to this award are indicated with an “X” in the Table below.

Select One (X)	Type of Award	Type of Project	Special Data Statute e.g., EPACT)	Type of Recipient	Set Number (PDF)
	Cooperative Agreement	Research, Development, or Demonstration (RD&D)	No	Domestic Small Business	CSB-115
	Cooperative Agreement	RD&D	Yes	Domestic Small Business	CDSB-115
	Cooperative Agreement	RD&D	No	Large Business and Foreign Entity	CLB-115
	Cooperative Agreement	RD&D	Yes	Large Business and Foreign Entity	CDLB-115
	Grant	RD&D	No	Domestic Small Business	GSB-115
	Grant	RD&D	Yes	Domestic Small Business	GDSB-115
	Grant	RD&D	No	Large Business and Foreign Entity	GLB-115
	Grant	RD&D	Yes	Large Business and Foreign Entity	GDLB-115
	Grant and Cooperative Agreement	RD&D	No	State or Local Government, Indian Tribe, Institution of Higher Education, or Nonprofit Organization	GNP-119
X	Grant and Cooperative Agreement	Non RD&D	N/A	All types of recipients	NRD-115



Department of Energy
Office of Science • Integrated Support Center
Intellectual Property Law Division
9800 South Cass Avenue • Lemont, Illinois 60439
(630) 252-2171 Voice • (630) 252-2779 Fax
Chicago-ip@science.doe.gov
science.energy.gov/isc/services/legal/

SUBJECT: Invention Reporting and Patent Responsibility

The Intellectual Property Law Division, Chicago Office, is responsible for assisting you in fulfilling the patent provisions of your agreement, which covers all inventions first actually reduced to practice or conceived in the course of or under your agreement.

All subject inventions under your agreement must be reported through the Interagency Edison (iEdison) system at www.iEdison.gov within two (2) months after the inventor discloses the invention to you or six (6) months after conception or first actual reduction to practice, depending on the terms of your agreement. Additionally, through iEdison you are required to promptly notify our office of the acceptance of any manuscript describing the invention for publication or of any on sale or public use planned for the invention.

If the terms of your agreement allow for the retention of patent rights (e.g. small businesses, non-profit entities, or the grant of an applicable DOE Patent Waiver), an election decision electing title to the invention or waiving title to the Government must be provided through iEdison within two (2) years (small businesses or non-profit entities) or eight (8) months (all others entities) of reporting the invention in iEdison, but in any event, at least sixty (60) days prior to the end of the one year statutory period initiated by publication, on sale or public use. Thereafter, an initial patent application must be filed and reported through iEdison within one (1) year of electing title, or prior to the end of any statutory period wherein valid patent protection can be obtained, if earlier. Annual reports on the utilization of an elected invention or efforts at obtaining such utilization made by you or your licensees or assignees should also be submitted through iEdison, unless otherwise directed by DOE.

If your agreement requires prior DOE approval of publications (e.g. large businesses), our office should be contacted for assistance.

Failure to comply with the terms of your agreement may result in a loss of rights, including, but not limited to, forfeiture of patent rights. For assistance with iEdison, please contact the iEdison Help Desk at (301) 435-1986 or email edison@od.nih.gov. If you have any questions regarding the patent and data provisions of your agreement, please contact our office at (630) 252-2171 or Chicago-IP@science.doe.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Mike Dobbs", is written over a horizontal line.

Michael J. Dobbs
Deputy Chief Counsel
Intellectual Property Law Division

**U.S. Department of Energy
FEDERAL ASSISTANCE REPORTING CHECKLIST
AND INSTRUCTIONS**

1. Identification Number: DE-SC0020216	2. Program/Project Title: Sanford Underground Research Facility (SURF) - Operations																																																		
3. Recipient: South Dakota Science and Technology Authority (SDSTA)																																																			
4. Reporting Requirements: A. MANAGEMENT REPORTING <input type="checkbox"/> Research Performance Progress Report (RPPR) (RD&D Projects) <input checked="" type="checkbox"/> Progress Report (Non-RD&D Projects) <input checked="" type="checkbox"/> Special Status Report <input checked="" type="checkbox"/> Annual Work Plan <input checked="" type="checkbox"/> Infrastructure Projects Status Report B. SCIENTIFIC/TECHNICAL REPORTING (Dissemination of results is required for RD&D projects. Reports & other S&T publications/products must be submitted using the appropriate DOE Announcement Notice (AN) located at: https://www.osti.gov/elink) <table border="0" style="width: 100%;"> <thead> <tr> <th style="text-align: left; width: 60%;"><u>Product</u></th> <th style="text-align: left;"><u>Announcement Notice (AN)</u></th> </tr> </thead> <tbody> <tr> <td><input checked="" type="checkbox"/> Scientific & Technical Reporting Product</td> <td></td> </tr> <tr> <td> A. 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OTHER REPORTING <input checked="" type="checkbox"/> Annual Indirect Cost Proposal <input type="checkbox"/> Audit of For-Profit Recipients <input checked="" type="checkbox"/> SF-428 Tangible Personal Property Report Forms Family	<u>Product</u>	<u>Announcement Notice (AN)</u>	<input checked="" type="checkbox"/> Scientific & Technical Reporting Product		A. Journal Article-Accepted Manuscript	DOE AN 241.3	B. Scientific/Technical Conference Paper/Presentation or Proceedings	DOE AN 241.3	C. Scientific/Technical Software & Manual	DOE AN 241.4	D. Other STI (e.g., dissertation/thesis, see instructions)	DOE AN 241.3	<table border="1"> <thead> <tr> <th style="text-align: center;">Frequency</th> <th style="text-align: center;">Addressees</th> </tr> </thead> <tbody> <tr> <td align="center">M</td> <td>https://pampublic.science.energy.gov/webpamsepsexternal/oqin.aspx E-mail to the DOE Program Manager listed in Block 15 of the Assistance Agreement. 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<input checked="" type="checkbox"/> Other (see special instructions) <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Subject Invention Reporting and Patent Reporting <input checked="" type="checkbox"/> Full Cost Recovery Reporting <input checked="" type="checkbox"/> Product and Participant Reports <input checked="" type="checkbox"/> Environment, Safety and Health and Security Event Reporting Instructions <input checked="" type="checkbox"/> ISO Certification, Quality Assurance Program, Environment, Safety & Health Program, Safeguards & Security Program, and Emergency Management Program Reporting Instructions <input checked="" type="checkbox"/> Procurement Procedures <input checked="" type="checkbox"/> Conflict of Interest Management Plan (CMP) <input checked="" type="checkbox"/> Renewal Applications 	<p>O; See Note 5.g.</p> <p>O; See Note 5.h</p> <p>O; See Note 5.i</p> <p>O; See Note 5.j</p> <p>O; See Note 5.k</p> <p>O; See Note 5.l</p> <p>O; See Note 5.m</p> <p>O; See Note 5.n</p>	<p>https://www.iEdison.gov</p> <p>https://www.fedconnect.net/fedconnect/default.aspx</p> <p>https://pampublic.science.energy.gov/webpamsepsexternal/oqin.aspx</p> <p>A phone call and an E-mail to the Program Manager listed in Block 15 of the Assistance Agreement and the DOE Contracting Officer and DOE Contract Specialist listed on the Assistance Agreement Continuation Sheet. The E-mail addresses and phone numbers are listed on the Assistance Agreement Continuation Sheet.</p> <p>An E-mail to the Program Manager listed in Block 15 of the Assistance Agreement and the DOE Contracting Officer and DOE Contract Specialist listed on the Assistance Agreement Continuation Sheet. The E-mail addresses are listed on the Assistance Agreement Continuation Sheet.</p> <p>An E-mail to the DOE Contracting Officer and DOE Contract Specialist listed on the Assistance Agreement Continuation Sheet. The E-mail addresses are listed on the Assistance Agreement Continuation Sheet.</p> <p>An E-mail to the DOE Contracting Officer and DOE Contract Specialist listed on the Assistance Agreement Continuation Sheet. The E-mail addresses are listed on the Assistance Agreement Continuation Sheet.</p> <p>https://www.grants.gov for the application and https://pampublic.science.energy.gov/webpamsepsexternal/oqin.aspx for the associated products report (prepopulated from the quarterly products report)</p>
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FREQUENCY CODES AND DUE DATES:

- | | |
|--|--|
| <p>A – Within 5 calendar days after events or as specified.</p> <p>Y – Yearly; within 90 days after the end of the reporting period.</p> <p>Q – Quarterly; within 30 days after end of the reporting period.</p> <p>O – Other; See special instructions for further details.</p> | <p>F – Final; within 90 calendar days after expiration or termination of the award.</p> <p>Y180 – Yearly; within 180 days after the end of the recipient’s fiscal year.</p> <p>S – Semiannually; within 30 days after end of reporting period.</p> <p>M – Monthly; within 30 days after end of reporting period.</p> |
|--|--|

5. Special Instructions:

Notes:

- a.
 1. E-mail notification will be sent to the DOE Contracting Officer and the DOE Program Manager. Reporting shall include in addition to items listed below under Special Status Report on page 5: Any event which is anticipated to cause a significant interruption of operations; any single injury requiring hospitalization.
 2. The Annual Work Plan will follow the format provided by the DOE Program Manager listed on page 2 of the Assistance Agreement.
 3. The Infrastructure Projects Status Reports will follow the format provided by the DOE Program Manager listed on page 2 of the Assistance Agreement.
- b. **Scientific & Technical Products:** Although this cooperative agreement is for operation of SURF, the facility will be used to conduct proprietary and/or non-proprietary research. The results of SDSTA and third-party non-proprietary research conducted at SURF must be disseminated to the public. See Section B, **SCIENTIFIC/TECHNICAL REPORTING**, of the Federal Assistance Reporting Instructions, for specific guidance. Results of research led by a DOE National Laboratory will be reported by the DOE National Laboratory in accordance with the requirement of its Management and Operating contract.
- c. **Final Scientific/Technical Report:** This cooperative agreement is for operation of SURF, a facility used to conduct proprietary and/or non-proprietary research. Hence, this award is considered a research-related award and is subject to the requirements for research awards. For research awards subject to the Federal-Wide Research Terms and Conditions and DOE Agency-Specific Requirements, the Final/Scientific Report must be submitted no later than 120 calendar days after the end date of the period of performance.
- d. **Federal Financial Report:** Quarterly and Final Federal Financial Reports (FFRs) must be submitted to the U.S. Department of Energy, Office of Science-Integrated Support Center-Chicago (ISC-Chicago), Accounting and Finance, at the E-mail address listed and should only include financial information for awards issued by the ISC-Chicago. Quarterly FFRs must be submitted 30 calendar days following the end of each calendar quarter (March 31, June 30, September 30, and December 31) in accordance with the report instructions. Final FFRs must also be submitted through FedConnect. The FFR and instructions may be found at the web address included in Section C., Financial Reporting, of the attached instructions. After submitting a Final FFR for an individual award, do not continue to report the award on subsequent FFR submissions unless a correction is required. For research awards subject to the Federal-Wide Research Terms and Conditions and DOE Agency-Specific Requirements, the Final Federal Financial Report must be submitted no later than 120 calendar days after the end date of the period of performance. The dollar value of the program income will be reported on the SF-425 form. In accordance with FA-TC-0009.1 CH (Modified), the purposes to which the program income is applied, under the statement of work, will be reported to the DOE Contracting Officer, and DOE Program Manager as identified on Page 2 of the Assistance Agreement, via e-mail at the time of submission of the Financial Report. The costs for the Operating portion and the Construction portion (i.e., Site Infrastructure Projects) must be separated on this form.

- e. Closeout Reporting: For research awards subject to the Federal-Wide Research Terms and Conditions and DOE Agency-Specific Requirements, closeout reports, such as the Patent Certification and Final Property Report, must be submitted no later than 120 calendar days after the end date of the period of performance.
- f. SF-428: See Section E. OTHER REPORTING, SF-428 Tangible Personal Property Report Forms Family, of the Federal Assistance Reporting Instructions, for guidance and submission schedules.
- g. Subject Invention Reporting and Patent Reporting: All subject inventions must be reported through the Interagency Edison (iEdison) system at www.iEdison.gov within two (2) months after the inventor discloses it in writing to Recipient personnel responsible for the administration of patent matters or six (6) months after conception or first actual reduction to practice, depending on the terms of the award. The Recipient must promptly report through iEdison, the acceptance of any manuscript describing a subject invention for publication or of any on sale or public use planned for the invention. Additionally, all invention reporting, including, but not limited to, decisions whether to elect title to subject inventions, reporting of all patent applications filed on subject inventions, confirmatory license submissions, etc. must be reported through iEdison. Failure to comply with the subject invention reporting requirements may result in a loss of rights, including, but not limited to, forfeiture of patent rights. For assistance with iEdison, please contact the iEdison Help Desk at (301) 435-1986 or email edison@od.nih.gov. All questions regarding the patent and data provisions should be directed to Intellectual Property Law Division, Chicago Office, at (630) 252-2171 or Chicago-IP@science.doe.gov.
- h. Full Cost Recovery Reporting: In reference to clause FA-TC-00XX-CH, FULL COST RECOVERY AND PROPRIETARY RESEARCH USAGE OF THE SURF, a review of the full cost recovery rate and Contracting Officer approval of the full cost recovery rate is required when it is first established. Thereafter, a review of the full cost recovery rate and Contracting Officer approval of the full cost recovery charge is required every two years.
- i. Product and Participant Reports: A request to update products in PAMS (the DOE Office of Science Portfolio Analysis and Management System at <https://pamspublic.science.energy.gov/webpamsepsexternal/login.aspx>) will be made quarterly. A request to update participants in PAMS will be made yearly. See Attachment 1, Product and Participant Reports for definitions and contents of these reports. For the purposes of this award only the key personnel as listed in the budget need to be included in the list of participants.
- j. Environment, Safety and Health and Security Event Reporting Instructions: See Attachment 2.
- k. ISO Certification, Quality Assurance Program, Environment, Safety & Health Program, Safeguards & Security Program, and Emergency Management Program Reporting Instructions: See Attachment 3.
- l. Procurement Procedures: Within 90 days of the effective date of this award, the Recipient shall submit its written procurement procedures for Contracting Officer review for consistency with 2 CFR 200.318.
- m. Conflict of Interest Management Plan (CMP): The recipient shall prepare and submit a Conflicts of Interest Management Plan (CMP) for Contracting Officer approval no later than sixty (60) days after award of the cooperative agreement. The CMP shall address conflicts of interest, ethics, and standards of conduct (as required by 2 CFR 200.112), policies and procedures applicable to all participants and employees.
- n. Renewal Applications: Renewal applications must be submitted no later than six months prior to the scheduled expiration of the project period and must include a separate section that describes the results of work accomplished through the date of the renewal application (see 10 CFR 605.9). Renewal applications shall be submitted electronically through Grants.gov at <http://www.grants.gov/>.

Federal Assistance Reporting Instructions

A. MANAGEMENT REPORTING

For awards involving RD&D a Research Performance Progress Report is required to be submitted. For all other awards a Progress Report is required to be submitted.

Either the Research Performance Progress Report (RPPR) or the Progress Report must be checked, but not both.

Research Performance Progress Report (RPPR) (RD&D Projects)

See the attachment entitled "Research Performance Progress Report" for instructions on what the Recipient is to include in the RPPR.

Progress Report (Non-RD&D Projects)

The Recipient must provide a concise narrative assessment of the status of work and include the following information and any other information identified under Special Instructions on the Federal Assistance Reporting Checklist:

1. The DOE award and report information:
 - a. The DOE Award Number (as it appears on the award face page)
 - b. Recipient Name (as it appears on the award face page)
 - c. Project Title
 - d. PD/PI Name, Title and Contact Information (e-mail address and phone number)
 - e. Name of Submitting Official, Title, and Contact Information (e-mail address and phone number), if other than PD/PI
 - f. Project Period (Start Date, End Date)
 - g. Report Submission Date
 - h. Reporting Period Start and End Date
2. A written comparison of the actual project accomplishments with the project goals and objectives established for the reporting period; if goals and/or objectives for the reporting period were not met, a detailed description of the variance shall be provided.
3. A discussion of what was accomplished under these goals and objectives established for this reporting period, including major activities, significant results, major findings or conclusions, key outcomes or other achievements. This section should not contain any proprietary data or other information not subject to public release. If such information is important to reporting progress, do not include the information, but include a note in the report advising the reader to contact the Principal Investigator or the Project Director for further information.
4. Cost Status. A comparison of the approved budget by budget period and the actual costs incurred during the reporting period shall be provided. If cost sharing is required, the cost breakdown shall show the DOE share, recipient share, and total costs.

5. Schedule Status. List milestones, anticipated completion dates and actual completion dates. If you submitted a project management plan with your application, you must use this plan to report schedule and budget variances. You may use your own project management system to provide this information.
6. Describe any changes during the reporting period in project approach and the reasons for these changes. Remember, significant changes to the project objectives and scope require prior approval by the Contracting Officer.
7. Describe any actual or anticipated problems or delays and any actions taken or planned to resolve them.
8. Describe any absence or changes of key personnel or changes in consortium/teaming arrangement during the reporting period.
9. List and describe any product produced or technology transfer activities accomplished during this reporting period, such as:
 - a. Publications (list journal name, volume, issue); conference papers; or other public releases of results. Attach or send copies of public releases to the DOE Program Manager identified in Block 15 of the Assistance Agreement Cover Page.
 - b. Web site or other Internet sites (list the URL) that reflect the results of this project.
 - c. Networks or collaborations fostered.
 - d. Technologies/Techniques (Identify and Describe).
 - e. Inventions/Patent Applications (Identify and Describe with date of application)
 - f. Other products, such as data or databases, physical collections, audio or video, software or NetWare, models, educational aid or curricula, instruments or equipment (Identify and Describe).

Special Status Report

(See Attachment 2 in addition to the requirements below for instructions for Environment, Safety and Health and Security Event Reporting. Where Attachment 2 requirements are more stringent than the requirements listed below, the recipient shall comply with Attachment 2.)

The recipient must report the following events by e-mail as soon as possible after they occur:

1. Developments that have a significant favorable impact on the project.
2. Problems, delays, or adverse conditions which materially impair the recipient's ability to meet the objectives of the award or which may require DOE to respond to questions relating to such events from the public. The recipient must report any of the following incidents and include the anticipated impact and remedial action to be taken to correct or resolve the problem/condition:
 - a. Any single fatality or injuries requiring hospitalization of five or more individuals.
 - b. Any significant environmental permit violation.

- c. Any verbal or written Notice of Violation of any Environmental, Safety, and Health statutes.
- d. Any incident which causes a significant process or hazard control system failure.
- e. Any event which is anticipated to cause a significant schedule slippage or cost increase.
- f. Any damage to Government-owned equipment in excess of \$50,000.
- g. Any other incident that has the potential for high visibility in the media.

B. SCIENTIFIC/TECHNICAL REPORTING

The dissemination of scientific and technical information (STI) ensures public access to the results of federally funded research. STI refers to information products in any medium or format used to convey results, findings, or technical innovations from research and development or other scientific and technological work that are prepared with the intention of being preserved and disseminated in the broadest sense applicable (i.e., to the public or, in the case of controlled unclassified information or classified information, disseminated among authorized individuals). Access to and archival of DOE-funded STI are managed by the DOE Office of Scientific and Technical Information (OSTI). For information about OSTI see <http://www.osti.gov>.

For more information on STI submittals, see <http://www.osti.gov/stip/submittal>.

By properly notifying DOE OSTI about the published results, the information will be made publicly accessible and discoverable through DOE web-based products.

NOTE: SCIENTIFIC/TECHNICAL PRODUCTS INTENDED FOR PUBLIC RELEASE MUST NOT CONTAIN PROTECTED PERSONALLY IDENTIFIABLE INFORMATION (PII). PII is defined as any information about an individual which can be used to distinguish or trace an individual's identity. Some information that is considered to be PII is available in *public* sources such as telephone books, public websites, university listings, etc. This type of information is considered to be Public PII and includes, for example, first and last name, address, work telephone number, e-mail address, home telephone number, and general educational credentials. In contrast, *Protected* PII is defined as an individual's first name or first initial and last name in combination with any one or more of the following types of information: social security number, passport number, credit card numbers, clearances, bank numbers, biometrics, date and place of birth, mother's maiden name, criminal, medical and financial records, educational transcripts, etc., which could be mis-used if made publicly available.

1. Scientific and Technical Reporting Products

a. Journal Article-Accepted Manuscript

Recipients are encouraged to publish their work in scholarly journals. When/if a recipient has an article accepted for publication in a peer-reviewed journal they are required to announce the publication to OSTI as detailed below. This Reporting Requirement will be denoted with the Frequency "O – Other" on the Checklist.

Public access to peer-reviewed scholarly publications can be achieved by following these instructions. If the Recipient has a journal article accepted for publication which contains information/data produced under the award, then the Recipient must submit an AN 241.3 for the author's full-text version of the accepted manuscript, as described below, at the time the article meets the status of being "accepted" for publication. The Federal Government's right to use the data produced under a Federal award is established in 2 CFR 200.315(d), U.S. Government's retained license to published results of federally funded research.

Content. The Recipient is to announce to DOE the final peer-reviewed accepted manuscript (AM), i.e., the version of the journal article content that has been peer reviewed and accepted for publication in a journal, by providing a persistent link to the accepted manuscript on the recipient's publicly accessible institutional repository or submitting the full text (see Electronic Submission Process below). The Recipient should NOT submit the journal's published version of the article, i.e., the Recipient should NOT submit a copyrighted reprint. The Recipient should not submit the content of peer reviews or a commitment to publish. The Recipient should provide only the accepted manuscript content intended to be the published article.

DOE will make no additional review of the content of an AM because the AM is a version of the journal article with the content to be published (i.e., publicly released) by the journal publisher. The Recipient is responsible for ensuring the suitability of the content for public release. The terms and conditions of award provide that PII, proprietary, export control or classified information shall be protected. DOE may choose to defer providing public access until an administrative interval period has passed.

The Recipient must self-certify at the time of submission to DOE via E-Link that the content is appropriate and that it is not a copyrighted reprint, i.e., the final version of the published article. Recipients are reminded that the article is to include an acknowledgement of Federal support and a disclaimer.

Electronic Submission Process. The Journal Article-Accepted Manuscript must be announced via the DOE Energy Link System (E-Link) by submitting a completed DOE Announcement Notice (AN) 241.3 (<https://www.osti.gov/elink-2413>).

Within the AN 241.3, provide relevant journal information (article title, journal name, volume, issue, and any other pertinent publication information). Also provide a persistent link to the repository location of the accepted manuscript. An example of an acceptable persistent link is a URL to the specific location of the Journal Article-Accepted Manuscript hosted on a public, openly accessible university research publications website. If a persistent link is not available or if the website has access restrictions (preventing public access), then the Recipient must upload the full-text of the Accepted Manuscript using the AN 241.3 and E-Link instructions.

Full-text of accepted manuscripts must be in Adobe Portable Document Format (PDF) and be one integrated PDF file that contains all text, tables, diagrams, photographs, schematics, graphs, and charts. Please refer to <http://www.osti.gov/stip/best-practices-portable-document-format-pdf-creation> for PDF document creation.

b. Scientific/Technical Conference Paper/Presentation or Proceedings

Recipients are encouraged to announce Scientific and Technical Conference Papers/Presentations if they are the primary means by which certain research results are disseminated or if they contain research results not already announced to DOE by the Recipient in technical reports, accepted journal articles, or other STI. This Reporting Requirement will be denoted with the Frequency “O – Other” on the Checklist. Instructions for how to announce such STI can be found below. In cases where the Recipient is required to create and submit a Conference Proceedings, the Frequency will be “F – Final.”

Content. The content should include: (1) Name of conference; (2) Location of conference; (3) Date of conference; and (4) Conference sponsor. Also include an acknowledgement of Federal support and a disclaimer.

Electronic Submission Process. Scientific/technical conference papers/presentations or proceedings must be submitted via the DOE Energy Link System (E-Link) with a completed DOE Announcement Notice (AN) 241.3 (<https://www.osti.gov/elink-2413>).

DOE will not review conference papers or presentations prior to making publicly available via OSTI since they were already presented in a public setting during a conference. The Recipient is responsible for ensuring the suitability of the content for public release. The terms and conditions of award provide that PII, proprietary, export control or classified information shall be protected. The Recipient must self-certify at the time of submission to DOE via E-Link that the content is appropriate for and has been publicly released.

Scientific/technical conference papers or proceedings that are textual documents must be submitted in Adobe Portable Document Format (PDF) and be one integrated PDF file that contains all text, tables, diagrams, photographs, schematics, graphs, and charts. Please refer to <http://www.osti.gov/stip/best-practices-portable-document-format-pdf-creation> for PDF document creation. Audiovisual formats, such as PowerPoint (PPT) or video presentations, may be submitted as a Microsoft PPT file or audiovisual file by selecting the appropriate format on the AN 241.3 for the file to be uploaded or, in the case of videos posted on a publicly available website, by providing a link to the specific video. Format options and other instructions can be found at <http://www.osti.gov/stip/audiovisualsti>.

c. Scientific/Technical Software & Manual

Content. When a Recipient submits software to OSTI for dissemination, the following must be delivered: source code, the executable object code and the minimum support documentation needed by a competent user to understand and use the software and to be able to modify the software in subsequent development efforts, unless otherwise specified in the award.

Submission Process. The software submission must be accompanied by a completed DOE Announcement Notice (AN) 241.4 “Announcement of U.S. Department of Energy Computer Software.” The announcement notice and instructions are available on E-Link at <http://www.osti.gov/estsc/241-4.jsp>. The AN 241.4 may be filled online and submitted electronically, with a printed copy or note accompanying the shipped software package.

Software (including user guide or manual) must be submitted on computer disk (CD) shipped via regular mail to:

Energy Science and Technology Software Center
P.O. Box 1020
Oak Ridge, TN 37831

d. Other STI

Recipients are encouraged to announce other forms of STI especially if they are the primary means by which certain research results are disseminated or if they contain research results not already announced to DOE by the Recipient in technical reports, accepted journal articles, or other STI. This Reporting Requirement will be denoted with the Frequency “O – Other” on the Checklist.

Other types of STI produced which may be for used for public dissemination of project results include: dissertation/thesis, patent, book, or other similar products. These types of STI may also be announced using DOE AN 241.3 by following instructions on the E-Link website (<http://www.osti.gov/elink-2413>).

2. Final Scientific/Technical Report

For R&D type awards where a Final Scientific/Technical Report is required, recipients are required to create and submit a final technical report. This Reporting Requirement will be denoted with the Frequency “F – Final” on the Federal Assistance Reporting Checklist.

The scientific/technical report is intended to increase the diffusion of knowledge gained by DOE-funded research, and all requirements shall be interpreted in that light.

Content. Research findings and other significant STI resulting from the DOE-sponsored R&D project shall be included in the final scientific/technical report, subject to the following provisions:

1. The scientific/technical report is to cover the entire project period. For Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) awards, a final scientific/technical report must be submitted after the completion of each phase, e.g., Phase I, Phase II, and sequential Phase II, as described in the Special Instructions.
2. STI that is publicly accessible need not be duplicated in the report if a citation with a link to where the information may be found is included in the report. For example, articles found in PAGES (i.e., DOE’s Public Access Gateway for Energy and Science, <http://www.osti.gov/pages/>) are accessible to the public.
3. Provide identifying information: the DOE award number; sponsoring program office; name of recipient; project title; name of project director/principal investigator; and consortium/teaming members.
4. Include an acknowledgment of Federal support and a disclaimer, which must appear in the publication of any material as noted in the terms and conditions.
5. Include any limitations on public release of the report, if applicable. If the document being submitted contains patentable material or protected data (i.e., data first produced in the

performance of the award that is protected from public release for a period of time by terms of the award agreement, e.g., SBIR protected data), then (1) prominently display on the cover of the report any authorized distribution limitation notices, such as patentable material or protected data (e.g., SBIR protected data) and (2) clearly identify patentable or protected data on each page of the report. Reports delivered without such notices may be deemed to have been furnished with unlimited rights, and the Government assumes no liability for the disclosure, use or reproduction of such reports. Any restrictive markings must also be noted in the distribution limitation section of the Announcement Notice (AN) 241.3 (see Electronic Submission Process, below). No protected PII should be included (see PII definition).

6. Provide an abstract or executive summary, which should be a minimum of one paragraph and written in terms understandable by an educated layperson. (Refer to <http://www.osti.gov/stip/standards> for ANSI/NISO guidance as needed.) The abstract included in an application may serve as a model for this.
7. Summarize project activities for the entire period of funding, including original hypotheses, approaches used, and findings. Include, if applicable, facts, figures, analyses, and assumptions used during the life of the project to support the results in a manner that conveys to the scientific community the STI created during the project. To minimize duplication, the report may reference STI, including journal articles, that is publicly accessible. See also #2.
8. For guidance offered by the National Information Standards Organization on typical attributes and content of a technical report, if needed, refer to ANSI/NISO Z39.18-2005 (R2010), Scientific and Technical Reports – Preparation, Presentation, and Preservation (see <http://www.osti.gov/stip/standards>).

Electronic Submission Process. The final scientific/technical report must be submitted via the DOE Energy Link System (E-Link) with a completed electronic version of DOE Announcement Notice (AN) 241.3, “U.S. Department of Energy (DOE), Announcement of Scientific and Technical Information (STI).” The Recipient can complete, upload, and submit the DOE AN 241.3 online via E-Link (<https://www.osti.gov/mlink-2413>).

The Recipient must mark the appropriate block in the “Intellectual Property/Distribution Limitations” Section of the DOE AN 241.3. Reports that are electronically uploaded must not contain any limited rights data (proprietary data), classified information, protected PII, information subject to export control classification, or other information not subject to release. During the upload process, the Recipient must self-certify that no content of this nature is being submitted. For assistance with reports containing such content, contact the Contracting Officer.

Text documents must be submitted in Adobe Portable Document Format (PDF) and be one integrated PDF file that contains all text, tables, diagrams, photographs, schematics, graphs, and charts. Please refer to <http://www.osti.gov/stip/best-practices-portable-document-format-pdf-creation> for PDF document creation.

C. FINANCIAL REPORTING

The Recipient must complete the SF-425 as identified on the Reporting Checklist in accordance with the report instructions. A fillable version of the form is available at <https://www.grants.gov/web/grants/forms/post-award-reporting-forms.html>

D. CLOSEOUT REPORTS

Final Invention and Patent Report

The Recipient must provide a DOE Form 2050.11, "PATENT CERTIFICATION." This form is available at <http://energy.gov/management/office-management/operational-management/financial-assistance/financial-assistance-forms> under Reporting Forms.

Final Property Report

See Instructions under **SF-428 Tangible Personal Property Report Forms Family** below.

E. OTHER REPORTING

Annual Indirect Cost Proposal and Reconciliation

Requirement. In accordance with the applicable cost principles, the recipient must submit an annual indirect cost proposal, reconciled to its financial statements, within six months after the close of the recipient's fiscal year, unless the award is based on a predetermined or fixed indirect rate(s), or a fixed amount for indirect or facilities and administration (F&A) costs. The format and content of the indirect cost proposal should follow the Defense Contract Audit Agency's (DCAA) ICE Model in order to be considered an adequate proposal. DCAA's ICE Model can be found on the DCAA website at: http://www.dcaa.mil/ice_model.html .

Cognizant Agency. The Recipient must submit its annual indirect cost proposal directly to the cognizant agency for negotiating and approving its indirect costs. If the DOE awarding office is the cognizant agency, the Recipient must submit their annual indirect cost proposal to <https://www.fedconnect.net/fedconnect/default.aspx>

Audit of For-Profit Recipients

As required by 2 CFR parts 910.500 through 910.521, a For-Profit entity which expends \$750,000 or more during their fiscal year in DOE awards must have a compliance audit conducted for that year.

Submission: The compliance audit report(s) must be submitted to DOE within the earlier of 30 days after receipt of the auditor's report(s) or nine months after the end of the audit period (Recipient's fiscal year-end).. The compliance audit report must be submitted, along with audited financial statements (if applicable), to the appropriate DOE Contracting Officer at <https://www.fedconnect.net/fedconnect/default.aspx> as well as to the DOE Office of the Chief Financial Officer (CFO) at DOE-Audit-Submission@hq.doe.gov .

SF-428 Tangible Personal Property Report Forms Family

Requirement. The SF-428 is a forms family consisting of 5 forms: the SF-428, SF-428-A, SF-428-B, SF-428-C and SF-428S. Fillable versions of the SF-428 forms are **temporarily** available at https://www.reginfo.gov/public/do/PRAViewIC?ref_nbr=201002-3090-001&icID=192059. The SF-428 is the cover page and the submitter attaches the appropriate form or forms as listed on the SF-428.

- The SF-428A is the Annual report, due Oct 30th of each calendar year.

- The SF-428B is the Final Award Closeout Report, due 90 calendar days after completion or termination of the award.
- The SF-428C is the Disposition Report/Request.
- The SF-428S is the supplemental form for the SF-428-A, SF-428-B, and SF-428-C.

If at any time during the award the Recipient is provided Government-furnished property or acquires property with project funds and the award specifies that the property vests in the Federal Government (i.e. federally owned property), the Recipient must submit an annual inventory of this property to the DOE Administrator using the SF-428 and SF-428-A forms at the address on page 1 of this checklist **no later than October 30th of each calendar year**, to cover an annual reporting period ending on the preceding September 30th. The SF-428 and SF-428-B reports are required 90 calendar days after completion or termination of award to complete the closeout process.

Content of Inventory. As required on the SF-428-A and SF-428-S forms, the inventory must include a description of the property, tag number, acquisition date, and acquisition cost, if purchased with project funds. The location of property should be listed under the Comments section. The report must list all federally owned property, including property located at subcontractor's facilities or other locations.

RESEARCH PERFORMANCE PROGRESS REPORT

Standard Cover Page Data Elements and Reporting Categories

The standard cover page data elements shown below, as well as mandatory and optional components comprise the complete research performance progress report format. Each category in the RPPR is a separate reporting component. Each component is marked to indicate if it is optional or mandatory. Mandatory components must be addressed in each report, optional are at your discretion. For Optional components, if you have nothing significant to report during the reporting period on a question or item, state "Nothing to Report," if there are reportable items, please submit according to the instructions for each section. Onscreen instructions for completing the report are provided in the Portfolio Analysis and Management System (PAMS). Major sections of the progress report, marked here with Roman Numerals, are separate pages inside the PAMS system. Each section must be marked as complete in PAMS before the report can be submitted to DOE. For some sections, information provided in this progress report will be used to prepopulate the next progress report required for the award. Information from the Products section will prepopulate the Renewal Proposal Products section of future renewal proposals.

I. COVER PAGE DATA ELEMENTS: All fields except Recipient Award ID Number are prepopulated by PAMS

- a. Recipient Award Identification Number (an optional identifying number issued by the recipient and used for internal processing or reporting)
- b. Federal Agency and Organization Element to Which Report is Submitted (prepopulated)
- c. Federal Grant or Other Identifying Number Assigned by Agency (prepopulated)
- d. Project Title (prepopulated)
- e. PD/PI Name, Title and Contact Information (e-mail address and phone number) (prepopulated)
- f. Name of Submitting Official, Title, and Contact Information (e-mail address and phone number), if other than PD/PI (prepopulated)
- g. Submission Date (prepopulated)
- h. DUNS Number (prepopulated)
- i. Recipient Organization (Name and Address) (prepopulated)
- j. Project/Grant Period (Start Date, End Date) (prepopulated)
- k. Reporting Period End Date (prepopulated)
- l. Report Term or Frequency (annual, semi-annual, quarterly, final, other) (prepopulated)

II. ACCOMPLISHMENTS: Mandatory

What was done? What was learned?

The information provided in this section allows the agency to assess whether satisfactory progress has been made during the reporting period. The PI is reminded that the grantee is required to obtain prior written approval from the Contracting Officer whenever there are significant changes in the project or its direction. Requests for prior written approval must be submitted to the Contracting Officer.

a. What are the major goals and objectives of this project?

List the major goals of the project as stated in the approved application or as approved by the agency. Describe the proposed technical approach to obtain those goals. If the application lists milestones/target dates for important activities or phases of the project, identify these dates and show actual completion dates or the percentage of completion. Generally, the goals will not change from one reporting period to the next. However, if the awarding agency approved changes to the goals during the reporting period, list the revised goals and objectives. Also explain any significant changes in approach or methods from the agency approved application or plan.

b. What was accomplished under these goals?

For this reporting period describe: 1) major activities; 2) specific objectives; 3) significant results or key outcomes, including major findings, developments, or conclusions (both positive and negative); and/or 4) other achievements. Include a discussion of stated goals not met. As the project progresses, the emphasis in reporting in this section should shift from reporting activities to reporting accomplishments.

c. What opportunities for training and professional development has the project provided?

Describe opportunities for training and professional development provided to anyone who worked on the project or anyone who was involved in the activities supported by the project. "Training" activities are those in which individuals with advanced professional skills and experience assist others in attaining greater proficiency. Training activities may include, for example, courses or one-on-one work with a mentor. "Professional development" activities result in increased knowledge or skill in one's area of expertise and may include workshops, conferences, seminars, study groups, and individual study. Include participation in conferences, workshops, and seminars not listed under major activities.

If the project was not intended to provide training and professional development opportunities or there is nothing significant to report during this reporting period, state "Nothing to Report."

d. How have the results been disseminated to communities of interest?

Describe how the results have been disseminated to communities of interest. Include any outreach activities that have been undertaken to reach members of communities who are not usually aware of these research activities, for the purpose of enhancing public understanding and increasing interest in learning and careers in science, technology, and the humanities.

If there is nothing significant to report during this reporting period, state "Nothing to Report."

e. What do you plan to do during the next reporting period to accomplish the goals and objectives?

Describe briefly what you plan to do during the next reporting period to accomplish the goals and objectives.

If there are no changes to the agency-approved application or plan for this project or if this is the final report, state "Nothing to Report."

III. PRODUCTS: MANDATORY, if Products Exist

What has the project produced?

Publications are the characteristic product of research. Agencies evaluate what the publications demonstrate about the excellence and significance of the research and the efficacy with which the results are being communicated to colleagues, potential users, and the public, not the number of publications. Many projects (though not all) develop significant products other than publications. Agencies assess and report both publications and other products to Congress, communities of interest, and the public.

List any products resulting from the project during the reporting period. Examples of products include: publications, conference papers, and presentations; website(s) or other Internet site(s); technologies or techniques; inventions, patent applications, and/or licenses; and other products, such as data or databases, physical collections, audio or video products, software or NetWare, models, educational aids or curricula, instruments or equipment, research material, interventions (e.g., clinical or educational), new business creation or any other public release of information related to the project.

If there is nothing significant to report during this reporting period, state "Nothing to Report."

a. Publications, conference papers, and presentations

Report only the major publication(s) resulting from the work under this award. There is no restriction on the number. However, Agencies are interested in only those publications that most reflect the work under this award in the following categories:

- i. **Journal publications.** List peer-reviewed articles or papers appearing in scientific, technical, or professional journals. Include any peer-reviewed publication in the periodically published proceedings of a scientific society, a conference, or the like. A publication in the proceedings of a one-time conference, not part of a series, should be reported under "Books or other non-periodical, one-time publications."

Identify for each publication: Author(s); title; journal; volume: year; page numbers; status of publication (published; accepted, awaiting publication; submitted, under review; other); acknowledgement of federal support (yes/no). Also see instructions under **B. Scientific/Technical Reporting** regarding the submission of accepted manuscripts and other STI as appropriate.

- ii. **Books or other non-periodical, one-time publications.** Report any book, monograph, dissertation, abstract, or the like published as or in a separate publication, rather than a periodical or series. Include any significant publication in the proceedings of a one-time conference or in the report of a one-time study, commission, or the like. Identify for each one-time publication: author(s); title; editor; title of collection, if applicable; bibliographic information; year; type of publication (book, thesis or dissertation, other); status of publication (published; accepted, awaiting publication; submitted, under review; other); acknowledgement of federal support (yes/no).
- iii. **Other publications, conference papers and presentations.** Identify any other publications, conference papers and/or presentations not reported above. Specify the status of the publication as noted above.

b. Website(s) or other Internet site(s)

List the URL for any Internet site(s) that disseminates the results of the research activities. A short description of each site should be provided. It is not necessary to include the publications already specified above in this section.

c. Technologies or techniques

Identify technologies or techniques that have resulted from the research activities. Describe the technologies or techniques and how they are being shared.

d. Inventions, patent applications, and/or licenses

Identify inventions, patent applications with date, and/or licenses that have resulted from the research. Submission of this information as part of an interim or final Research Performance Progress Report is not a substitute for any other invention reporting required under the terms and conditions of an award.

e. Other products

Identify any other significant products that were developed under this project. Describe the product and how it is being shared. Examples of other products are: Data or databases; Physical collections; Audio or video products; Software or NetWare; Models; Educational aids or curricula; Instruments or equipment; Research material (e.g., germplasm, cell lines, DNA probes, animal models); Interventions (e.g. clinical, educational); new business creation; and Other.

IV. PARTICIPANTS & OTHER COLLABORATING ORGANIZATIONS: MANDATORY

Who has been involved?

Agencies need to know who has worked on the project to gauge and report performance in promoting partnerships and collaborations. The following information on participants and other collaborating organizations during this reporting period must be provided:

1. Participants

What individuals have worked on the project?

Provide the following information for: (1) Project director(s)/Principal investigator(s) (PDs/Pis); and (2) each person who has worked, and was funded by the project, at least one person month per year on the project during the reporting period, regardless of the source of compensation (a person month equals approximately 160 hours of effort). Please note that such reporting does not constitute a formal institutional report of effort on the project, but rather is used by agency program staff to evaluate the progress of the project during a given reporting period.

Provide the name and identify the role the person played in the project. Do NOT include any other identifying information on individuals. Indicate the nearest whole person month (Calendar, Academic, Summer) that the individual worked on the project. Show the most senior role in which the person has worked on the project for any significant length of time. For example, if an undergraduate student graduates, enters graduate school, and continues to work on the project, show that person as a graduate student, preferably explaining the change in involvement. Describe how this person contributed to the project and with what funding support. If information is unchanged from a previous submission, provide the name only and indicate "no change". Identify whether this person is collaborating internationally. Specifically is the person collaborating with an individual located in a foreign country and whether the person had traveled to the foreign country as part of that collaboration and duration of stay. The foreign country(ies) should be identified.

Example:

- 1) **Name:** Mary Smith
- 2) **Project Role:** Graduate Student
- 3) **Nearest person month worked:** 5
- 4) **Contribution to Project:** Ms. Smith has performed work in the area of combined error-control and constrained coding.
- 5) **Funding Support:** The Ford Foundation (Complete only if the funding provided from other than this award.)
- 6) **Collaborated with individual in foreign country:** Yes
- 7) **Country(ies) of foreign collaborator:** China
- 8) **Travelled to foreign country:** Yes
- 9) **If traveled to foreign country(ies), duration of stay:** 5 months

2. Partners

What other organizations have been involved as partners?

Describe partner organizations – academic institutions, other nonprofits, industrial or commercial firms, state or local governments, schools or school systems, or other organizations (foreign or domestic) – that have been involved with the project. Partner organizations may provide financial or in-kind support, supply facilities or equipment, collaborate in the research, exchange personnel, or otherwise contribute.

Provide the following information for each partnership:

1. Organization Name:
2. Location of Organization: (if foreign location list country)
3. Partner's contribution to the project: (identify one or more)
 - i. Financial support;
 - ii. In-kind support (e.g., partner makes software, computers, equipment, etc., available to project staff);
 - iii. Facilities (e.g., project staff use the partner's facilities for project activities);
 - iv. Collaborative research (e.g., partner's staff work with project staff on the project);
 - v. Personnel exchanges (e.g., project staff and/or partner's staff use each other's facilities, work at each other's site).
 - vi. Other
4. More detail on partner and contribution (foreign or domestic).

If there is nothing significant to report during this reporting period, state "Nothing to Report."

3. Other Collaborators

Have other collaborators or contacts been involved?

Some significant collaborators or contacts within the recipient's organization may not be covered by "What people have worked on the project?" Likewise, some significant collaborators or contacts outside the recipient's organization may not be covered under "What other organizations have been involved as partners?"

For example, describe any significant:

1. collaborations with others within the recipient's organization, especially interdepartmental or interdisciplinary collaborations;

2. collaborations or contact with others outside the organization; and
3. collaborations or contacts with others outside the United States or with an international organization.

Identify the state(s), U.S. territory(ies), or country(ies) of collaborations or contacts.

It is likely that many recipients will have no other collaborators or contacts to report.

If there is nothing significant to report during this reporting period, state “Nothing to Report.”

V. IMPACT: Optional (but strongly recommended)

What is the impact of the project? How has it contributed?

Over the years, this base of knowledge, techniques, people, and infrastructure is drawn upon again and again for application to commercial technology and the economy, to health and safety, to cost-efficient environmental protection, to the solution of social problems, to numerous other aspects of the public welfare, and to other fields of endeavor.

The taxpaying public and its representatives deserve a periodic assessment to show them how the investments they make benefit the nation. Through this reporting format, and especially this section, recipients provide that assessment and make the case for Federal funding of research and education.

Agencies use this information to assess how their research programs: increase the body of knowledge and techniques; enlarge the pool of people trained to develop that knowledge and techniques or put it to use; and improve the physical, institutional, and information resources that enable those people to get their training and perform their functions.

This component will be used to describe ways in which the work, findings, and specific products of the project have had an impact during this reporting period. Describe distinctive contributions, major accomplishments, innovations, successes, or any change in practice or behavior that has come about as a result of the project relative to: the development of the principal discipline(s) of the project; other disciplines; the development of human resources; teaching and educational experiences; physical, institutional, and information resources that form infrastructure; technology transfer (include transfer of results to entities in government or industry, adoption of new practices, or instances where research has led to the initiation of a startup company); society beyond science and technology; or foreign countries.

a. What was the impact on the development of the principal discipline(s) of the project?

Describe how findings, results, and techniques that were developed or extended, or other products from the project made an impact or are likely to make an impact on the base of knowledge, theory, and research and/or pedagogical methods in the principal disciplinary field(s) of the project. Summarize using language that a lay audience can understand (*Scientific American* style). How the field or discipline is defined is not as important as covering the impact the work has had on knowledge and technique. Make the best distinction possible, for example, by using a “field” or “discipline”, if appropriate, that corresponds with a single academic department (i.e., physics rather than nuclear physics).

If there is nothing significant to report during this reporting period, state “Nothing to Report.”

b. What was the impact on other disciplines?

Describe how the findings, results, or techniques that were developed or improved, or other

products from the project made an impact or are likely to make an impact on other disciplines.

If there is nothing significant to report during this reporting period, state “Nothing to Report.”

c. What was the impact on the development of human resources?

Describe how the project made an impact or is likely to make an impact on human resource development in science, engineering, and technology. For example, how has the project: provided opportunities for research and teaching in the relevant fields; improved the performance, skills, or attitudes of members of underrepresented groups that will improve their access to or retention in research, teaching, or other related professions; developed and disseminated new educational materials; provided scholarships; or provided exposure to science and technology for practitioners, teachers, young people, or other members of the public?

If there is nothing significant to report during this reporting period, state “Nothing to Report.”

d. What was the impact on physical, institutional, and information resources that form infrastructure?

Describe ways, if any, in which the project made an impact, or is likely to make an impact, on physical, institutional, and information resources that form infrastructure, including: physical resources such as facilities, laboratories, or instruments; institutional resources (such as establishment or sustenance of societies or organizations); or information resources, electronic means for accessing such resources or for scientific communication, or the like.

If there is nothing significant to report during this reporting period, state “Nothing to Report.”

e. What was the impact on technology transfer?

Describe ways in which the project made an impact, or is likely to make an impact, on commercial technology or public use, including: transfer of results to entities in government or industry; instances where the research has led to the initiation of a start-up company; or adoption of new practices.

If there is nothing significant to report during this reporting period, state “Nothing to Report.”

f. What was the impact on society beyond science and technology?

Describe how results from the project made an impact, or are likely to make an impact, beyond the bounds of science, engineering, and the academic world on areas such as: improving public knowledge, attitudes, skills, and abilities; changing behavior, practices, decision making, policies (including regulatory policies), or social actions; or improving social, economic, civic, or environmental conditions.

If there is nothing significant to report during this reporting period, state “Nothing to Report.”

g. What percentage of the award’s budget was spent in foreign country(ies)?

Describe what percentage of the award’s budget was spent in foreign country(ies). If more than one foreign country is involved, identify the distribution between the foreign countries.

U.S.-based recipients should provide the percentage of the budget spent in the foreign country(ies) and/or, if applicable, the percentage of the budget obligated to foreign entities as first-tier subawards.

Recipients that are not U.S.-based should provide the percentage of the direct award received, excluding all first-tier subawards to U.S. entities. If applicable, provide separately the percentage of the budget obligated to non-U.S. entities as first-tier subawards.

VI. CHANGES/PROBLEMS: Optional (but strongly encouraged); Carryover Amount Mandatory

The PD/PI is reminded that the grantee is required to obtain prior written approval from the Contracting Officer whenever there are significant changes in the project or its direction. Requests for prior written approval must be submitted to the Contracting Officer. If not previously reported in writing, provide the following additional information, if applicable: Changes in approach and reasons for change; Actual or anticipated problems or delays and actions or plans to resolve them; Changes that have a significant impact on expenditures; Significant changes in use or care of animals, human subjects, and/or biohazards.

a. Changes in approach and reasons for change

Describe any changes in approach during the reporting period and reasons for these changes. Remember that significant changes in objectives and scope require prior approval of the Contracting Officer.

b. Actual or anticipated problems or delays and actions or plans to resolve them

Describe problems or delays encountered during the reporting period and actions or plans to resolve them.

c. Changes that have a significant impact on expenditures

Describe changes during the reporting period that may have a significant impact on expenditures, for example, delays in hiring staff or favorable developments that enable meeting objectives at less cost than anticipated.

d. Significant changes in use or care of human subjects, vertebrate animals, biohazards, and/or select agents

Describe significant deviations, unexpected outcomes, or changes in approved protocols for the use or care of human subjects, vertebrate animals, biohazards and/or select agents during the reporting period. If required, were these changes approved by the applicable institution committee and reported to the agency? Also specify the applicable Institutional Review Board/Institutional Animal Care and Use Committee approval dates.

e. Change of primary performance site location from that originally proposed

Identify any change to the primary performance site location identified in the proposal, as originally submitted.

f. Carryover Amount

Provide an estimate of the carryover amount expected at the reporting period end date.

VII. DEMOGRAPHIC INFORMATION: Mandatory (providing email addresses)

Provide email addresses for each participant listed in the participant section of this report. Once you submit this report, PAMS will send the participants not registered in PAMS an email inviting

them to register and complete their PAMS person profiles so that any demographic information provided can be collected. Entering demographic information is optional for participants. Demographics are collected for a variety of purposes, including the following:

- to gauge whether our programs and other opportunities are fairly reaching and benefiting everyone regardless of demographic category;
- to ensure that those in under-represented groups have the same knowledge of and access to programs, meetings, vacancies, and other research and educational opportunities as everyone else;
- to gauge and report performance in promoting partnerships and collaborations;
- to assess involvement of international investigators or students in work we support;
- to track the evolution of changing science, technology, engineering and mathematics (STEM) fields at different points in the pipeline (e.g., medicine and law demographics have recently changed dramatically);
- to raise investigator and agency staff awareness of the involvement of under-represented groups in research;
- to encourage the development of creative approaches for tapping into the full spectrum of talent of the STEM workforce;
- to respond to external requests for data of this nature from a variety of sources, including the National Academies, Congress, etc.; and
- to respond to legislatively-required analysis of workforce dynamics. Legislation requires at least one agency to routinely estimate scientific workforce needs. This analysis is accomplished through reviewing demographic data submitted for the existing workforce.

Demographic data (i.e., gender, ethnicity, race, and disability status) is provided directly by significant contributors with the understanding that submission of such data is voluntary. There are no adverse consequences if the data are not provided. Confidentiality of demographic data is in accordance with agency's policies and practices for complying with the requirements of the Privacy Act.

Gender: Male
Female
Do not wish to provide

Ethnicity: Hispanic or Latina/o
Not-Hispanic or not-Latina/o
Do not wish to provide

Race (select one or more): American Indian or Alaska Native
Asian
Black or African American
Native Hawaiian or other Pacific Islander
White
Do not wish to provide

Disability Status:

Yes (check yes if any of the following apply to you)

- Deaf or serious difficulty hearing
- Blind or serious difficulty seeing even when wearing glasses
- Serious difficulty walking or climbing stairs
- Other serious disability related to a physical, mental, or emotional condition.

No

Do not wish to provide

This measure is designed as a binary measure; it encompasses all self-reported disabilities. Please do not use it to report the number of individuals who have different types of disabilities (e.g., hearing impairments).

Demographic data is only disclosed to the person providing the data: DOE can only access the data in aggregate form.

VIII. SPECIAL REPORTING REQUIREMENTS: Mandatory

Respond to any special reporting requirements specified in the award terms and conditions, as well as any award specific reporting requirements.

Environment, Safety and Health and Security Event Reporting Instructions

A. Occupational Injury/Illness Events

The following events will be reported to the DOE Contracting Officer, the DOE Contract Specialist, and DOE Program Manager **within two hours** of becoming knowledgeable of their occurrence:

1. Any occurrence due to SURF operations resulting in a fatality or terminal injury/illness.
2. Any single occurrence, injury, or exposure requiring in-patient hospitalization of three or more personnel.
3. Any single occurrence, injury, or exposure resulting in an occupational injury that requires in-patient hospitalization for five or more days, commencing within seven days from the date the injury.
4. Any single occurrence, injury, or exposure resulting in three or more personnel having Days Away, Restricted or Transferred (DART) cases per 29 CFR 1904.7, *Recordkeeping Forms and Recording Criteria*.
5. Any single occurrence resulting in an occupational injury or exposure that¹:
 - (a) Requires in-patient hospitalization for more than 48 hours, commencing within seven days from the date the injury or exposure was received;
 - (b) Results in a fracture of any bone (except bone chips; simple fractures of fingers, toes, or nose; or a minor chipped tooth);
 - (c) Causes severe hemorrhages or severe damage to nerves, muscles, tendons, or ligaments (Note: Severe damage is generally considered to have occurred if surgery is required to correct the damage.);
 - (d) Damages any internal organ;
 - (e) Causes a concussion or loss of consciousness due to an impact to the head;
or
 - (f) Causes second or third-degree burns, affecting more than five percent of the body surface.

¹ The intent of this reporting criterion is to report injuries based on the initial or first-line diagnosis and treatment. Events reported in this category are those for which the diagnosis was obtained within 21 calendar days after the event occurred. If changes occur from the initial diagnosis, resulting in revised treatment plans (i.e., misinterpretation of initial test results, additional evaluations performed), then reporting will need to be re-evaluated based on corrected diagnosis.

B. Fire

The following events will be reported to the listed DOE Contracting Officer, the DOE Contract Specialist, and DOE Program Manager **within two hours** of becoming knowledgeable of their occurrence unless otherwise noted:

1. Any fire that:
 - (a) Activates a fixed automatic fire suppression system (e.g., clean agent or wet-pipe automatic sprinkler protection),
 - (b) Takes longer than ten minutes to extinguish following the initiation of firefighting efforts by the emergency response organization, or
 - (c) Disrupts normal operations in the facility for more than four hours.
2. Any wild land fire (e.g., forest fire, grassland fire) or other fire outside of SURF that has the potential to threaten the facility (**Reported by Next Business Day**).

C. Explosion

The following events will be reported to the listed DOE Contracting Officer, the DOE Contract Specialist, and DOE Program Manager **within two hours** of becoming knowledgeable of their occurrence:

1. Any unplanned explosion that disrupts normal operations.

D. Hazardous Energy

The following events will be reported to the listed DOE Contracting Officer, the DOE Contract Specialist, and DOE Program Manager **within two hours** of becoming knowledgeable of their occurrence:

1. Any unexpected or unintended personal contact (e.g., burn, shock, injury, etc.) with a hazardous energy source (e.g., live electrical power circuit, mechanical hazards, steam, pressurized gas, etc.).
2. Any failure to follow a prescribed hazardous energy control process that results in potential worker exposure to uncontrolled hazardous energy (e.g., live electrical power circuit, powered mechanical hazards, steam, pressurized gas, etc.); OR any discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, powered mechanical hazards, steam, pressurized gas, etc.). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.

E. Operations

The following events will be reported to the listed DOE Contracting Officer, the DOE Contract Specialist, and DOE Program Manager **within two hours** of becoming knowledgeable of their occurrence unless otherwise noted:

1. A formal shutdown of an activity or operation for safety reasons, directed by the senior SDSTA/SURF management requiring corrective actions prior to continuing operations (e.g., a Stop Work Order).

2. A facility operational event which resulted in an adverse effect on safety, such as, but not limited to:
 - (a) An inadvertent facility or operations shutdown (i.e., a change of operational mode or curtailment of work or processes);
 - (b) A manual facility or operations shutdown due to alarm response procedures;
 - (c) An inadvertent process liquid transfer; or
 - (d) An inadvertent release of hazardous material from its engineered containment.
3. Any event or condition that would prevent immediate facility or offsite emergency response capabilities **(Reported by Next Business Day)**.

F. Environmental

The following events will be reported to the listed DOE Contracting Officer, the DOE Contract Specialist, and DOE Program Manager **within two hours** of becoming knowledgeable of their occurrence unless otherwise noted²:

1. Any release (onsite or offsite) of a hazardous or extremely hazardous substance, including radionuclides from a SURF facility above federally permitted releases in a quantity equal to or exceeding the federal reportable quantities specified. (See specifications in 40 CFR Part 302, *Designation, Reportable Quantities, and Notification*; 40 CFR Part 355, *Emergency Planning and Notification*; and CERCLA Section 101(10), *Federally Permitted Releases*.)
- A. Any release (onsite or offsite) of a pollutant from a SURF facility that is above levels or limits specified by outside agencies in a permit, license, or equivalent authorization, when reporting is required in a format other than routine periodic reports **(Reported by Next Business Day)**.³
- B. Any release (onsite or offsite) that exceeds 100 gallons of oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil **(Reported by Next Business Day)**.

G. Radiation Safety

Notifications made to the Nuclear Regulatory Commission as required by 10 CFR Part 20, *Standards for Protection Against Radiation*, will be made known to the listed DOE Contracting Officer, the DOE Contract Specialist, and DOE Program Manager **within two hours** of such notifications having been sent.

² Operational Emergencies for situations under which releases of hazardous or extremely hazardous substances occur would be reported under "Operations".

³ This criterion does not apply to discharges (including potable water) that do not result in leaching or erosion of contaminated material from a known or suspected boundary of a Potential Release Site, or discharges (including potable water) capable of reaching surface or groundwater that do not require remediation/repair. (SDSTA's environmental subject matter experts make the determination of environmental impact and the need for remediation/repair activities.)

H. Security

The following events will be reported to the listed DOE Contracting Officer, the DOE Contract Specialist, and DOE Program Manager **within two hours** of becoming knowledgeable of their occurrence:

1. Confirmed or alleged noncompliance with laws that jeopardize protection of SURF or compromise site security.
2. Malicious activities, disorderly conduct, or vandalism that disrupts SURF activities or causes damage of \$10K or more.
3. The occurrence of intrusion by malicious attackers or software found to have penetrated SURF cyber systems.
4. Suspected or attempted theft, diversion, terrorist attack, industrial sabotage, radiological sabotage, chemical sabotage, biological sabotage, espionage, unauthorized access, compromise, and other acts that may have an adverse impact on security or the environment or that may pose significant danger to the health and safety of employees, contractors, visitors, or the public.
5. Unauthorized introduction of controlled/prohibited articles.
6. Loss, theft, compromise or suspected compromise of security keys or keycards
7. Circumvention of established access control procedures.
8. Willful tampering or circumvention of security barriers and/or systems.
9. Failing to properly secure an access control entry point.
10. Matters that conflict with established SDSTA security requirements involving a foreign government or one of its citizens.
11. Work stoppages (to include labor strikes, demonstrations) affecting site security.
12. Peaceful demonstrations of over 20 persons and/or that require assistance from local law enforcement.
13. Suspicious circumstance (which could negatively affect security posture) to include: incidents of apparent surveillance, trespassing, property theft, assault, and/or other events resulting in a local law enforcement and/or other outside law enforcement agency response.

ISO Certification, Quality Assurance Program, Environment, Safety & Health Program, Safeguards & Security Program, and Emergency Management Program Reporting Instructions

i. ISO Certification

1. Within 90 days of commencement of the Cooperative Agreement, SDSTA will submit to DOE the SDSTA plan for attaining certification to ISO-9001 (Quality Management System), ISO 14001 (Environmental Management System), and ISO-45001 (Occupational Health & Safety Management System) for the scope of work covered by the Cooperative Agreement. The plan should provide for SDSTA's attainment of these ISO certifications within 36 months of the commencement of the Cooperative Agreement, as specified in Clause FA-TC-0086-SURF, CERTIFICATION TO ISO-9001, ISO-14001, AND ISO-45001, and provide for maintaining these ISO certifications throughout the duration of the Cooperative Agreement.
2. A copy of the ISO-9001, ISO 14001, and ISO-45001 Certifications and a copy of the corresponding ISO certification audit/assessment reports, from an accredited registrar, and subsequent annual re-certifications, shall be provided to the listed DOE Contracting Officer, the DOE Contract Specialist, and DOE Program Manager, within 5 days of receipt from the certification body.
3. A copy of SDSTA's corrective action plan instituted to respond to the deficiencies identified in the ISO certification audit/assessment reports, and the certification body's acceptance thereof, shall be provided to the listed DOE Contracting Officer, the DOE Contract Specialist, and DOE Program Manager, within 5 days of receipt from the certification body.
4. A status report of SDSTA's corrective action implementation for the deficiencies identified in the ISO certification audit/assessment reports, shall be provided to the listed DOE Contracting Officer, the DOE Contract Specialist, and DOE Program Manager, every 90 days from the close-out of the ISO certification audits/assessments, until all such corrective actions are completed and verified as effective by the certification body. Evidence of corrective action verification by the certification body shall be provided to the listed DOE Contracting Officer, the DOE Contract Specialist, and DOE Program Manager, must be included with this status reports.

ii. Quality Assurance Program, Environment, Safety & Health Program, Safeguards & Security Program, and Emergency Management Program

At the commencement of the Cooperative Agreement, a controlled copy of the SDSTA documented Quality Assurance Program, Environment, Safety & Health Program, Safeguards & Security Program, and Emergency Management Program, shall be provided to the listed DOE Contracting Officer, the DOE Contract Specialist, and DOE Program Manager. Subsequent revisions of these management program documents shall be provided to the to the listed DOE Contracting Officer, the DOE Contract Specialist, and DOE Program Manager within 5 days of approval of the document by SDSTA management. The management program documents must include a revision

history statement indicating what was changed by the revision.

iii. Quality Assurance Audits/Assessments

1. A copy of reports of external third-party QA reviews/audits/assessments of SDSTA management program implementation shall be provided to the listed DOE Contracting Officer, the DOE Contract Specialist, and DOE Program Manager, within 5 days of receipt from the external oversight body. A copy of reports of internal QA management/self-assessments of SDSTA management program implementation shall be provided to the listed DOE Contracting Officer, the DOE Contract Specialist, and DOE Program Manager, within 5 days of report finalization.
2. A status report of SDSTA's corrective action implementation for the deficiencies identified by the external third-party QA reviews/audits/assessments, and internal QA management/self-assessments, of SDSTA management program implementation, shall be provided to the listed DOE Contracting Officer, the DOE Contract Specialist, and DOE Program Manager, every 90 days from the close-out of the review/audit/assessment, until all such corrective actions are completed and verified as effective. Evidence of corrective action verification shall be provided to the listed DOE Contracting Officer, the DOE Contract Specialist, and DOE Program Manager, must be included with this status reports.

iv. Non-Conformances

1. A status report describing non-conformances identified through SDSTA quality control inspection, testing, monitoring, or surveillance activities, and the corresponding corrective actions implemented to resolve the non-conformances, shall be provided to the listed DOE Contracting Officer, the DOE Contract Specialist, and DOE Program Manager, on a quarterly basis.

Statement of Substantial Involvement (SSI) - Operations

The U.S. Department of Energy (hereinafter “DOE”) and South Dakota Science and Technology Authority (hereinafter “the Recipient” or “SDSTA”) are entering into a Cooperative Agreement (“Agreement”) titled “Sanford Underground Research Facility (“SURF”) - Operations” for the purpose of operating a research facility.

The scope of work under this Agreement consists of the operation and maintenance of SURF as well as site infrastructure improvements necessary to conduct a safe and efficient program of underground science. SURF currently hosts experiments supported by DOE, the National Science Foundation, multiple universities, and private industry. Research at SURF concentrates on physics that is best addressed underground due to the very low level of cosmic ray activity.

The LUX-ZEPLIN experiment, the Majorana Demonstrator, and the Long Baseline Neutrino Facility/Deep Underground Neutrino Experiment are DOE-supported efforts funded through and overseen by various DOE National Laboratories and located at SURF. The coordination of these experimental efforts as well as any future DOE-sponsored and non-DOE science activities affected by SURF operations requires DOE involvement.

Therefore, in accordance with the Financial Assistance Regulations contained in 2 CFR 200 as amended by DOE’s Financial Assistance Regulations at 2 CFR 910, the following statements describe the anticipated substantial involvement between DOE and the Recipient under the Agreement.

A. PROJECT INVOLVEMENT

A.1. DOE ROLES AND RESPONSIBILITIES:

While the Recipient is integral to the achievement of the specific Office of Science (SC), Office of High Energy Physics (HEP) Program mission, goals and objectives regarding operation of SURF, DOE remains accountable for the overall results of the HEP Program and the expenditure of Federal funds.

As part of the DOE substantial involvement and provision of direction, DOE will actively monitor the Recipient’s activities. DOE will actively collaborate with the Recipient in evaluating and setting project objectives, milestones, and deliverables. DOE will maintain its involvement in SURF operations by conducting and participating in a variety of activities such as reviews, site visits, and meetings as needed. DOE may assign an HEP program manager at SURF to support day-to-day interactions with SDSTA. DOE may observe reviews conducted by SDSTA. DOE conducted reviews may include an annual review through the following: Operations Review or HEP Program Office site visit. DOE will also share in the responsibilities for long range planning for SURF. DOE will conduct reviews of infrastructure initiatives, as needed, that are relevant to the operations of SURF.

DOE will strive to support the annual budget for SURF within the Congressional appropriation for each fiscal year. The annual budget will include division of the total spending among specified budget categories, and approval of activities to be conducted within those categories as deemed necessary by scope and risk. The Recipient will be invited to meet annually with the HEP Program office and present

designated budget exercises and activities within those budgets for the purposes of budget formulation and out-year planning. Additional budget exercises may be assigned as needed.

A.2. RECIPIENT ROLES AND RESPONSIBILITIES:

Within available resources, the Recipient shall provide all personnel, facilities, equipment, supplies and services, and do all things necessary for, or incident to, operating and maintaining SURF. The Recipient is responsible for the overall management of the effort necessary for timely and professional execution of the facility operations and for coordination with other DOE participants and collaborators in conjunction with guidance from the DOE Program Manager. Details, objectives and requirements stated in the financial assistance application, as approved by DOE, are incorporated into this Agreement.

The Recipient is responsible for providing information regarding the operation and conduct of the operations program at SURF when requested by DOE, in order to foster DOE's substantial involvement in the operation of SURF.

B. TECHNICAL DIRECTION

B.1. DOE ROLES AND RESPONSIBILITIES:

DOE may provide technical direction to the Recipient as follows: (1) redirect the work effort; (2) shift work emphasis between objectives and or lines of inquiry; (3) require pursuit of certain lines of inquiry; and/or (4) provide technical guidance to the Recipient in order to accomplish the objectives and requirements stated in the financial assistance application incorporated into this Agreement.

To be valid, technical direction must be issued in writing. Technical direction may not: (1) constitute an assignment of additional or different work outside the objectives and requirements stated in the financial assistance application incorporated into this Agreement; (2) in any manner cause an increase or decrease in the total estimated cost or the time required for performance; (3) change any of the expressed terms and conditions of the Agreement; or (4) commit DOE to accept non-conforming work from the Recipient.

B.2. RECIPIENT ROLES AND RESPONSIBILITIES:

The only persons authorized to give technical direction to the Recipient under this Agreement are the Grants/Agreements Officer and the DOE Program Manager as identified on the second page of the Assistance Agreement. Any action taken by the Recipient in response to any direction given by any person other than the DOE Grants/Agreements Officer or DOE Program Manager shall not be binding upon the Government.

The Recipient shall proceed promptly with the performance of technical direction(s) duly issued by the DOE Program Manager in the manner described in B.1. DOE ROLES AND RESPONSIBILITIES, above, and which are within the DOE Program Manager's authority. The Recipient shall immediately cease performance of any technical direction upon receipt of a written instruction to that effect from the DOE Grants/Agreements Officer.

If, in the opinion of the Recipient, any technical direction issued by the DOE Program Manager is not within the authorities defined in B.1. DOE ROLES AND RESPONSIBILITIES, above, the Recipient shall not proceed but shall notify the Grants/Agreements Officer in writing within 5 working days after the receipt of any such technical direction and shall request the DOE Grants/Agreements Officer to rescind such direction or mutually agree to modify the Agreement accordingly.

The DOE Grants/Agreements Officer shall have the authority to make the final determination with respect to technical direction. If the Recipient disputes the determination and cannot informally resolve the dispute with DOE, the Recipient shall follow the procedures set forth in 2 CFR 910.128.

DURATION OF SUBSTANTIAL INVOLVEMENT: The substantial involvement by DOE under this Agreement will remain for the term of the Agreement unless otherwise amended. Moreover, this Statement of Substantial Involvement by DOE does not increase DOE's liability under this Agreement.



U.S. Dept. of Energy, Office of Civil Rights, 1000 Independence Ave., SW
Washington, DC 20585
Email: civilrights@hq.doe.gov
For More Information: <http://diversity.energy.gov>



Discrimination Is Against The Law

Discrimination on the basis of race, color, national origin, sex, disability, or age is prohibited by federal civil rights laws. All institutions, organizations, and state and local governments must abide by these laws when they receive federal financial assistance from the Department of Energy.

Know Your Rights