



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

August 1, 2014

Dr. William Dunn
Kansas State University
2 Fairchild Hall
Manhattan, KS 66506

VIA Electronic Mail
dunn@ksu.edu

SUBJECT: GRANT NO: NRC-HQ-84-14-G-0033

Dear Dr. Dunn:

Pursuant to the authority contained in the Federal Grant and Cooperative Grantee Act of 1977 and the Atomic Energy Act of 1954, the Nuclear Regulatory Commission (NRC) hereby awards to the Kansas State University (hereinafter referred to as the "Grantee" or "Recipient"), the sum of \$396,740.00 to provide support for "Kansas State University Nuclear Research Fellowship Program" entitled "Program Description."

This award is effective as of the date of this letter and shall apply to expenditures made by the Grantee furtherance of program objectives during the period beginning with the effective date of August 1, 2014 and ending July 31, 2018.

This award is made to the Recipient on condition that the funds will be administered in accordance with the terms and conditions as set forth in Attachment A (the Schedule); Attachment B (the Program Description); and Attachment C (the Standard Provisions); all of which have been agreed to by your organization. In addition your grant application proposes \$126,287.00 in cost share. Please ensure your cost share conforms to the provisions in 2 CFR 215, and is reported on the semi-annual Federal Financial Report.

Please ensure individuals selected as beneficiaries of support under this grant meet the legal requirements consistent with recent Supreme Court Decisions including *Fisher*, *Gratz*, and *Grutter*.

Please sign the enclosed grant to acknowledge your receipt of the award, and return as a pdf file to Ms. M'Lita Carr by email at Miita.Carr@nrc.gov.

Sincerely yours,

Erika Eam

Erika Eam
Grants Officer
Research & Grants Team
Acquisition Management Division

Attachments:
Attachment A – Schedule
Attachment B – Program Description
Attachment C – Standard Terms and Conditions

TEMPLATE - ADM001

SUNSI REVIEW COMPLETE

AUG 01 2014

ADM002

ACKNOWLEDGED:
Kansas State University

By: _____

Title: _____

Date: _____

Grant and Cooperative Agreement

CHOOSE ONE:
 COOPERATIVE AGREEMENT
 GRANT

CHOOSE ONE: EDUCATION FACILITIES RESEARCH SDCR TRAINING

1. GRANT/COOPERATIVE AGREEMENT NUMBER NRC-HQ-84-14-G-0033	2. SUPPLEMENT NUMBER	3. EFFECTIVE DATE 08/01/2014	4. COMPLETION DATE
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5. ISSUED TO NAME/ADDRESS OF RECIPIENT (No., Street, City/County, State, Zip) KANSAS STATE UNIVERSITY 2 FAIRCHILD HALL MANHATTAN KS 665061103	6. ISSUED BY U.S. NRC - HQ Mailing Address: Acquisition Management Division Mail Stop: 3WFN-05-C64MP Washington DC 20555-0001
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7. TAXPAYER IDENTIFICATION NO. (TIN)	9. PRINCIPAL INVESTIGATOR/ORGANIZATION'S PROJECT OR PROGRAM MGR. (Name & Phone) DR. WILLIAN DUNN DUNN@KSU.EDU, 785-532-5610
8. COMMERCIAL & GOVERNMENT ENTITY (CAGE) NO.	

10. RESEARCH, PROJECT OR PROGRAM TITLE
Kansas State University Nuclear Research Fellowship Program

11. PURPOSE
SEE SCHEDULE

12. PERIOD OF PERFORMANCE (Approximately)
08/01/2014 through 07/31/2018

13A.	AWARD HISTORY	13B.	FUNDING HISTORY
PREVIOUS	\$0.00	PREVIOUS	\$0.00
THIS ACTION	\$396,740.00	THIS ACTION	\$396,740.00
CASH SHARE	\$0.00	TOTAL	\$396,740.00
NON-CASH SHARE	\$0.00		
RECIPIENT SHARE	\$126,287.00		
TOTAL	\$396,740.00		

14. ACCOUNTING AND APPROPRIATION DATA
2014-X0200-IUPMRU-84-84D002-51-K-164-T8458-4110

PURCHASE REQUEST NO.	JOB ORDER NO.	AMOUNT	STATUS
OCHCO-14-0240			

15. POINTS OF CONTACT

	NAME	MAIL STOP	TELEPHONE	E-MAIL ADDRESS
TECHNICAL OFFICER	NANCY V. HEBRON-ISREAL		301-287-0718	Nancy.Hebron-Isreal@nrc.gov
NEGOTIATOR				
ADMINISTRATOR	M'LITA R. CARR		301-287-0909	MLita.Carr@nrc.gov
PAYMENTS				

16. THIS AWARD IS MADE UNDER THE AUTHORITY OF:
PURSUANT TO SECTION 31B AND 141B OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED

17. APPLICABLE STATEMENT(S), IF CHECKED: <input type="checkbox"/> NO CHANGE IS MADE TO EXISTING PROVISIONS <input type="checkbox"/> FDP TERMS AND CONDITIONS AND THE AGENCY-SPECIFIC REQUIREMENTS APPLY TO THIS GRANT	18. APPLICABLE ENCLOSURE(S), IF CHECKED: <input type="checkbox"/> PROVISIONS <input type="checkbox"/> SPECIAL CONDITIONS <input type="checkbox"/> REQUIRED PUBLICATIONS AND REPORTS
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UNITED STATES OF AMERICA	COOPERATIVE AGREEMENT RECIPIENT
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CONTRACTING/GRANT OFFICER ERIKA EAM <i>Erika Eam</i>	DATE 07/29/2014	AUTHORIZED REPRESENTATIVE	DATE
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Grant and Cooperative Agreement

ITEM NO (A)	ITEM OR SERVICE (Include Specifications and Special Instructions) (B)	QUANTITY (C)	UNIT (D)	ESTIMATED COST	
				UNIT PRICE (E)	AMOUNT (F)
	CFDA Number: 77.008 Delivery: 08/01/2014 Delivery Location Code: NRCHQ US NUCLEAR REGULATORY COMMISSION- MAIL PROCESSING CENTER 4930 BOILING BROOK PARKWAY ROCKVILLE MD 20852 USA Payment: ASAP GRANT FUNDS REIMBURSEMENT SYS US TREASURY Period of Performance: 08/01/2014 to 07/31/2018				

ATTACHMENT A - SCHEDULE

A.1 PURPOSE OF GRANT

The purpose of this Grant is to provide support to the "Kansas State University Nuclear Research Fellowship Program" as described in Attachment B entitled "Program Description."

A.2 PERIOD OF GRANT

1. The effective date of this Grant is August 1, 2014. The estimated completion date of this Grant is July 31, 2018.
2. Funds obligated hereunder are available for program expenditures for the estimated period: August 1, 2014 – July 31, 2018.

GENERAL

1. Total Estimated NRC Amount: \$396,740.00
2. Total Obligated Amount: \$396,740.00
3. Cost-Sharing Amount: \$126,287.00
4. Activity Title: Kansas State University Nuclear Research Fellowship Program
5. NRC Project Officer: Nancy Hebron-Isreal
6. DUNS No.: 929773554

A.3 BUDGET

Revisions to the budget shall be made in accordance with Revision of Grant Budget in accordance with 2 CFR 215.25.

	Year 1	Year 2	Year 3	Year 4
Personnel	\$ 69,000.00	\$ 69,000.00	\$ 69,000.00	\$ 69,000.00
Fringe Benefits	\$ 4,071.00	\$ 4,071.00	\$ 4,071.00	\$ 4,071.00
Travel	\$ 2,100.00	\$ 2,100.00	\$ 2,100.00	\$ 2,100.00
Other (Tuition)	<u>\$ 18,000.00</u>	<u>\$ 18,000.00</u>	<u>\$ 18,000.00</u>	<u>\$ 18,000.00</u>
Total Direct Cost	\$ 93,171.00	\$ 93,171.00	\$ 93,171.00	\$ 93,171.00
Indirect Cost	<u>\$ 6,014.00</u>	<u>\$ 6,014.00</u>	<u>\$ 6,014.00</u>	<u>\$ 6,014.00</u>
Total	\$ 99,185.00	\$ 99,185.00	\$ 99,185.00	\$ 99,185.00

All travel must be in accordance with the Kansas State University Travel Regulations or the US Government Travel Policy absent Grantee's travel regulation.

A.4 AMOUNT OF AWARD AND PAYMENT PROCEDURES

1. The total estimated amount of this Award is \$523,027.00 for the four year period, inclusive of cost sharing.
2. NRC hereby obligates the amount of \$396,740.00 for program expenditures during the period set forth above and in support of the Budget above. The Grantee will be given written notice by the Grants Officer when additional funds will be added. NRC is not obligated to reimburse the Grantee for the expenditure of amounts in excess of the total obligated amount.

3. Payment shall be made to the Grantee in accordance with procedures set forth in the Automated Standard Application For Payments (ASAP) Procedures set forth below.

Attachment B – Program Description

PROGRAM DESCRIPTION

1. INTRODUCTION

The Department of Mechanical and Nuclear Engineering (MNE) at Kansas State University (KSU) is growing, with a current undergraduate enrollment of 814 students. The MNE Department offers a formal Nuclear Option in which approximately 10% of the students participate. In 2011, 16 of 96 graduates were Nuclear Option students. All MNE undergraduate students take Elements of Nuclear Engineering. The department offers six undergraduate technical electives in Nuclear Engineering: Reactor Operations Laboratory, Principles of Radiation Detection, Problems in Nuclear Engineering, Nuclear Reactor Theory, Nuclear Reactor Laboratory, and Radiation Protection and Shielding. In addition, there are several graduate level Nuclear Engineering courses on reactor physics, radiation detection, radiation applications, and thermal-hydraulics. In 2011, based on data collected by Career and Employment Services, 13 graduates from our department were employed by power generation or power consulting companies. Over the last 5 years, the MNE department has consistently had graduates join nuclear power companies and the Nuclear Regulatory Commission.

The MNE Department at KSU operates the State of Kansas' only research reactor, a Mark-II TRIGA reactor, which is a water moderated thermal reactor licensed to operate at up to 1,250 KW(th). The KSU reactor features both in-core and ex-core testing facilities that can accommodate a variety of experiments. The reactor is capable of operating without active cooling to test performance during natural circulation conditions. The reactor has been used for neutron activation analysis, neutron radiography, prompt gamma-ray neutron activation analysis using a diffracted neutron beam, and radioisotope production. Currently, a novel nuclear material characterization laboratory is under development for material post-irradiation testing.

Building a foundational structure to train the next generation of nuclear engineers is one of the prime and high priority objectives identified by the State of Kansas's education department and KSU. In order to continue on KSU's historic path of producing high quality nuclear engineers, it is important to attract good students with sound technical backgrounds into the nuclear engineering graduate program. The Nuclear Research Fellowship program will help meet this goal by providing assistantship and benefits to deserving students. The fellowship will be awarded to American citizens or permanent residents, and selection will be based on past academic performance, interest in Nuclear Engineering (NE), and motivation to conduct research in NE. The Nuclear Research Fellows will be expected to take NE courses and acquire knowledge of reactor physics, thermal hydraulics, nuclear safety, and numerical simulation principles before graduation in order to pursue professional careers in the nuclear field.

The Principal Investigator (PI) of this fellowship program, Dr. William L. Dunn, is the Interim Department Head of Mechanical and Nuclear Engineering. Dr. Dunn has over

30 years of experience in academic and industrial research related to Nuclear Safety and Security. The second member/co-PI of this program is Prof. Hitesh Bindra, who has been conducting experimental research related to nuclear reactor thermal-hydraulics and safety. Dr. Bindra has also developed Lattice Boltzmann methods (LBM) for radiation and neutron transport applications and is extending this work to couple thermal-hydraulics and reactor physics. The third member/co-PI is Dr. Jeremy A. Roberts, who specializes in the development of computational methods for reactor design and radiation transport. The MNE Department attracts many mechanical engineering undergraduate students into the Nuclear Option. Many of these students have a GPA above 3.5 and are interested in pursuing a graduate degree program in NE. The proposed Nuclear Research Fellowship Program will enable the NE program to recruit three Ph.D. students from among these outstanding students as well as from other institutions.

2. OBJECTIVES

The **Nuclear Research Fellowship Program** will be used to recruit and train at least four Ph.D. students at KSU in nuclear engineering. These Fellows will be supervised by faculty in the areas of nuclear security, nuclear thermal-hydraulics, and reactor physics. The laboratories have modern computational and experimental tools to conduct research with funding provided by the state of Kansas. Fellows will be able to participate in collaborative projects at the national and international level, and will acquire skills needed for the design, regulation, construction and operation of advanced nuclear facilities and related activities.

3. INVOLVEMENT OF DIVERSE GROUPS

With the undergraduate scholarships and graduate fellowships made available by the NRC Grants, KSU is categorized with "other institutions with significant minority enrollment" and is actively working to increase the enrollment of women and minority students in its graduate school. Co-PI, Dr. Bindra has a collaboration with City University of New York (CUNY), which is a minority supporting institution, on DOE-sponsored thermal-hydraulics and reactor safety projects. This fellowship program is expected to provide opportunities to maintain and strengthen this partnership with CUNY in broad areas of nuclear engineering.

4. PROPOSED FELLOWSHIP PROGRAM

Three Ph.D. students initially will be selected to receive Nuclear Research Fellowships with an annual stipend of \$28,000 each. The MNE Department at KSU will provide every Fellow with tuition fees and health insurance worth approximately \$7,000 per year in subsequent years. It is anticipated that one or more of these Fellows will transition to research on a funded project within a year or two, at which time a fourth and eventually perhaps more Ph.D. students will be selected for Fellowships.

4.1 Educational Program and Graduation Curriculum

All Fellows will complete their doctoral programs in three stages: course work, qualifying exams, and candidacy. Within two to three years, Fellows are expected to complete basic course requirements in Nuclear Engineering and propose research to a faculty committee. The students are then certified as doctoral candidates and enter the last stage of doctoral study, the completion of a dissertation embodying original research and its defense in an oral final examination. Many times, these activities overlap, with the

qualifying examination taken during the second year and research beginning before the qualifying examination is passed. However, all three activities must be completed in order to earn the Ph.D. degree. The average expected time for completing a doctoral program at KSU is four years. The fellowship students will have an opportunity to study NE subjects by taking the following courses and using PC-based nuclear power plant simulators to gain in-depth knowledge of nuclear reactor design and operation.

Reactor Physics: The department currently offers two reactor physics courses. The first, Nuclear Reactor Theory, is an introductory course required for incoming graduate students and undergraduate students who choose nuclear option. The second course, Neutronics, covers particle transport, diffusion theory, and transient core analysis. A new course, Applied Reactor Theory, will cover practical aspects of reactor physics and fuel management using a variety of computational tools, and is anticipated to begin in Spring 2015.

- **Reactor Engineering** Two new courses in reactor thermal-hydraulics will be offered in Fall 2014 and Spring 2015. The first course is a laboratory course that will use the TRIGA reactor for experiments. The second course is on reactor engineering and will cover basic nuclear thermal system design and safety.
- **Radiation Detection:** There are two basic and advanced level courses on the nuclear radiation detection currently offered at KSU during alternate semesters.
- **Nuclear Reactor Laboratory:** This course integrates the principles of reactor physics, thermal-hydraulics, reactor safety, instrumentation, materials, environmental impact, and economic optimization.

The graduate curriculum also includes advanced courses in numerical methods, fluid mechanics, and two-phase flow and heat transfer. These courses will provide students with the necessary knowledge, experience, and skills in nuclear engineering to pursue professional careers in the nuclear industry.

4.2 Research Projects

Fellows will conduct research using the facilities available at the Nuclear Engineering laboratories at KSU. They will select research topics from the experimental and numerical investigations directly relevant to the nuclear industry with an aim to improve the design, operation and safety of existing and next generation NPPs. Their research projects will focus on nuclear security, reactor thermal-hydraulics, and multi-physics computational methods. As such, these projects will enable Fellows to participate in major national conferences and workshops from 2014 to 2018. Fellows will also be able to interact with researchers at national laboratories and in industry.

5. Research Group Laboratories and Resources

KSU is investing in the development of the Nuclear Thermal-hydraulics and Computational Physics Laboratories in the MNE Department. The existing laboratory space is undergoing remodelling to accommodate a high temperature nuclear thermal-hydraulics laboratory to support next-generation nuclear reactor research. This laboratory is equipped with necessary equipment, including a high-temperature infrared camera and flow visualization. A computational facility will be made available to enable fellowship students to run advanced simulation models based on our own source codes (LBM), commercial CFD packages (e.g., FLUENT, CFX, STAR-CD), multiphysics

packages (COMSOL) and reactor safety analysis codes (e.g., RELAP5, COBRA-T and COBRA-SFS).

The Computation and Optimization for Reactor Physics Simulations (CORPS) Group leads the development of computational tools (e.g., Detran, Serment) used to study advanced methods for neutron transport and reactor physics. In addition, the CORPS Group is actively developing a light water reactor simulation tool for use in the classroom and other training venues. The CORPS Group has access to a number of computational tools, including a 100+ core, group compute cluster, several workstations for the testing of advanced, high-performance hardware (e.g., XEON PHI), and guaranteed time on KSU's 2400+ core Beocat cluster.

The Radiation Measurement Applications (RMA) Laboratory provides state-of-the-art facilities to conduct research into the application of radiation to the measurement of physical properties of matter and to support teaching, research, and service activities in the area of radiation measurement applications. The vision of the laboratory is to be an internationally recognized center for the investigation and use of radiation measurement applications. Typical recent projects have included development of nuclear-based methods to detect improvised explosive devices, characterization of novel neutron dosimeters, and development of methods for detection of cracks in metal structures.

6. Possible Ph.D. Research Topics

The research projects for the fellowship students will be focussed on enhancing nuclear safety, security and evaluating realistic safety envelopes. In conjunction, validation and verification studies of reactor safety analysis codes will be conducted by the PIs.

Passive safety design for High temperature reactors

This research will involve thermal-hydraulic experiments on loss of forced circulation and air ingress into high temperature nuclear grade graphite to simulate accident like situations in Very High Temperature Reactors (VHTR). High fidelity radiative heat transfer and high temperature flow measurement will be done using Infra red thermography for safety performance evaluation. Based on these experiments, new materials and coatings with high temperature oxidation resistance capabilities will be examined.

Detection of Improvised Explosive Devices

Work to-date has led to development of the signature-based radiation-scanning (SBRS) technique, which seeks to detect whether an explosive is present in a target. Detection of a component material is far simpler than trying to measure the entire contents of the target. The technology compares a set of "signatures" obtained from a test target to a collection of "templates," each of which is a set of signatures for a target of a similar type that contains an explosive in a specific configuration. Neutron interrogation of nitrogen-rich fertilizer samples, which serve as surrogates for explosives, is shown to be capable of discriminating explosive-like from inert samples under controlled conditions. This establishes experimental feasibility; further work to consider more complex configurations is required. The technique can be applied using various types of radiation and to detect other specific materials, such as illicit drugs.

Advanced Methods for Whole-Core Analysis

Ongoing, national-level work aims to develop a tool for 3-D, coupled multi-physics analyses of nuclear reactors. Although such work will help to validate next-generation tools, there exists a significant gap to be bridged between the methods currently used for production-level analyses and whole-core, fully-coupled models. To bridge this gap, advanced, nodal-transport methods based on the response matrix formalism will be developed for steady-state and transient analysis with thermal-hydraulic feedback. By using novel, model-reduction techniques, transport-level accuracy will be captured in pre-computed libraries similar in spirit to the few-group libraries used by modern, nodal-diffusion methods. Because the method is expected to require only modest computational resources, it represents a logical next step for the analysis, validation, and verification of next-generation nuclear reactors.

7. RECRUITMENT ACTIVITIES AND MARKETING STRATEGIES

The KSU Nuclear Engineering Research Fellowships Program will be announced immediately if accepted. The fellowship opportunities will be advertised on the MNE website, by sending advertisements to Nuclear, Chemical and Mechanical Engineering departments at other colleges and universities, and by distributing information flyers at ANS, AIChE and ASME meetings.

Prospective students will be asked to apply before a deadline. To be eligible for the fellowship, applicants need to meet the admission requirements for a Ph.D. study and have a minimum GPA of 3.25 overall and in the major field of study. As long as the fellowship holders maintain a GPA higher than 3.5 and make satisfactory progress in research by passing qualifying exams, they will be eligible to continue receiving this fellowship for a minimum of two years and up to four years. However, efforts will be made by their research advisors to obtain other sources of financial support, for the third and later years of their doctoral program so that as many new graduate students as possible would be supported by the Nuclear Research Fellowship Program over the four year grant period.

8. MANAGEMENT STRUCTURE

The Nuclear Research Fellowship Program will be administered by an Administration Committee consisting of Nuclear Engineering faculty and headed by Dr. Dunn (PI). The Committee will be fully responsible for reviewing fellowship applications, selecting Fellows, advising Fellows, and evaluating the effectiveness of the Fellowship Program. The Committee will regularly monitor the progress of the Fellows by examining their course work and research. Fellows will be required to present their research to the Committee at least once per year. The Committee will in turn provide Fellows with constructive advice on their research. Fellows will also be encouraged to approach Committee members for guidance related to their studies and research as needed.

9. EVALUATION OF PROGRAM EFFECTIVENESS AND SUCCESS

The effectiveness and success of the Nuclear Research Fellowship Program at KSU will be evaluated using the following criteria.

Number and quality of Fellowship applicants and the level of interest in conducting nuclear engineering research. If more than four, high-calibre students with GPA > 3.5 who are passionate about entering and conducting research in the nuclear field apply to this Fellowship, the Fellowship program will be deemed successful in attracting the student interest.

Number and quality of Fellows completing their doctoral degree programs.

This Fellowship program will be considered successful if at least three Ph.D. students successfully complete their doctoral programs.

Number of publications and conference presentations arising from the research conducted by the Fellows. Each Fellow will be expected to write at least one paper every two years and have it published in well-known journals.

Success in providing additional research experience in national laboratories and obtaining jobs in nuclear industry, government agencies or academia. If at least four Fellows spend one summer at a national laboratory during their doctoral study, the Fellowship program will be deemed successful in providing additional research experience. If at least four Fellows find permanent jobs in the nuclear industry (including laboratories and agencies), the Fellowship Program will be deemed successful in providing job opportunities.

10. INSTITUTIONAL SUPPORT

The MNE Department has recently hired two new faculty members, Dr. Jeremy A. Roberts and Dr. Hitesh Bindra. Each member has been provided start-up funding from State of Kansas to establish research programs and to provide initial graduate student support. A new computer laboratory has been set up to run nuclear reactor simulation software, and new experiments in thermal-hydraulics are being developed for the students enrolled in the Nuclear Engineering Program.

Attachment C – Standard Terms and Conditions

The Nuclear Regulatory Commission's Standard Terms and Conditions for U.S. Nongovernmental Grantees

Preface

This award is based on the application submitted to, and as approved by, the Nuclear Regulatory Commission (NRC) under the authorization 42 USC 2051(b) pursuant to section 31b and 141b of the Atomic Energy Act of 1954, as amended, and is subject to the terms and conditions incorporated either directly or by reference in the following:

- Grant program legislation and program regulation cited in this Notice of Grant Award.
- Restrictions on the expenditure of Federal funds in appropriation acts, to the extent those restrictions are pertinent to the award.
- Code of Federal Regulations/Regulatory Requirements - 2 CFR 215 Uniform Administrative Requirements For Grants And Agreements With Institutions Of

Higher Education, Hospitals, And Other Non-Profit Organizations (OMB Circulars), as applicable.

To assist with finding additional guidance for selected items of cost as required in 2 CFR 220, 2 CFR 225, and 2 CFR 230 this URL to the Office of Management and Budget Cost Circulars is included for reference to:

A-21 (now 2 CFR 220)
 A-87 (now 2 CFR 225)
 A-122 (now 2 CFR 230)
 A-102:

http://www.whitehouse.gov/omb/circulars_index-ffm

Any inconsistency or conflict in terms and conditions specified in the award will be resolved according to the following order of precedence: public laws, regulations, applicable notices published in the Federal Register, Executive Orders (EOs), Office of Management and Budget (OMB) Circulars, the Nuclear Regulatory Commission's (NRC) Mandatory Standard Provisions, special award conditions, and standard award conditions.

Certifications and Representations: These terms incorporate the certifications and representations required by statute, executive order, or regulation that were submitted with the SF424B application through Grants.gov.

I. Mandatory General Requirements

The order of these requirements does not make one requirement more important than any other requirement.

1. Applicability of 2 CFR Part 215

a. All provisions of 2 CFR Part 215 and all Standard Provisions attached to this grant/cooperative agreement are applicable to the Grantee and to sub-recipients which meet the definition of "Grantee" in Part 215, unless a section specifically excludes a sub-recipient from coverage. The Grantee and any sub-recipients must, in addition to the assurances made as part of the application, comply and require each of its sub-awardees employed in the completion of the project to comply with Subpart C of 2 CFR 215 and include this term in lower-tier (subaward) covered transactions.

b. Grantees must comply with monitoring procedures and audit requirements in accordance with OMB Circular A-133.

<<http://www.whitehouse.gov/omb/circulars/a133/a133.html>

http://www.whitehouse.gov/omb/circulars/a133_compliance/08/08toc.aspx >

2. Award Package

§ 215.41 Grantee responsibilities.

The Grantee is obligated to conduct such project oversight as may be appropriate, to manage the funds with prudence, and to comply with the provisions outlined in 2 CFR 215.41. Within this framework, the Principal Investigator (PI) named on the award face page, Block 11, is responsible for the scientific or technical direction of the project and for preparation of the project performance reports. This award is funded on a cost reimbursement basis not to exceed the amount awarded as indicated on the face page, Block 16 and is subject to a refund of unexpended funds to NRC.

The standards contained in this section do not relieve the Grantee of the contractual responsibilities arising under its contract(s). The Grantee is the responsible authority, without recourse to the NRC, regarding the settlement and satisfaction of all contractual and administrative issues arising out of procurements entered into in support of an award or other agreement. This includes disputes, claims, protests of award, source evaluation or other matters of a contractual nature. Matters concerning violation of statute are to be referred to such Federal, State or local authority as may have proper jurisdiction.

Subgrants

Appendix A to Part 215—Contract Provisions

Sub-recipients, sub-awardees, and contractors have no relationship with NRC under the terms of this grant/cooperative agreement. All required NRC approvals must be directed through the Grantee to NRC. See 2 CFR 215 and 215.41.

Nondiscrimination

This provision is applicable when work under the grant/cooperative agreement is performed in the U.S. or when employees are recruited in the U.S.

The Grantee agrees to comply with the non-discrimination requirements below:

- Title VI of the Civil Rights Act of 1964 (42 USC §§ 2000d et seq)
- Title IX of the Education Amendments of 1972 (20 USC §§ 1681 et seq)
- Section 504 of the Rehabilitation Act of 1973, as amended (29 USC § 794)
- The Age Discrimination Act of 1975, as amended (42 USC §§ 6101 et seq)
- The Americans with Disabilities Act of 1990 (42 USC §§ 12101 et seq)
- Parts II and III of EO 11246 as amended by EO 11375 and 12086.
- EO 13166, "Improving Access to Services for Persons with Limited English Proficiency."
- Any other applicable non-discrimination law(s).

Generally, Title VI of the Civil Rights Act of 1964, 42 USC § 2000e et seq, provides that it shall be an unlawful employment practice for an employer to discharge any individual or otherwise to discriminate against an individual with respect to compensation, terms, conditions, or privileges of employment because of such individual's race, color, religion, sex, or national origin. However, Title VI, 42 USC § 2000e-1(a), expressly exempts from the prohibition against discrimination on the basis of religion, a religious corporation, association, educational institution, or society with respect to the employment of individuals of a particular religion to perform work connected with the carrying on by such corporation, association, educational institution, or society of its activities.

Modifications/Prior Approval

NRC's prior written approval may be required before a Grantee makes certain budget modifications or undertakes particular activities. If NRC approval is required for changes in the grant or cooperative agreement, it must be requested of, and obtained from, the NRC Grants Officer in advance of the change or obligation of funds. All requests for NRC prior approval should be made, in writing (which includes submission by e-mail), to the designated Grants Specialist and Program Office no later than 30 days before the proposed change. The request must be signed by both the PI and the authorized organizational official. Failure to obtain prior approval, when required, from the NRC

Grants Officer may result in the disallowance of costs, or other enforcement action within NRC's authority.

Lobbying Restrictions

The Grantee will comply, as applicable, with provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

The Grantee shall comply with provisions of 31 USC § 1352. This provision generally prohibits the use of Federal funds for lobbying in the Executive or Legislative Branches of the Federal Government in connection with the award, and requires disclosure of the use of non-Federal funds for lobbying.

The Grantee receiving in excess of \$100,000 in Federal funding shall submit a completed Standard Form (SF) LLL, "Disclosure of Lobbying Activities," regarding the use of non-Federal funds for lobbying within 30 days following the end of the calendar quarter in which there occurs any event that requires disclosure or that materially affects the accuracy of the information contained in any disclosure form previously filed. The Grantee must submit the SF-LLL, including those received from sub-recipients, contractors, and subcontractors, to the Grants Officer.

§ 215.13 Debarment And Suspension.

The Grantee agrees to notify the Grants Officer immediately upon learning that it or any of its principals:

- (1) Are presently excluded or disqualified from covered transactions by any Federal department or agency;
- (2) Have been convicted within the preceding three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, receiving stolen property, making false claims, or obstruction of justice; commission of any other offense indicating a lack of business integrity or business honesty that seriously and directly affects your present responsibility;
- (3) Are presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (1)(b); and
- (4) Have had one or more public transactions (Federal, State, or local) terminated for cause or default within the preceding three years.

b. The Grantee agrees that, unless authorized by the Grants Officer, it will not knowingly enter into any subgrant or contracts under this grant/cooperative agreement with a person or entity that is included on the Excluded Parties List System (<http://epls.arnet.gov>).

The Grantee further agrees to include the following provision in any subgrant or contracts entered into under this award:

'Debarment, Suspension, Ineligibility, and Voluntary Exclusion

The Grantee certifies that neither it nor its principals is presently excluded or disqualified from participation in this transaction by any Federal department or agency. The policies and procedures applicable to debarment, suspension, and ineligibility under NRC-financed transactions are set forth in 2 CFR Part 180.'

Drug-Free Workplace

The Grantee must be in compliance with The Federal Drug Free Workplace Act of 1988. The policies and procedures applicable to violations of these requirements are set forth in 41 USC 702.

Implementation of E.O. 13224 -- Executive Order On Terrorist Financing

The Grantee is reminded that U.S. Executive Orders and U.S. law prohibits transactions with, and the provision of resources and support to, individuals and organizations associated with terrorism. It is the legal responsibility of the Grantee to ensure compliance with these Executive Orders and laws. This provision must be included in all contracts/sub-awards issued under this grant/cooperative agreement.

Award Grantees must comply with Executive Order 13224, Blocking Property and Prohibiting Transactions with Persons who Commit, Threaten to Commit, or Support Terrorism. Information about this Executive Order can be found at: www.fas.org/irp/offdocs/eo/eo-13224.htm.

Procurement Standards. § 215.40-48

Sections 215.41 through 215.48 set forth standards for use by Grantees in establishing procedures for the procurement of supplies and other expendable property, equipment, real property and other services with Federal funds. These standards are furnished to ensure that such materials and services are obtained in an effective manner and in compliance with the provisions of applicable Federal statutes and executive orders. No additional procurement standards or requirements shall be imposed by the Federal awarding agencies upon Grantees, unless specifically required by Federal statute or executive order or approved by OMB.

Travel

Travel must be in accordance with the Grantee's Travel Regulations or the US Government Travel Policy and Regulations at: www.gsa.gov/federaltravelregulation and the per diem rates set forth at: www.gsa.gov/perdiem, absent Grantee's travel regulation. Travel costs for the grant must be consistent with provisions as established in Appendix A to 2 CFR 220 (J.53). All other travel, domestic or international, must not increase the total estimated award amount.

Domestic Travel:

Domestic travel is an appropriate charge to this award and prior authorization for specific trips are not required, if the trip is identified in the Grantee's approved program description and approved budget. Domestic trips not stated in the approved budget require the written prior approval of the Grants Officer, and must not increase the total estimated award amount.

All common carrier travel reimbursable hereunder shall be via the least expensive class rates consistent with achieving the objective of the travel and in accordance with the

Grantee's policies and practices. Travel by first-class travel is not authorized unless prior approval is obtained from the Grants Officer.

International Travel:

International travel requires PRIOR written approval by the Project Officer and the Grants Officer, even if the international travel is stated in the approved program description and the approved budget.

The Grantee shall comply with the provisions of the Fly American Act (49 USC 40118) as implemented through 41 CFR 301-10.131 through 301-10.143.

Property and Equipment Management Standards

Property and equipment standards of this award shall follow provisions as established in 2 CFR 215.30-37.

Procurement Standards

Procurement standards of this award shall follow provisions as established in 2 CFR 215.40-48

Intangible and Intellectual Property

Intangible and intellectual property of this award shall generally follow provisions established in 2 CFR 215.36.

Inventions Report

The Bayh-Dole Act (P.L. 96-517) affords Grantees the right to elect and retain title to inventions they develop with funding under an NRC grant award ("subject inventions").

In accepting an award, the Grantee agrees to comply with applicable NRC policies, the Bayh-Dole Act, and its Government-wide implementing regulations found at Title 37, Code of Federal Regulations (CFR) Part 401. A significant part of the regulations require that the Grantee report all subject inventions to the awarding agency (NRC) as well as include an acknowledgement of federal support in any patents. NRC participates in the trans-government Interagency Edison system (<http://www.iedison.gov>) and expects NRC funding Grantees to use this system to comply with Bayh-Dole and related intellectual property reporting requirements. The system allows for Grantees to submit reports electronically via the Internet. In addition, the invention must be reported in continuation applications (competing or non-competing).

Patent Notification Procedures

Pursuant to EO 12889, NRC is required to notify the owner of any valid patent covering technology whenever the NRC or its financial assistance Grantees, without making a patent search, knows (or has demonstrable reasonable grounds to know) that technology covered by a valid United States patent has been or will be used without a license from the owner. To ensure proper notification, if the Grantee uses or has used patented technology under this award without license or permission from the owner, the Grantee must notify the Grants Officer. This notice does not necessarily mean that the Government authorizes and consents to any copyright or patent infringement occurring under the financial assistance.

Data, Databases, and Software

The rights to any work produced or purchased under a NRC federal financial assistance award are determined by 2 CFR 215.36. Such works may include data, databases or software. The Grantee owns any work produced or purchased under a NRC federal

financial assistance award subject to NRC's right to obtain, reproduce, publish or otherwise use the work or authorize others to receive, reproduce, publish or otherwise use the data for Government purposes.

Copyright

The Grantee may copyright any work produced under a NRC federal financial assistance award subject to NRC's royalty-free nonexclusive and irrevocable right to reproduce, publish or otherwise use the work or authorize others to do so for Government purposes. Works jointly authored by NRC and Grantee employees may be copyrighted but only the part authored by the Grantee is protected because, under 17 USC § 105, works produced by Government employees are not copyrightable in the United States. On occasion, NRC may ask the Grantee to transfer to NRC its copyright in a particular work when NRC is undertaking the primary dissemination of the work. Ownership of copyright by the Government through assignment is permitted under 17 USC § 105.

Records Retention and Access Requirements

For records of the Grantee shall follow established provisions in 2 CFR 215.53.

Organizational Prior Approval System

In order to carry out its responsibilities for monitoring project performance and for adhering to award terms and conditions, each Grantee organization shall have a system to ensure that appropriate authorized officials provide necessary organizational reviews and approvals in advance of any action that would result in either the performance or modification of an NRC supported activity where prior approvals are required, including the obligation or expenditure of funds where the governing cost principles either prescribe conditions or require approvals.

The Grantee shall designate an appropriate official or officials to review and approve the actions requiring NRC prior approval. Preferably, the authorized official(s) should be the same

official(s) who sign(s) or countersign(s) those types of requests that require prior approval by NRC. The authorized organization official(s) shall not be the principal investigator or any official having direct responsibility for the actual conduct of the project, or a subordinate of such individual.

Conflict Of Interest Standards

For this award shall follow OCOI requirements set forth in Section 170A of the Atomic Energy Act of 1954, as amended, and provisions set forth at 2 CFR 215.42 Codes of Conduct.

Dispute Review Procedures

- a. Any request for review of a notice of termination or other adverse decision should be addressed to the Grants Officer. It must be postmarked or transmitted electronically no later than 30 days after the postmarked date of such termination or adverse decision from the Grants Officer.
- b. The request for review must contain a full statement of the Grantee's position and the pertinent facts and reasons in support of such position.
- c. The Grants Officer will promptly acknowledge receipt of the request for review and shall forward it to the Director, Office of Administration, who shall appoint an intra-agency Appeal Board to review a grantee appeal of an agency action, if required, which

will consist of the program office director, the Deputy Director of Office of Administration, and the Office of General Counsel.

d. Pending resolution of the request for review, the NRC may withhold or defer payments under the award during the review proceedings.

e. The review committee will request the Grants Officer who issued the notice of termination or adverse action to provide copies of all relevant background materials and documents. The committee may, at its discretion, invite representatives of the Grantee and the NRC program office to discuss pertinent issues and to submit such additional information as it deems appropriate. The chairman of the review committee will insure that all review activities or proceedings are adequately documented.

f. Based on its review, the committee will prepare its recommendation to the Director, Office of Administration, who will advise the parties concerned of his/her decision.

Termination and Enforcement

Termination of this award by default or by mutual consent shall follow provisions as established in 2 CFR 215.60-62.

Monitoring and Reporting § 215.50-53

a. Grantee Financial Management systems must comply with the established provisions in 2 CFR 215.21

- Payment – 2 CFR 215.22
- Cost Share – 2 CFR 215.23
- Program Income – 2 CFR 215.24
 - Earned program income, if any, shall be added to funds committed to the project by the NRC and Grantee and used to further eligible project or program objectives or deducted from the total project cost allowable cost as directed by the Grants Officer or the terms and conditions of award.
- Budget Revision – 2 CFR 215.25
 - The Grantee is required to report deviations from the approved budget and program descriptions in accordance with 2 CFR 215.25 and request prior written approval from the Program Officer and the Grants Officer.
 - The Grantee is not authorized to rebudget between direct costs and indirect costs without written approval of the Grants Officer.
 - The Grantee is authorized to transfer funds among direct cost categories up to a cumulative 10 percent of the total approved budget. The Grantee is not allowed to transfer funds if the transfer would cause any Federal appropriation to be used for purposes other than those consistent with the original intent of the appropriation.
 - Allowable Costs – 2 CFR 215.27

b. Federal Financial Reports

The Grantee shall submit a "Federal Financial Report" (SF-425) on a semi-annual basis for the periods ending March 31 and September 30, or any portion thereof, unless otherwise specified in a special award condition. Reports are due no later than 30 days following the end of each reporting period. A final SF-425 is due within 90 days after expiration of the award. The report should be submitted electronically

to: Grants FFR@NRC.GOV. (**NOTE: There is an underscore between Grants and FFR.**)

Period of Availability of Funds 2 CFR § 215.28

a. Where a funding period is specified, a Grantee may charge to the grant only allowable costs resulting from obligations incurred during the funding period and any pre-award costs authorized by the NRC.

b. Unless otherwise authorized in 2 CFR 215.25(e)(2) or a special award condition, any extension of the award period can only be authorized by the Grants Officer in writing. Verbal or written assurances of funding from other than the Grants Officer shall not constitute authority to obligate funds for programmatic activities beyond the expiration date.

c. The NRC has no obligation to provide any additional prospective or incremental funding. Any modification of the award to increase funding and to extend the period of performance is at the sole discretion of the NRC.

d. Requests for extensions to the period of performance should be sent to the Grants Officer at least 30 days prior to the grant/cooperative agreement expiration date. Any request for extension after the expiration date may not be honored.

Automated Standard Application For Payments (ASAP) Procedures

Unless otherwise provided for in the award document, payments under this award will be made using the Department of Treasury's Automated Standard Application for Payment (ASAP) system < <http://www.fms.treas.gov/asap/> >. Under the ASAP system, payments are made through preauthorized electronic funds transfers, in accordance with the requirements of the Debt Collection Improvement Act of 1996. In order to receive payments under ASAP, Grantees are required to enroll with the Department of Treasury, Financial Management Service, and Regional Financial Centers, which allows them to use the on-line method of withdrawing funds from their ASAP established accounts. The following information will be required to make withdrawals under ASAP: (1) ASAP account number – the award number found on the cover sheet of the award; (2) Agency Location Code (ALC) – 31000001; and Region Code. Grantees enrolled in the ASAP system do not need to submit a "Request for Advance or Reimbursement" (SF-270), for payments relating to their award.

Audit Requirements

Organization-wide or program-specific audits shall be performed in accordance with the Single Audit Act Amendments of 1996, as implemented by OMB Circular A-133, "Audits of States, Local Governments, and Non-Profit Organizations." <http://www.whitehouse.gov/omb/circulars/a133/a133.html> Grantees are subject to the provisions of OMB Circular A-133 if they expend \$500,000 or more in a year in Federal awards.

The Form SF-SAC and the Single Audit Reporting packages for fiscal periods ending on or after January 1, 2008 must be submitted online.

1. Create your online report ID at <http://harvester.census.gov/fac/collect/ddeindex.html>
2. Complete the Form SF-SAC
3. Upload the Single Audit
4. Certify the Submission

5. Click "Submit."

Organizations expending less than \$500,000 a year are not required to have an annual audit for that year but must make their grant-related records available to NRC or other designated officials for review or audit.

III. Programmatic Requirements

Performance (Technical) Reports

a. The Grantee shall submit performance (technical) reports electronically to the NRC Project Officer and Grants Officer on a semi-annual basis unless otherwise authorized by the Grants Officer. Performance reports should be sent to the Program Officer at the email address indicated in Block 12 of the Notice of Award, and to Grants Officer at: Grants_PPR.Resource@NRC.GOV. **(NOTE: There is an underscore between Grants and PPR).**

b. Unless otherwise specified in the award provisions, performance (technical) reports shall contain brief information as prescribed in the applicable uniform administrative requirements 2 CFR§215.51 which are incorporated in the award.

c. The Office of Chief Human Capital Officer (OCHCO) requires the submission of the semi-annual progress report on the SF-PPR, SF-PPR-B, and the SF-PPR-E forms. The submission for the six month period ending March 31st is due by April 30th or any portion thereof. The submission for the six month period ending September 30th is due by October 31st or any portion thereof.

d. Grant Performance Metrics:

The Office of Management and Budget requires all Federal Agencies providing funding for educational scholarships and fellowships as well as other educational related funding to report on specific metrics. These metrics are part of the Academic Competitiveness Council's (ACC) 2007 report and specifically relates to Science, Technology, Engineering, and Mathematics (STEM) curricula.

As part of the OCHCO grant awards, in addition to the customary performance progress report requested on the SF-PPR, SF-PPR-B, and SF-PPR-E forms, HR requires the following metrics to be reported on by the awardees as follows:

Fellowship Awards

1. How many graduate students have been sponsored by NRC funding?
 - a. Response is the number of students, for this reporting period and cumulative to the grant.
2. How many students, supported by NRC funding, have received M.S. or equivalent degrees?
 - a. Response is the number of students, for this reporting period and cumulative to the grant.
3. How many students, supported by NRC funding, have received Ph.D. or equivalent degrees?

- a. Response is the number of students, for this reporting period and cumulative to the grant.
4. How many students, supported by NRC funding, have accepted a job and are employed in the nuclear industry?
 - a. Response is the number of students, for this reporting period and cumulative to the grant.
5. How many items have students produced, for example, Professional Journal articles, publications, patents, or conference reports?
 - a. Response is the type and number of items, for this reporting period and cumulative to the grant.

Unsatisfactory Performance

Failure to perform the work in accordance with the terms of the award and maintain at least a satisfactory performance rating or equivalent evaluation may result in designation of the Grantee as high risk and assignment of special award conditions or other further action as specified in the standard term and condition entitled "Termination."

Failure to comply with any or all of the provisions of the award may have a negative impact on future funding by NRC and may be considered grounds for any or all of the following actions: establishment of an accounts receivable, withholding of payments under any NRC award, changing the method of payment from advance to reimbursement only, or the imposition of other special award conditions, suspension of any NRC active awards, and termination of any NRC award.

Other Federal Awards With Similar Programmatic Activities

The Grantee shall immediately provide written notification to the NRC Project Officer and the Grants Officer in the event that, subsequent to receipt of the NRC award, other financial assistance is received to support or fund any portion of the program description incorporated into the NRC award. NRC will not pay for costs that are funded by other sources.

Prohibition Against Assignment By The Grantee

The Grantee shall not transfer, pledge, mortgage, or otherwise assign the award, or any interest therein, or any claim arising there under, to any party or parties, banks, trust companies, or other financing or financial institutions without the express written approval of the Grants Officer.

Site Visits

The NRC, through authorized representatives, has the right, at all reasonable times, to make site visits to review project accomplishments and management control systems and to provide such technical assistance as may be required. If any site visit is made by the NRC on the premises of the Grantee or contractor under an award, the Grantee shall provide and shall require his/her contractors to provide all reasonable facilities and assistance for the safety and convenience of the Government representative in the performance of their duties. All site visits and evaluations shall be performed in such a manner as will not unduly delay the work.

IV. Miscellaneous Requirements

Criminal and Prohibited Activities

- a. The Program Fraud Civil Remedies Act (31 USC §§ 3801-3812), provides for the imposition of civil penalties against persons who make false, fictitious, or fraudulent claims to the Federal government for money (including money representing grant/cooperative agreements, loans, or other benefits.)
- b. False statements (18 USC § 287), provides that whoever makes or presents any false, fictitious, or fraudulent statements, representations, or claims against the United States shall be subject to imprisonment of not more than five years and shall be subject to a fine in the amount provided by 18 USC § 287.
- c. False Claims Act (31 USC 3729 et seq), provides that suits under this Act can be brought by the government, or a person on behalf of the government, for false claims under federal assistance programs.
- d. Copeland "Anti-Kickback" Act (18 USC § 874), prohibits a person or organization engaged in a federally supported project from enticing an employee working on the project from giving up a part of his compensation under an employment contract.

American-Made Equipment And Products

Grantees are hereby notified that they are encouraged, to the greatest extent practicable, to purchase American-made equipment and products with funding provided under this award.

Increasing Seat Belt Use in the United States

Pursuant to EO 13043, Grantees should encourage employees and contractors to enforce on-the-job seat belt policies and programs when operating company-owned, rented or personally-owned vehicle.

Federal Leadership of Reducing Text Messaging While Driving

Pursuant to EO 13513, Grantees should encourage employees, sub-awardees, and contractors to adopt and enforce policies that ban text messaging while driving company-owned, rented vehicles or privately owned vehicles when on official Government business or when performing any work for or on behalf of the Federal Government.

Federal Employee Expenses

Federal agencies are generally barred from accepting funds from a Grantee to pay transportation, travel, or other expenses for any Federal employee unless specifically approved in the terms of the award. Use of award funds (Federal or non-Federal) or the Grantee's provision of in-kind goods or services, for the purposes of transportation, travel, or any other expenses for any Federal employee may raise appropriation augmentation issues. In addition, NRC policy prohibits the acceptance of gifts, including travel payments for Federal employees, from Grantees or applicants regardless of the source.

Minority Serving Institutions (MSIs) Initiative

Pursuant to EOs 13256, 13230, and 13270, NRC is strongly committed to broadening the participation of MSIs in its financial assistance program. NRC's goals include achieving full participation of MSIs in order to advance the development of human

potential, strengthen the Nation's capacity to provide high-quality education, and increase opportunities for MSIs to participate in and benefit from Federal financial assistance programs. NRC encourages all applicants and Grantees to include meaningful participations of MSIs. Institutions eligible to be considered MSIs are listed on the Department of Education website: <http://www.ed.gov/about/offices/list/ocr/edlite-minorityinst.html>

Research Misconduct

Scientific or research misconduct refers to the fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results. It does not include honest errors or differences of opinions. The Grantee organization has the primary responsibility to investigate allegations and provide reports to the Federal Government. Funds expended on an activity that is determined to be invalid or unreliable because of scientific misconduct may result in a disallowance of costs for which the institution may be liable for repayment to the awarding agency. The Office of Science and Technology Policy at the White House published in the Federal Register on December 6, 2000, a final policy that addressed research misconduct. The policy was developed by the National Science and Technology Council (65 FR 76260). The NRC requires that any allegation be submitted to the Grants Officer, who will also notify the OIG of such allegation. Generally, the Grantee organization shall investigate the allegation and submit its findings to the Grants Officer. The NRC may accept the Grantee's findings or proceed with its own investigation. The Grants Officer shall inform the Grantee of the NRC's final determination.

Publications, Videos, and Acknowledgment of Sponsorship

Publication of the results or findings of a research project in appropriate professional journals and production of video or other media is encouraged as an important method of recording and reporting scientific information. It is also a constructive means to expand access to federally funded research. The Grantee is required to submit a copy to the NRC and when releasing information related to a funded project include a statement that the project or effort undertaken was or is sponsored by the NRC. The Grantee is also responsible for assuring that every publication of material (including Internet sites and videos) based on or developed under an award, except scientific articles or papers appearing in scientific, technical or professional journals, contains the following disclaimer:

"This [report/video] was prepared by [Grantee name] under award [number] from [name of operating unit], Nuclear Regulatory Commission. The statements, findings, conclusions, and recommendations are those of the author(s) and do not necessarily reflect the view of the [name of operating unit] or the US Nuclear Regulatory Commission."

Trafficking In Victims Protection Act Of 2000 (as amended by the Trafficking Victims Protection Reauthorization Act of 2003)

Section 106(g) of the Trafficking In Victims Protection Act Of 2000 (as amended, directs on a government-wide basis that:

"any grant, contract, or cooperative agreement provided or entered into by a Federal department or agency under which funds are to be provided to a private entity, in whole or in part, shall include a condition that authorizes the department or agency to terminate the grant, contract, or cooperative agreement, without penalty, if the grantee or any

subgrantee, or the contractor or any subcontractor (i) engages in severe forms of trafficking in persons or has procured a commercial sex act during the period of time that the grant, contract, or cooperative agreement is in effect, or (ii) uses forced labor in the performance of the grant, contract, or cooperative agreement.” (22 U.S.C. § 7104(g)).

Award Term

2 CFR 170.220 directs agencies to include the following text to each grant award to a non-federal entity if the total funding is \$25,000 or more in Federal funding.

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.fsrs.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. A 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.