



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

August 1, 2014

Mr. Robert Bean, Ph.D
Purdue University
155 South Grant Street
West Lafayette, Indiana 47907-2114

VIA Electronic Mail:
bean@purdue.edu

SUBJECT: GRANT NO: NRC-HQ-84-14-G-0048

Dear Mr. Bean:

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 Purdue University (hereinafter referred to as the "Grantee" or "Recipient"), the sum of \$430,000 to provide support for "U.S. Nuclear Regulatory Commission Nuclear Education Program Faculty Development Grant Program at Purdue University".

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, 2017.

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 \$150,000.00 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 Mr. Daniel App by email at Daniel.App@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 - ADM006

SUNSI REVIEW COMPLETE

AUG 01 2014

ADM002

ACKNOWLEDGED:
Purdue 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-0048		2. SUPPLEMENT NUMBER		3. EFFECTIVE DATE 08/01/2014		4. COMPLETION DATE	
5. ISSUED TO NAME/ADDRESS OF RECIPIENT (No., Street, City/County, State, Zip) PURDUE UNIVERSITY 401 SOUTH GRANT ST WEST LAFAYETTE IN 479072024				6. ISSUED BY U.S. NRC - HQ Mailing Address: Acquisition Management Division Mail Stop: 3WFN-05-C64MP Washington DC 20555-0001			
7. TAXPAYER IDENTIFICATION NO. (TIN)		9. PRINCIPAL INVESTIGATOR/ORGANIZATION'S PROJECT OR PROGRAM MGR. (Name & Phone) Robert Bean, Ph.D. Email: bean@purdue.edu Phone: 765-496-3573					
8. COMMERCIAL & GOVERNMENT ENTITY (CAGE) NO.							
10. RESEARCH, PROJECT OR PROGRAM TITLE U.S. Nuclear Regulatory Commission Nuclear Education Program Faculty Development Grant Program Purdue University							
11. PURPOSE See Schedule							
12. PERIOD OF PERFORMANCE (Approximately) 08/01/2014 through 07/31/2017							
13A. AWARD HISTORY		13B. FUNDING HISTORY					
PREVIOUS	\$0.00	PREVIOUS	\$0.00				
THIS ACTION	\$430,000.00	THIS ACTION	\$430,000.00				
CASH SHARE	\$0.00	TOTAL	\$430,000.00				
NON-CASH SHARE	\$0.00						
RECIPIENT SHARE	\$150,000.00						
TOTAL	\$430,000.00						
14. ACCOUNTING AND APPROPRIATION DATA 2014-X0200-IUPNSE-84-84D002-51-K-164-T8459-4110							
PURCHASE REQUEST NO.		JOB ORDER NO.		AMOUNT		STATUS	
OCHCO-14-0206							
15. POINTS OF CONTACT							
	NAME	MAIL STOP	TELEPHONE	E-MAIL ADDRESS			
TECHNICAL OFFICER	NANCY V. HEBRON-ISREAL		301-287-0708	Nancy.Hebron-Isreal@nrc.gov			
NEGOTIATOR							
ADMINISTRATOR	DANIEL APP		301-287-0939	Daniel.App@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			
UNITED STATES OF AMERICA				COOPERATIVE AGREEMENT RECIPIENT			
CONTRACTING/GRANT OFFICER ERIKA EAM <i>Erika Eam</i>		DATE 07/24/2014		AUTHORIZED REPRESENTATIVE <i>Kenneth W. Suter</i>		DATE JUL 28 2014	

Kenneth W. Suter
Contract Analyst

14098878

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)
	<p>CFDA Number: Not Available</p> <p>Payment will be made through the Automated Standard Application for Payment (ASAP.gov) unless the recipient has failed to comply with the program objectives, award conditions, Federal reporting requirements or other conditions specified in 2 CFR 215 (OMB Circular A110).</p> <p>Delivery: 08/01/2014</p> <p>Delivery Location Code: NRCHQ</p> <p>US NUCLEAR REGULATORY COMMISSION- MAIL PROCESSING CENTER 4930 BOILING BROOK PARKWAY ROCKVILLE MD 20852 USA</p> <p>Payment: ASAP GRANT FUNDS REIMBURSEMENT SYS US TREASURY</p> <p>Period of Performance: 08/01/2014 to 07/31/2017</p>				

ATTACHMENT A - SCHEDULE**A.1 PURPOSE OF GRANT**

The purpose of this Grant is to provide support to the "U.S. Nuclear Regulatory Commission Nuclear Education Program Faculty Development Grant Program at Purdue University" 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, 2017.
2. Funds obligated hereunder are available for program expenditures for the estimated period: August 1, 2014 – July 31, 2017.

A. GENERAL

- | | |
|--------------------------------|--|
| 1. Total Estimated NRC Amount: | \$430,000.00 |
| 2. Total Obligated Amount: | \$430,000.00 |
| 3. Cost-Sharing Amount: | \$150,000.00 |
| 4. Activity Title: | U.S. Nuclear Regulatory Commission
Nuclear Education Program Faculty
Development Grant Program at Purdue
University |
| 5. NRC Project Officer: | Nancy Hebron-Isreal |
| 6. DUNS No.: | 072051394 |

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
Personnel	\$ 51,532.00	\$ 52,785.00	\$ 50,872.00
Fringe	\$ 9,581.00	\$ 9,835.00	\$ 9,209.00
Travel	\$ 5,000.00	\$ 2,500.00	\$ 6,000.00
Equipment	\$ 28,090.00	\$ 27,500.00	\$ 26,897.00
Supplies	\$ 500.00	\$ 1,775.00	\$ 1,100.00
Other Direct Costs	<u>\$ 11,993.00</u>	<u>\$ 12,146.00</u>	<u>\$ 12,306.00</u>
Total Direct Cost	\$ 106,696.00	\$ 106,541.00	\$ 106,384.00
Indirect Cost	<u>\$ 36,637.00</u>	<u>\$ 36,792.00</u>	<u>\$ 36,950.00</u>
Total	\$ 143,333.00	\$ 143,333.00	\$ 143,334.00

All travel must be in accordance with Purdue 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 \$580,000.00 for the three year period, inclusive of cost sharing.
2. NRC hereby obligates the amount of \$430,000.00 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

Project Title: U.S. Nuclear Regulatory Commission Nuclear Education Program Faculty Development Grant Program at Purdue University

1. Nuclear Faculty Development at Purdue University

The proposed program is designed to help junior faculty members develop the skills required for success in an academic career and to provide support for activities that will enhance faculty members' capability in research, teaching, and engagement so to prepare them for career advancement as a tenured faculty member. This proposed program's strength is that it is structured to integrate the faculty members into the Schools of Nuclear Engineering and Health Sciences at Purdue University such that that their interactive career paths, supported by this fund, will allow them to develop collaborative education and research programs and contribute to the education of nuclear professionals for many years to come.

To earn tenure, junior faculty members are required to establish themselves as independent researchers in their chosen research fields. They must write successful research proposals, conduct research, publish the results of their work in reputable journals, mentor and graduate masters and doctoral students, teach undergraduate and graduate level courses, participate in professional conferences, and serve on department, college, university, and national or international committees. They will also be expected to lead or participate in outreach activities designed to attract students to the nuclear field. In short, over a period of six years, they will be expected to build a national reputation in their area of expertise while serving as effective teachers and mentors of the next generation of professionals specialized in nuclear engineering and safety.

The proposed Nuclear Faculty Development program at Purdue University has several characteristics:

- A. The funding will be used to help the junior faculty to purchase equipment and conduct initial research to provide preliminary results to strengthen their proposals for external funding by allowing the faculty members to purchase equipment that extends the capabilities of their laboratories.
- B. The funding will be used to support travel to professional conferences, to visit funding agencies, to meet with current or potential collaborators at national laboratories, universities, or other research organizations, and to recruit graduate students.

- C. Mentoring will be provided by the Heads of both Schools and other senior nuclear engineering and health sciences faculty members to include:
- preparing a long-term plan for building a resume that will lead to tenure
 - reviewing the plan annually, at least, and revising it as necessary
 - helping identify appropriate journals for publication
 - reviewing and commenting on articles prepared for publication
 - introducing the junior faculty members to colleagues at national meetings or at agencies that have potential sources of funding
 - reviewing and commenting on proposals the junior faculty members prepare
 - helping the junior faculty members build a collegial relationship with other faculty members within both Schools
 - helping the junior faculty member identify potential collaborators within Purdue and at other universities or national laboratories.
- D. New faculty will have access to talented graduate students, including those who are awarded fellowships either from the university, government agencies, or nationally recognized foundations.
- E. The program will limit teaching responsibilities for the first two years of the faculty appointment.
- F. Opportunities will be provided to develop new courses in their areas of expertise so the junior faculty members can prepare students to effectively contribute to the faculty members' research programs.
- G. Nomination by the Heads of Nuclear Engineering and Health Sciences will be to serve on only those committees that provide the faculty members with experience and visibility important to building their resumes in preparation for tenure.
- H. Heads and senior faculty will provide identification of opportunities to serve on national committees and review boards, and nomination to those committees or boards.
- I. At the appropriate time, the junior faculty will be nominated for college, university, and national awards.

2. Selection Process

Faculty members who will receive NRC Faculty Development funds at Purdue must have demonstrated excellence and experience that make them highly likely to be successful, tenured faculty members and outstanding teachers who will attract students to nuclear engineering and prepare them for careers in related fields. The junior faculty members in the Schools of Nuclear Engineering and Health Sciences were brought to Purdue on the basis of their technical expertise, experience in obtaining grants and managing programs, publication record, and enthusiasm for teaching and mentoring students. These same criteria have been used to select junior faculty members for the Nuclear Faculty Development program.

The three faculty members selected are Prof. Robert Bean, Prof. Allen Garner, and Prof. Linda Nie. All three professors came to Purdue from prestigious programs in the U.S. and all of them already have an excellent track record of research and teaching. Their resumes are attached and clearly demonstrate the quality of these individuals.

The research, education, and outreach plans for these professors are described below. The budget to support these plans is described in the budget description attachment. Cost sharing will be provided by both the School of Nuclear Engineering and the School of Health Sciences. The cost sharing funding will allow additional release for the three faculty during the academic year to focus on development activities.

2.1 Prof. Bean's Plan

2.1.1 Research Program

Prof. Bean's expertise is in nuclear nonproliferation and safeguards practices, with a focus on improved radiation detection methods to provide the baseline accountancy information. He has an ongoing collaboration with Oak Ridge National Laboratory and Sandia National Laboratories investigating the use of Continuity of Knowledge in assessing the safeguards of a country, and has begun the development of a radiation detection laboratory to perform research on new solid state and scintillation crystal radiation detector systems. A portion of the funding will be used to support travel to meet with potential collaborators and to present research results at technical conferences.

2.1.2 Educational Program

Prof. Bean currently teaches the Introduction to Nuclear Engineering course, and supports the undergraduate and graduate radiation detection courses taught by Prof. Garner. Beginning in Fall 2014, Prof. Bean will continue to teach the Intro. Course and will teach the second of the undergraduate courses (with topics that include neutron detectors and reactor instruments and control) and, in the spring, the graduate radiation detection course. Prof. Bean will be working to develop a follow-on laboratory course that will complement the existing nuclear nonproliferation lecture course, as well as a criticality safety course. Longer term, Prof. Bean will work with Prof. Garner to develop a reactor operations course to teach nuclear engineering students about the systems and operations commonly encountered in a nuclear plant and to provide additional experience operating the Purdue University reactor.

2.1.3 Outreach Program

Prof. Bean's primary outreach is through the Radiation Laboratories, and the PUR-1 nuclear reactor (the only reactor in the state of Indiana). Tours of the reactor are provided to outside groups, student organizations, University classes, and visiting prospective students. These tours expose hundreds of people per year to the field of nuclear engineering and the use of reactors for research, teaching, and power generation. Additionally, the teaching laboratory is used for groups such as the Boy Scouts of America and local high schools to provide a one day radiation detection experience, where the visitors learn about and get to use shielded chambers, survey meters, and gamma spectroscopy systems.

2.2. Prof. Garner's Plan

2.2.1 Research Program

Prof. Garner's research group, the BioElectrics and ElectroPhysics Laboratory (BEEP) focuses on developing and modeling pulsed power and plasma technology and these technologies' interactions with materials, particularly biological cells and organisms. The primary focus of the BEEP Lab involves using engineering techniques, biological assays, and mathematical models to investigate biomedical applications of pulsed electric fields, including nervous system cell manipulation, cellular delivery of normally impermeant molecules, stem cell manipulation, platelet activation for tumor treatment, cancer treatment, and sterilization. Prof. Garner is currently starting various programs in these areas, including measuring the changes in electrical properties in treated cells, measuring changes in cell population dynamics following treatment, and collaborating with GE and Air Force Research Laboratory (AFRL).

While fundamental for all these applications, a full analysis of cell population dynamics for a broad range of pulse parameters remains incomplete. Anecdotal evidence AFRL suggests that low intensity PEFs may induce a hormetic effect in population dynamics analogous to that postulated for low level ionizing radiation. BEEP is currently conducting experiments at various pulse durations to assess cell population dynamics in vitro. This data can then be fit to a set of coupled differential equations to estimate steady state cell population. Executing a full design of experiment over a wide regime of pulse parameters would lend insight to various applications.

A natural extension of this study involves applying pulsed electric fields to stem cells to assess the resulting changes in stem cell proliferation and differentiation. Electric fields can stress the cell membrane of stem cells and induce differentiation. Professor Garner has built collaborations with faculty in Animal Sciences with expertise in stem cells to collaborate in this area. Such effects could then be potentially compared to those induced by ionizing radiation with potential for research funding from NIH and DoD.

A fraction of the funding will be used for domestic travel to meet with research collaborators and to present results at conferences or workshops.

2.2.2 Teaching Program

Prof. Garner is currently teaching the two semester undergraduate nuclear engineering laboratory sequence in radiation detection and the one semester graduate nuclear engineering radiation detection laboratory. Starting in Fall 2014, Prof. Garner will start an undergraduate engineering mathematics course. In subsequent Spring Semesters, Prof. Garner will teach the undergraduate radiation detection course and create graduate courses in the biological effects of nonionizing radiation and the generation of this nonionizing radiation (or pulsed power and directed energy).

2.2.3 Outreach Program

Prof. Garner is committed to outreach to the community through leveraging his unique background with government and industrial laboratories to demonstrate to prospective students the multiple career paths available in traditional and nontraditional nuclear engineering specialties, particularly in developing multidisciplinary areas. Prof. Garner will accomplish this through providing laboratory tours for current university students and high school students to show them basic university research and show them how government and industrial laboratories further develop the technologies. These outreach activities will introduce the broader area of nuclear technology to prospective and current students to show that a nuclear engineering education can provide them with multiple career options in power generation, security, and medicine.

2.3 Prof. Nie's Plan

2.3.1. Research program

Prof. Nie's research program has three key focus areas: radiation dosimetry, radiation instrumentation, and health effects of low dose radiation. The dosimetry study seeks the best models and methodologies to assess radiation dose for external and internal radiation exposures. Currently Prof. Nie is leading two projects in this area, one is on bone microdosimetry and the other is the dose characterization of CT scan especially for pediatric patients. The program for radiation instrumentation focuses on the development of x-ray fluorescence (XRF) and neutron activation analysis (NAA) technologies to quantify toxic metals in human body *in vivo*. Current projects in this area include the development of x-ray fluorescence (XRF) technologies to assess lead and cadmium in bone, and arsenic and silver in skin, and the development of neutron activation analysis (NAA) technologies to assess manganese in bone and cadmium in kidney *in vivo*. The program for health effects of low dose radiation integrates the health physics program and the toxicology program in School of Health Sciences to investigate the association between health effects and multiple stressors in general population and the interaction between these stressors.

Dr. Nie has already set up a spacious newly renovated laboratory for radiation instrumentation development. A large fraction of the funds will be used to directly support research activities through minor equipment purchases and laboratory maintenance. A fraction of the funds will be applied to provide for faculty summer time research salary, travel to

meetings with potential collaborators in support of potential new research programs, and travel to national and international meetings in the proposed research area.

2.3.2. Educational program

Education is a critical component of Prof. Nie's development program, and involves both the graduate and the undergraduate students. Prof. Nie is currently teaching two core classes for the school's RHS program, one is on applied health physics and the other is on radiation instrumentation. Both classes are closely related to her career goal of promoting safe use of radiation. She designed real life radiation emergency response training program for the students with the assistance from Dr. Jim Schweitzer, the Director of Purdue Radiological and Environmental Management Office. She plans to further upgrade the equipment used for radiation instrumentation class.

2.3.3. Outreach program

Global expansion and safe conduct of nuclear power generation and research are of imminent demand as the nuclear power has now become a major source of green energy. A dynamic, high-profile research and educational program at Purdue for the last half century has built the solid foundation on which Dr. Nie can further conduct nuclear safety education to the local and national audience. Dr. Nie will continue her visits to local communities and schools to present her research in the context of its relevance and impact on the pressing societal issues today, continue her effort on identifying the future talented engineers and scientists, and continue her efforts on providing trainings to the students and general public on radiation emergency response.

3. Management and Administrative Structure

The program will be conducted as a joint effort between Schools of Nuclear Engineering and Health Sciences. Prof. Robert Bean, together with the Heads from both Schools, will be responsible for the management of the Nuclear Faculty Development program. The School of Nuclear Engineering at Purdue has 14 active faculty members, most of whom are full professors and are in a position to mentor young faculty members effectively. The School of Health Sciences has 12 active faculty members and over 30 adjunct faculty members, and one third of them are dedicated to Health Physics and Radiation Sciences.

In accordance with the concept of shared responsibility for the success of junior faculty members, the faculty development plan sets expectations for the junior professors, for senior professors serving as mentors, and for the Heads of the School of Nuclear Engineering and Health Sciences. Upon receiving the NRC Faculty Development Grant funding, the School Heads will work with the junior and senior faculty members to identify a mentoring team for each junior faculty member. Within the first 6 months of the Nuclear Faculty Development program at Purdue, each participating junior faculty member will meet with his or her School Head and the senior faculty mentoring teams to develop a timeline for the junior faculty's developmental activities and expected accomplishments toward tenure evaluation. Activities assessed and discussed will include those related to research, teaching, graduate student mentoring, professional organization participation, and other items mentioned in the faculty development plan in Section 1. The junior faculty members, Heads, and mentors will also develop a specific plan for senior faculty mentoring activities. The School Heads will prepare a list of their responsibilities for the junior faculty member based on the faculty development plan. The Head of the School of Nuclear Engineering will also be responsible for preparing a progress report to the NRC every six months and providing the final report on the project.

4. Evaluation Plan

Since the three junior faculty members who will be supported by the Nuclear Faculty Development program at Purdue University are already faculty members here, the evaluation plan will focus on the effectiveness of the development program in preparing and retaining these junior Professors. In the final analysis, the success of the development program will be determined by whether the junior faculty members are granted tenure, continue their faculty careers, and successfully prepare undergraduate and graduate students for careers in the nuclear industry. However, a good evaluation plan requires a series of intermediate measures that will allow us to identify and remedy any weaknesses in the development program before those weaknesses can have a negative effect on the careers of the junior faculty members. As a result, the Nuclear Faculty Development program at Purdue will be assessed annually to determine progress toward preparing the junior faculty members for success in an academic career and retaining them in faculty positions. The assessment will be based on monitoring each individual faculty member's plan: the timeline for each junior faculty member's activities and accomplishments, the plan for senior faculty mentoring, and the plan for the Head's efforts in support of the junior faculty member. Each year, the Head of each School will review progress in implementing the plans for the junior faculty members and the senior faculty mentors, and determine whether activities have been performed as specified in the three plans. The Heads will convey the results of the review to the junior faculty members and the senior faculty mentors. If there are lapses in execution or identified weaknesses in the plans, the Heads, junior faculty members, and mentors as a group will determine the necessary changes to ensure the junior faculty member is on a path to success.

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:

Faculty Development Awards

1. How many faculty have been sponsored by NRC funding?
 - a. Response is the number of faculty sponsored, for this reporting period and cumulative to the grant.
2. How many items have the sponsored faculty 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.