

**U.S. NUCLEAR REGULATORY COMMISSION
NOTICE OF GRANT/ASSISTANCE AWARD**

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|--|---|---|--|
| 1. GRANT/AGREEMENT NO. NRC-HQ-12-G-38-0038 | 2. MODIFICATION NO. | 3. PERIOD OF PERFORMANCE FROM: 04/01/2012 TO: 03/31/2015 | 4. AUTHORITY Pursuant to Section 31b and 141b of the Atomic Energy Act of 1954, as amended |
| 5. TYPE OF AWARD <input checked="" type="checkbox"/> GRANT <input type="checkbox"/> COOPERATIVE AGREEMENT | 6. ORGANIZATION TYPE Public/State Controlled Institution of Higher Education DUNS: 044507085 NAICS: 611310 | 7. RECIPIENT NAME, ADDRESS, and EMAIL ADDRESS Jackson State University 1400 J R Lynch Street Jackson, Mississippi 39217-0002 Faokojie@jsums.edu | |
| 8. PROJECT TITLE: Development of Radiochemistry Education and Research Program at Jackson State University | | | |
| 9. PROJECT WILL BE CONDUCTED PER GOVERNMENT'S/RECIPIENT'S PROPOSAL(S) DATED See Program Description AND APPENDIX A-PROJECT GRANT PROVISIONS | 10. TECHNICAL REPORTS ARE REQUIRED <input checked="" type="checkbox"/> PROGRESS AND FINAL <input type="checkbox"/> FINAL ONLY <input type="checkbox"/> OTHER (Conference Proceedings) | 11. PRINCIPAL INVESTIGATOR(S) NAME, ADDRESS and EMAIL ADDRESS Attn: Dr. Hongtao Yu, 1400 J. R. Lynch Street P.O. Box 17910 Jackson, MS 39217 yu@jsums.edu (601) 979-3487 | |
| 12. NRC PROGRAM OFFICE (NAME and ADDRESS) NRC Attn: Nancy Hebron-Isreal Office of Human Resources MS: GW5E03 (301) 492-2231 11545 Rockville Pike Rockville, MD 20852 Nancy.Hebron-Isreal@nrc.gov | 13. ACCOUNTING and APPROPRIATION DATA APPN. NO: 31X0200 B&R NO: 2012-84-51-K-164 JOB CODE: T8459 BOC NO: 4110 OFFICE ID NO: HR-12-101 FATMIS GRO137 | 14. METHOD OF PAYMENT <input type="checkbox"/> ADVANCE BY TREASURY CHECK <input type="checkbox"/> REIMBURSEMENT BY TREASURY CHECK <input type="checkbox"/> LETTER OF CREDIT <input checked="" type="checkbox"/> OTHER (SPECIFY) Electronic ASAP.gov (See Remarks in Item #20 "Payment Information") | |
| 15. NRC OBLIGATION FUNDS THIS ACTION <u>\$413,766.00</u> PREVIOUS OBLIGATION <u>\$0.00</u> TOTAL <u>\$413,766.00</u> | 16. TOTAL FUNDING AGREEMENT This action provides funds for Fiscal Year 2012 in the amount of \$413,766.00 NRC <u>\$413,766.00</u> RECIPIENT <u>\$114,600.00</u> TOTAL <u>\$528,366.00</u> | | |
| 17. NRC ISSUING OFFICE (NAME, ADDRESS and EMAIL ADDRESS) U.S. Nuclear Regulatory Commission Div. of Contracts Attn: Chris Walston Email: chris.walston@nrc.gov Mail Stop: TWB-01-B10M Washington, DC 20555 | | | |
| 18. Signature Not Required | 19. NRC CONTRACTING OFFICER <div style="text-align: right;"> <u>Sheila Bumpass</u> 04/01/2012 (Signature) (Date) </div> NAME (TYPED) <u>Sheila Bumpass</u> TITLE <u>Contracting Officer</u> TELEPHONE NO. <u>301-492-3484 Sheila.Bumpass@nrc.gov</u> | | |
| 20. PAYMENT INFORMATION 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). | | | |
| 21. Attached is a copy of the "NRC General Provisions for Grants and Cooperative Agreements Awarded to Non-Government Recipients. Acceptance of these terms and conditions is acknowledged when Federal funds are used on this project. | | | |
| 22. ORDER OF PRECEDENCE In the event of a conflict between the recipient's proposal and this award, the terms of the Award shall prevail. | | | |
| 23. By this award, the Recipient certifies that payment of any audit-related debt will not reduce the level of performance of any Federal Program. | | | |

TEMPLATE - ADM001

SUNSI REVIEW COMPLETE

ADM002

ATTACHMENT A - SCHEDULE

A.1 PURPOSE OF GRANT

The purpose of this Grant is to provide support to the "Development of Radiochemistry Education and Research Program at Jackson State University" as described in Attachment B entitled "Program Description."

A.2 PERIOD OF GRANT

1. The effective date of this Grant is April 1, 2012. The estimated completion date of this Grant is March 31, 2015.

2. Funds obligated hereunder are available for program expenditures for the estimated period: April 1, 2012 – March 31, 2015.

A. GENERAL

| | |
|--------------------------------|--|
| 1. Total Estimated NRC Amount: | \$413,766.00 |
| 2. Total Obligated Amount: | \$413,766.00 |
| 3. Cost-Sharing Amount: | \$114,600.00 |
| 4. Activity Title: | Development of Radiochemistry Education and Research Program at Jackson State University |
| 5. NRC Project Officer: | Nancy Hebron-Isreal |
| 6. DUNS No.: | 044507085 |

B. SPECIFIC

| | |
|-------------------|------------------|
| RFPA No.: | HR-12-101 |
| FFS: | GR0137 |
| Job Code: | T8459 |
| BOC: | 4110 |
| B&R Number: | 2012-84-51-K-164 |
| Appropriation #: | 31X0200 |
| Amount Obligated: | \$413,766.00 |

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 | \$28,800.00 | \$31,594.00 | \$33,397.00 |
| Fringe Benefits | \$9,216.00 | \$10,110.00 | \$10,687.00 |
| Travel | \$7,000.00 | \$4,000.00 | \$4,000.00 |
| Equipment | \$52,916.00 | \$0.00 | \$0.00 |
| Supplies | \$16,300.00 | \$16,300.00 | \$16,300.00 |
| Other | \$28,500.00 | \$25,000.00 | \$25,000.00 |
| Subtotal | \$142,732.00 | \$87,004.00 | \$89,384.00 |
| FAC (49.5%) | \$32,084.00 | \$30,692.00 | \$31,870.00 |
| Yearly Total | \$174,816.00 | \$117,696.00 | \$121,254.00 |

All travel must be in accordance with the Jackson 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 \$528,366.00 which includes \$114,600.00 towards cost share for the three year period.
2. NRC hereby obligates the amount of \$413,766.00 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 Contracting 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

A. Introduction

With the increase in world population, more sustainable energy is strongly demanded. Traditional fossil energy such as coal and petroleum has caused significant increase of CO₂ emission in the atmosphere. Nuclear energy has proved to play an increasing role to sustain the energy supply and mitigate green house effects. Currently, nuclear power provides about 6% of the world's energy and 13–14% of the electricity in the U.S., France, and Japan (International Energy Agency, 2007; World Nuclear Association, 2010). In 2011, about 432 nuclear power plants were in operation worldwide (IAEA, 2010). The most increase in nuclear energy use is in the fastest-growing economies such as China. The concerns of the public on safe disposal of nuclear wastes and handling of nuclear energy plants have increased due to the recent nuclear plant accidents. Ninety nine accidents occurred in nuclear power plants worldwide (Sovacool, 2010). The most serious accidents were the Chernobyl Disaster in 1986, Fukushima Daiichi nuclear disaster in 2011, Three Mile Island accident in 1979, and the SL-1 accident in 1961. These accidents caused harm to humans and released large quantities of radioactive materials to the environment.

In the U.S., most of the nuclear wastes came from production of nuclear weapons. With the end of the cold war and wariness of the public, production sites and institutes handling nuclear technology and nuclear materials have been in closure worldwide. In the U.S., the Department of Energy has closed sites such as Fernald site, Ohio. Many large sites, such as Hanford site in Washington, Oak Ridge site in Tennessee and Savannah River site in South Carolina, have been in the process of partial closure. In addition, the needs for radiopharmaceuticals, nuclear medicine, and physics have increased. Therefore, management of nuclear power plant, safe handling and disposal of nuclear wastes is essential for continued development and employment of this sustainable energy. This requires many well-trained scientists who understand and can safely handle nuclear materials.

B. Objectives and Plans of the Program

There has been a significant decrease in education on radiochemistry to undergraduate students globally (Radiochemistry Society, 2011). Lack of formal academic training in radiochemistry will further hinder the advancement of the science and engineering, environmental safety, and use of nuclear materials. Many students, both undergraduate and graduate, have not had a formal academic training in the fundamentals of radiochemistry and nuclear waste safety. Moreover, underrepresentation from minority students including African Americans, Hispanics, and Native Americans in Science, Technology, Engineering, and

Mathematics (STEM) continues to be a challenge for our nation. *The main objective of this proposal is to fill this critical gap by developing a viable radiochemistry program at Jackson State University (JSU), a Historically Black University (HBCU) and a Carnegie Foundation "Doctoral University with High Research Activities", for education and development of underrepresented minorities in this critical area for the workforce and advanced studies.* The program will develop a newly recruited assistant professor, Dr. Fengxiang Han, to start the radiochemistry program at JSU by developing new courses, training activities, and a vigorous research program in radionuclide chemistry.

In 2010-2011, the total enrollment at JSU is 8900 and 92% are African Americans. JSU's Department of Chemistry and Biochemistry currently enrolls 150, 20, and 35 BS, MS, and Doctoral students. The interdisciplinary Environmental Ph.D. program enrolls 35 doctoral students. Currently, JSU does not offer any courses on radiochemistry and nuclear waste. The development of these key courses and a viable research program will undoubtedly strengthen the current academic programs.

B1. Faculty Development Plan

There are several components for the development of the newly recruited faculty to start a radiochemistry program. The PI (Yu) and the research mentor (Waggoner) will work together to supervise the new faculty (Han) on professional development, course development, teaching and research aspects of the program. They include: 1) Attending a series of professional training courses, "Fundamental Principles of Radiochemistry" and "Radioactive Waste Management and Repository Science", offered by the Radiochemistry Society or American Chemistry Society and obtain certificates. 2) Development of curriculum proposals for lecture courses and a new Radiochemistry Concentration within the BS in Chemistry program. The proposals must be reviewed by Department, College and University level Curriculum Committees for approval before offered. 3) Navigating through the tenure and promotion processes at an HBCU. 4) Classroom management, delivery of lectures, and supervision of graduate and undergraduate minority students. 5) Preparation of course syllabi. 6) Development of radionuclide chemistry research program (by Dr. Waggoner). 7) Management of financial resources (grants).

There will be a regular bi-weekly meeting between the PI and the faculty, and a monthly meeting of the PI, the mentor and the faculty, to discuss the progress and solve problems encountered. An internal semi-annual progress report will be prepared. A formal annual progress report and final project report to the funding agency will be prepared and submitted. An Internal Advisory Committee will be established to evaluate the progress of the program. The research results will be presented at national and international conferences and published in international journals.

B2. Lecture Course Development: Radiochemistry and Nuclear Waste

"Radiochemistry" and "Nuclear Waste" will both be three credit hour lecture courses. They will be offered through the Department of Chemistry and Biochemistry to graduate students from both the Chemistry and Environmental Science graduate programs, and to senior chemistry students provided they have a good GPA (3.0 or above). We will target a total of 30 undergraduate and graduate students in these two courses.

The objectives of the Radiochemistry course is to equip students with fundamental radiochemistry principles, separation chemistry, instrumental techniques, measurements in radiochemistry, and knowledge needed for decision making. It will cover: Fundamental Principles of Alpha and Gamma Spectrometry, Liquid Scintillation Counting, Gas Flow

Proportional Counting, Best Methods & Strategies for Separation Chemistry, Making Reliable & High Quality Measurements in Radiochemistry, Chemistry of Actinides, and Fission Products & Naturally Occurring Nuclides (Radiochemistry Society, 2011). A field trip will be planned for students to visit the nuclear materials detection and development facility at Institute for Clean Energy Technology (ICET) at Mississippi State University (Starkville, MS). ICET has been developing radiological survey systems for depleted uranium and other radioactive materials.

The objective of the Nuclear Waste course is to provide students with up-to-date knowledge and techniques on nuclear waste safety, repository sites, current issues, regulations, and requirements. The course will cover radioactive waste history, regulations and policies, waste handling, waste transportation, waste types, disposal methods, performance assessments, cleanup standards, waste characterization and certification criteria, legal liabilities, and public communication (Radiochemistry Society, 2011).

B3. Radiochemistry Research Program

The faculty will develop a radiochemistry research program at JSU, which does not exist currently. The research program will focus on biogeochemistry of Cs, Sr and Co in the US coastal ecosystems. The 2011 Japanese Fukushima Daiichi nuclear plant accident resulted in widespread radionuclide in the coastal ecosystems including coastal wetland, ocean water, coastal sediments and plants. It was reported that radiation of higher than the regulatory limit was found in beef, vegetables and soils near the plant as well as the Pacific Ocean (CNN, 2011). It was found that 210 bequerels (Bg) of Cs¹³⁴ and 300 Bg of Cs¹³⁷ per kilogram (kg) were found in beef. In the upland soil 40 kilometers northwest of the Fukushima plant, the levels are the highest, ranging from 8690 to 163,000 Bq/kg. Cs¹³⁷ levels have also spiked in ocean waters off the nuclear plant. Bioaccumulation and bioavailability of Cs and Sr in aquatic and upland (vegetable) plants, potential environmental monitoring, fates and transport, ecotoxicity, and biogeochemical changes in soils/sediments/seawater are essential to develop cost-effective, long-term monitoring and remediation strategies. Our previous experiments indicated high uptake and strong bioaccumulation of Cs and Sr by selected plants such as Indian mustard and water lettuce (Su et al., 2007). Cs and Sr natural radionuclides accumulation was found in the order of leaves > stems > roots for both Cs- and Sr-treated plants. Cs accumulation also affected the pigment concentration and internal structure of the leaf as well as decreased leaf moisture (Su et al., 2007). However, Sr accumulation resulted in no significant changes in moisture in shoots, and structural and spectral characters of mustard plants. Cs shoot concentration showed a correlation with the normalized differential vegetable index (NDVI) ($r = -0.68^*$) of plant shoots. The canopy spectral reflectance and NDVI analysis clearly revealed the stress caused by Cs accumulation. The bioaccumulation factor of Cs (as ratios of Cs concentrations in plant tissues/solution concentration) was 80 and 225 in shoots and roots, respectively, in Cs solution of 20 mg/L. In addition, we have studied the transformation and redistribution of Co isotope in soils under saturated water regimes. A strong coupling process of Co with pathways of Mn transformation was found (Han et al., 2002, Han and Banin, 1996, 2000).

The purpose of this study is to better understand the biogeochemical processes governing transport, fates, bioavailability and ecotoxicology of these radionuclides in the US coastal ecosystems. The long term goals of the study will have the following subtasks.

- Task 1. Fate and transport of Cs, I, Sr and Co in surface and subsurface coastal environment. We will build laboratory test-beds to simulate US coastal ecosystems for the study.

- Task 2. Interaction of Cs, I, Sr and Co with major minerals in seawater, soil and sediments. Representative minerals will be selected from US seawater, coastal soils and sediments. Adsorption/desorption and long-term dynamics will be modeled.
- Task 3. Transformation pathways and kinetics of Cs, I, Sr and Co. Redistribution and transformation in aquatic and terrestrial ecosystems (soils/sediments) will be investigated.
- Task 4. Uptake and bioaccumulation of Cs, I, Sr and Co by both local aquatic and upland plants. Representative aquatic and upland plants will be selected to test the uptake and bioaccumulation of these elements under various climatic and biogeochemical conditions: temperature, moisture regime, soil mineral type, soil pH, and dissolved organic carbon.
- Task 5. Long-term environmental monitoring and development of remote sensing of contaminants. Cs uptake and accumulation in Indian mustard affected its leaf structure and caused differentiation of NDVI $((R810 - R680)/(R810 + R680))$ (Su et al., 2007).
- Task 6. Remediation technology for Cs, Sr, I and Co. We will explore microbial bioremediation, phytoremediation with various typical native aquatic and terrestrial plants, and chemical remediation with minerals and nanomaterials (Su et al., 2007, 2008).

Education and research will be integrated to train underrepresented minority students. We will recruit two graduate and two undergraduate students to participate in the proposed research. Students will participate in the proposed lecture courses and research work and present their results at conferences.

C. Selection Process

Dr. Han is a well-accomplished environmental chemist with a wealth of research experience in the area of nuclear wastes. He also has experience of supervising graduate and undergraduate student research and limited teaching of lecture courses in the area of biogeochemistry and environmental chemistry. We recruited Dr. Han from a pool of applicants for the faculty position and now he is ideally positioned to develop the radiochemistry program at JSU.

D. Management

The PI will be responsible for the overall success of the program which includes the development of the faculty, lecture courses, curriculum for the radiochemistry concentration, and radiochemistry research program at JSU. Dr. Waggoner, Deputy Director and Research Professor at ICET at Mississippi State University, will serve as the mentor on the proposed radiochemistry research program. The PI is an experienced administrator, teacher and researcher. Dr. Yu has been chair of the Department for 8 years, taught chemistry courses from freshman to doctoral levels, developed concentrations for the chemistry curriculum and new courses, and has over 80 peer-reviewed publications. He also obtained and managed research programs funded by the NSF, NIH and DoD. Dr. Waggoner has been successfully conducted the US DoD funded depleted uranium project. He will assist the faculty to carry out the proposed research projects and help to arrange students' tours of his facility, visit JSU to give seminars, and provide activated samples for research and education. An Internal Advisory Committee (IAC), consisting of the Dean of the College (Tchounwou), a senior chemistry faculty (Tachikawa), and a representative from the Office of Sponsored Program (Gates), will be formed to provide guidance to the program and assessment of the program's successful implementation annually.

The faculty and Co-PI, Dr. Han, is an assistant professor. He is teaching environmental chemistry (lecture, 3 credit hours) and general chemistry (laboratory) this semester. He has research experience in studying biogeochemistry of trace elements/heavy metals in soil and water and their remediation, as well as global heavy metal and trace element budget and

pollution. He has studied uptake and bioaccumulation of Cs and Sr and foliar structure and plant spectral reflectance of plants (Su et al., 2007) and transformation kinetics of Co in soils (Han et al., 2002, Han and Banin, 1996, 2000). He has over 60 peer-reviewed publications. He will be responsible for development of the courses, the new concentration in radiochemistry, proposed research, and supervision of graduate and undergraduate students. There will be a regular monthly and quarterly conference with the PI, Co-PI and mentor to discuss the progress and solve problems encountered for lecture course development and research. An internal semi-annual progress report will be prepared. A formal annual progress report and final project report to the funding agency or otherwise required will be prepared and submitted. The research results will be presented at national and international conferences and will be published in the international journals by the PI, Co-PI and graduate students. The offering of these two courses will be made known to all senior major in Chemistry, as well as MS and Ph.D. students in Chemistry and Environmental Science. A radiochemistry student club will be established.

E. Facilities and Commitment of the University

JSU has established eight core research facilities for education and research in STEM: Analytical, Molecular and Cellular Biology, NMR, Animal, Environmental Toxicology, Molecular Microscopy, Computation Chemistry, and Cellomics. These facilities house most of the major instrumentations for research and education and can be used for a fee. For the proposed activities outlined here, all fees will be waived. Dr. Han will be provided with a laboratory (John A. People's Building, JAP 507) and an office (JAP 528), as well as lecture rooms and laboratories on the 2nd and 5th floors for research and education activities. The University is committed to the radiochemistry program. In addition to NRC funds requested, the University will match 25% of the faculty's salary in a form of release time for teaching of one less course (equivalent of \$10,000/year plus fringe benefit \$3,200). The University will provide the financial support of a second graduate student (cost of \$25,000/year). At the end of the program, the University is committed to offer these lecture courses yearly and to maintain an active research program in this area. Necessary spaces and instrumentation will be provided free of charge to the proposed activities. The total University matching is \$38,200/year or \$114,600 for the entire period.

F. Timeline:

| Year 1 | Year 2 | Year 3 |
|----------------------------------|-----------------------|-----------------------|
| Course development, certificates | Radiochemistry (2013) | Radiochemistry (2014) |
| Curriculum proposals approved | Nuclear Waste (2014) | Nuclear Waste (2015) |
| Research (tasks 1-3) | Research (tasks 2-5) | Research (tasks 3-6) |
| Student research | Student research | Student research |

H. Program Evaluation

We will conduct both a formative and a summative assessment semi-annually on the proposed activities. The effectiveness of the program in faculty development, preparation of lecture courses and curriculum proposals, progress of the research project will be evaluated. Faculty Development: Several of the bench marks will be used for evaluation: 1) Results and certification from the professional training courses, 2) faculty promotion and tenure progress, 3) faculty presentations and publications, 4) students recruited and supervision of students. Lecture Course Development: 1) Course syllabi, 2) curriculum proposal, 3) lectures, 4) student performance in the courses. Research Progress: 1) Proposed research activities successfully implemented, 2) conference presentations, 3) publications, 4) other proposals submitted and funded. The Internal Advisor Committee (IAC) will meet annually on campus with presentations by the PI, faculty and students. The mentor will also be invited to attend. An assessment will be carried out against on the above benchmarks by the IAC.

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_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 2 CFR 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.)

No U.S. citizen or legal resident shall be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity funded by this award on the basis of race, color, national origin, age, religion, handicap, or sex. 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.

- o The Grantee is not authorized to rebudget between direct costs and indirect costs without written approval of the Grants Officer.
- o 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.
- o 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 Human Resources 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 HR 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 thereunder, 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 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)).

Executive Compensation Reporting

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.ccr.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.