

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

1. GRANT/AGREEMENT NO. NRC-HQ-12-G-27-0085	2. MODIFICATION NO.	3. PERIOD OF PERFORMANCE FROM: 09/24/2012 TO: 09/23/2017	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 Historically Black Colleges & Universities DUNS: 0056282296 NAICS: 611310	7. RECIPIENT NAME, ADDRESS, and EMAIL ADDRESS Howard University 2400 Sixth Street NW Washington, DC 20059 Email: <a href="mailto:ora@howard.edu">ora@howard.edu</a>	

8. PROJECT TITLE:  
Howard University Critical Mass Project: Increasing the numbers of African Americans receiving Doctoral Degrees in Nuclear Physics

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 Associate Professor: Marcus Alfred Howard University - Dept. of Physics and Astronomy 2355 6 <sup>th</sup> St, NW Washington, DC 20059 Email: <a href="mailto:MarAlfred@howard.edu">MarAlfred@howard.edu</a>
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12. NRC PROGRAM OFFICE (NAME and ADDRESS) NRC Attn: Tuwanda Smith, Esquire Office of Small Business & Civil Rights MS: O3H06 (301) 415-7394 11545 Rockville Pike Rockville, Maryland 20852 Email: <a href="mailto:Tuwanda.Smith@NRC.GOV">Tuwanda.Smith@NRC.GOV</a>	13. ACCOUNTING and APPROPRIATION DATA APPN. NO: 31X0200 B&R NO: 2012-7P-51-K-167 JOB CODE: L2284 BOC NO: 4110 OFFICE ID NO: SDB-12-063 FAMIS: GR0255	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")
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15. NRC OBLIGATION FUNDS		16. TOTAL FUNDING AGREEMENT	
THIS ACTION	\$31,559.00	NRC	\$200,000.00
PREVIOUS OBLIGATION		RECIPIENT	\$200,000.00
TOTAL	\$31,559.00	TOTAL	\$400,000.00

This action provides funds for Fiscal Year 2012 in the amount of \$31,559.00

17. NRC ISSUING OFFICE (NAME, ADDRESS and EMAIL ADDRESS)  
  
U.S. Nuclear Regulatory Commission  
Div. of Contracts  
Attn: Shashi Malhotra, Email: [Shashi.malhotra@nrc.gov](mailto:Shashi.malhotra@nrc.gov)  
Mail Stop: TWB-01-B10M  
Rockville MD 20852

18. Signature Not Required	19. NRC CONTRACTING OFFICER  <i>Sheila Bumpass</i> 09/13/12 (Signature) _____ (Date) NAME (TYPED) <u>Sheila Bumpass</u> TITLE <u>Grants Officer</u> TELEPHONE NO. <u>301-492-3484</u>
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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.

**ATTACHMENT A - SCHEDULE**

**A.1 PURPOSE OF GRANT**

The purpose of this Grant is to provide support to the "Howard University Critical Mass Project: Increasing the numbers of African Americans receiving Doctoral Degrees in Nuclear Physics" as described in Attachment B entitled "Program Description."

**A.2 PERIOD OF GRANT**

1. The effective date of this Grant is September 24, 2012. The estimated completion date of this Grant is September 23, 2017.
2. Funds obligated hereunder are available for program expenditures for the estimated period: September 24, 2012– September 23, 2017.

**A. GENERAL**

1. Total Estimated NRC Amount: \$200,000.00
2. Total Obligated Amount: \$31,559.00
3. Cost-Sharing Amount: \$400,000.00
4. Activity Title: Howard University Critical Mass Project:  
Increasing the numbers of African  
Americans receiving Doctoral Degrees in  
Nuclear Physics
5. NRC Project Officer: Tuwanda Smith, Esquire
6. DUNS No.: 056282296

**B. SPECIFIC**

- RFPA No.: SDB-12-063  
FAIMIS: GR0255  
Job Code: L2284  
BOC: 4110  
B&R Number: 2012-7P-51-K-167  
Appropriation #: 31X0200  
Amount Obligated: \$31,559.00

**A.3 BUDGET**

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

	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
Participant Support (Stipend for 4 students)	\$40,000.00	\$40,000.00	\$40,000.00	\$40,000.00	\$40,000.00
Cost Share/Matching (Stipend for 4 students)	\$40,000.00	\$40,000.00	\$40,000.00	\$40,000.00	\$40,000.00
<b>Yearly Total</b>	<b>\$80,000.00</b>	<b>\$80,000.00</b>	<b>\$80,000.00</b>	<b>\$80,000.00</b>	<b>\$80,000.00</b>

#### **A.4 AMOUNT OF AWARD AND PAYMENT PROCEDURES**

1. The total estimated amount of this Award is \$200,000.00 for a five year period.
2. NRC hereby obligates the amount of \$31,559.00 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**

##### **Title: The Critical Mass Project**

##### **1.0 Introduction**

It is understood that America faces challenges in training young scientists and engineers[1]. In particular, much of the nation's past scientific and engineering dominance cannot be sustained and grown without increasing the numbers of Americans employed in STEM fields[1][2][3]. It has been observed that the number of American students entering STEM majors has declined and the percentage of African- American students entering and graduating from these fields has always been smaller than the respective percentage of the American population[2][3].

The Goal of the Critical Mass ship Project is to increase the number of African American physics majors graduating from Howard University and going into nuclear physics graduate programs and nuclear science careers. In order to achieve this goal, the following objectives and activities have been planned.

Objective 1: Recruit into the physics major and award a research position into this project at least four professional physics track students each year.

Objective 2: Retain and support continuing successful participants until graduation.

Objective 3: Provide exposure to post graduation employment and graduate school opportunities within nuclear science.

##### **Models used and Justification:**

The general approach presented in this proposal to successfully recruiting and retaining African-American students in physics, astrophysics and astronomy is based on a mixture of models. The first model is that of the Meyerhoff Scholarship Program at the University of Maryland, Baltimore County [4][5]. The approach's components include a critical mass of like minded students, access to world class facilities and an inclusion of undergraduate research experiences.

A second model is based on the success of the San Francisco State University Student MORE Enrichment Programs. The success of SFSU has been attributed to several factors[6][7][8] that work in concert: developing a research environment, increasing

research opportunities for students, instituting academic support programs, and developing a culture dedicated to underrepresented minority group success. A third model is based on success from the computational physics laboratory[9] at Howard University. The CPL success appears due to components similar to that of SFSU, but implemented within a smaller group. The lab alumni include 12 PhD's, and twenty bachelor degrees. Included in this number are two faculty members. All are members of underrepresented minority groups. The investigator of this project is the assistant director of the CPL.

## 2.0 Program Quality

Howard University is one of 48 U.S. private, Doctoral/Research-Extensive universities and comprises 12 schools and colleges. Founded in 1867, students pursue studies in more than 120 areas leading to undergraduate, graduate and professional degrees. Since 1998, the University has produced two Rhodes Scholars, a Truman Scholar, seven Fulbright Scholars and nine Pickering Fellows. Howard also produces more on campus African-American Ph.D.s than any other university in the world.

The mission of the Department of Physics and Astronomy at Howard University is to strive for a recognized level of national and international excellence in research and teaching in physics and to assure that students of African American descent and other underrepresented groups are given the opportunity to achieve their fullest potential in physics and astronomy.

### Department structure

The Physics and Astronomy Department at Howard University offers degrees at the baccalaureate, Masters, and doctoral levels. The number of active full time faculty is 16. There are a small number of adjunct faculty and lecturers. The physics and astronomy faculty are involved in research in a wide range of areas from cosmology to material science. 14 out of the 16 faculty members are from underrepresented groups. This number includes one female faculty member.

Undergraduate majors in the department, while all receiving a degree in physics and astronomy, select a particular track to pursue. The tracks available now are professional physics, computational physics, atmospheric physics, physics education and biophysics. The professional physics track is for students interested in pursuing a traditional physics education with the intent of entering a graduate program in physics. An astronomy/astrophysics track is expected to be introduced this year.

Year	Physics Department Enrollment	Degrees Awarded	Retention
2009 - 2010	20	1	80%
2008 - 2009	19	5	73%
2007 - 2008	14	1	93%
2006 - 2007	14	3	93%

Table 1. Physics Department enrollment, degree, and retention data

### **3.0 Results from Prior Support**

Professor Alfred has received funding from an NSF GK12 solicitation. (Award #0538383) The project placed 8 students annually into the Howard University Charter Middle School for Mathematics and Science, and also the Cesar Chavez Charter School for Public Policy. Graduate Fellows created modules for life and physical science courses, and met regularly with faculty, teachers and middle school students.

The GK12 project will have produced over 12 doctorate recipients within 2 years after its conclusion out of 15 participants. All of these recipients are African Americans. Of the three physics graduate students, all three will have received their doctorate within two years of the project's completion. This represents 8% of the black physics doctorates produced in the United States of America for three years (Assuming an average of 13/year).

We are unaware of any previous NRC awards that have been made to the College of Arts and Sciences.

### **4.0 Project Objectives and Plans:**

As stated in the introduction, the goal of the Critical Mass Project is to increase the number of African American physics majors graduating from Howard University and going into nuclear physics graduate schools and jobs.

Objective 1: Recruit into the physics major and award a research position into this project at least four professional physics track students each year.

Objective 2: Retain and support continuing successful participants until graduation.

Objective 3: Provide exposure to post graduation employment and graduate school opportunities within nuclear science.

In order to achieve the first objective, staff from the university will visit partner High schools to visit potential majors. In addition the project will provide administrative support with classes, housing, and financial aid to ease the transition to Howard. Finally, the project will provide stipends up to \$10,000 for all participating physics majors. To accomplish the second objective, participants in the project will be placed in the physics department's peer tutoring program. The project participants will not only receive tutoring as needed, but they will also be required to participate as tutors. As tutors, they will receive in depth training for both lower and upper division physics subjects.

To accomplish the third objective, students will be required to apply to the NRC summer internship program and other internship programs for the duration of their participation in the program. In addition, the PI will submit an application for the NRC faculty research program. Incoming participants will work with the PI during their first summer in the project.

In the following sections, we will provide a description of the population of physics undergraduates at Howard University and provide a rationale for the need to implement the objectives as described.

## 4.1 Description of Need

### 4.1.1 The applied physics track and the professional physics track

The Department of Physics and Astronomy at Howard University has a track system that allows students to focus on areas of applied physics: physics education, biophysics, computational physics and atmospheric physics. Students interested in pursuing a degree in physics with an interest in nuclear physics graduate school follow a separate track- the professional physics track.

The primary difference between the professional physics track and the applied physics tracks can be seen in the courses comprising the respective tracks. While there are some common courses across the tracks, (introductory physics and mechanics), the courses required for the professional physics track require more depth in fundamental physics. For example, two semesters of electromagnetic theory, two semesters of quantum mechanics, and an advanced laboratory class are required. These courses are not required for the applied physics tracks.

### 4.1.2 Number of Students in each track

For the currently enrolled undergraduate physics students at Howard University, 46.7% are in atmospheric physics, 13% are in biophysics, and 13% are in computational physics. 13% have indicated a preference for the expected astronomy/astrophysics track and the remainder are committed to the professional physics track.

### 4.1.3 Funding for each track and the problem

The focus of this proposal is on the funding for the professional physics track students; in other words, the students that want to go to graduate school in physics. From departmental data, these students have used a combination of student loans, other funded programs (LSAMP – Louis Stokes Alliances for Minority Participation, HUSEM Howard University Science Engineering Mathematics Program), and part-time jobs to pay for tuition, room and board and other school costs. For example, the amount funded by HUSEM has been 35% of the unmet need to support some students in the professional physics track. **In general, there is no financial support specifically geared solely for professional physics track students other than the support for the general undergraduate population.**

This funding difficulty is not an issue for the atmospheric physics students. The atmospheric physics track students had a great deal of support for tuition and stipends. Students in the remaining applied physics tracks (computational physics and biophysics) also had similar funding mechanisms.

### 4.1.4 A local and national problem

The numbers at Howard University might seem negligible but they are significant when compared to the numbers nationwide. The numbers indicate the problem is not simply an issue at Howard University, but for the entire country.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Physics bachelor degrees awarded to blacks	148	179		152	133	182	147	166	166	171

Table 2. Total physics bachelors awarded to blacks from 1997-2006. (Source NSF)

The average number of physics bachelor degrees awarded to people of all races during this time was 3613.

#### 4.1.5 Gateway to graduate physics degrees

The numbers of black men and women obtaining doctorate degrees in physics each year remains relatively small:

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Black physics doctorates awarded	14	10	8	16	12	22	12	13	12	13

Table 3. Total physics doctorates awarded to blacks from 1997-2006. (Source NSF)

The average number of physics doctoral degrees awarded annually to people of all races during this time was 1254. The average number awarded to blacks was 13. By increasing the number of black students interested and capable of obtaining a Physics PhD (1 per year), the funding of this proposal may increase the black physics PhD production of the nation by 39%.

#### 4.1.6 Keeping and motivating students

The Physics and Astronomy Department at Howard University has a rich and successful tradition of training black men and women in physics. There are 16 current active faculty in the department. Ten of these faculty members are black. In addition, the department has produced over 83 physics PhD graduates since 1962. 73 have been black. Since 1991 the department has produced over 50 black physics bachelor of science degree graduates.

In particular, the computational physics laboratory (CPL) has had a tremendous amount of success producing both doctoral and bachelor physics degree recipients. From 1991 – 2001 the lab produced 12 black PhD recipients. The lab has produced over 20 black physics undergraduate degree recipients. Undergraduate alumni have been accepted to graduate schools across the country: University of Michigan, MIT, Stanford, and Yale.

## 4.2 Rationale for this implementation

Problem: There is currently no dedicated funding for undergraduate physics students at Howard University that intend to go into graduate school in physics. Since the physics department has a history of training a percentage of the nation's black men and women in physics at both the undergraduate and graduate levels, this problem has a significant impact on the number of black physics PhD's produced nationally.

Proposed solution:

Objective 1 will provide funds for 4 students each year. The University and the Physics Department has a history of recruiting black and minority students into physics. These are students that are interested in going to graduate school in nuclear physics. They will not be students in the applied physics tracks.

Objective 2 will provide funds for participation in the computational physics lab and in particular a group of like-minded students with a focus on graduate school in nuclear physics. It provides support structure for students that may have difficulty and provide cohesion for the cohorts of students

Objective 3 will provide for the exposure of students to opportunities outside of Howard University. In particular, they will receive an immediate and appropriate opportunity to participate in a research project their first summer in the project. The intention is to excite them immediately and acclimate them to a research focus from the beginning.

There is currently no dedicated funding for undergraduate physics students at Howard University that intend to go into graduate school in physics and in particular, nuclear physics. This leads to students that are interested in physics graduate school, to take part time jobs, large loans and random available funding to complete their physics degree. Physics students that are in applied physics at Howard University, with no intention of going on to graduate school in physics, typically do not have this problem.

This project supports an already established system that will produce a pipeline of additional black physics majors each year that are capable and willing to enter and succeed at American physics doctoral programs. **In light of an average black PhD production of 13/year, the success of the Critical Mass participants would lead to a national 39% production increase in black physics doctorates per year.**

## 4.3 Recruiting students each year.

### Past Success with this approach

In 2002, the Physics department provided six students with stipends through the NOAA sponsored NCAS program. Four years later five of the students graduated. The cohort of students that entered the department in 2002 was unusual in the number of incoming students and the funding level. The current project seeks to mimic the results from 2002.

Year	Number of American Physics Students ENTERING as freshmen	Number Graduated
2002	6	5



Table 4. Past physics cohort.

The department had 15 physics majors as of August 2010. All of these majors are black. 4 of the students in the major are women.

## **Stipend details**

### **4.3.1 Stipend Numbers and Significance**

The stipends are intended for students only in the Department of Physics and Astronomy that intend to go to graduate school in nuclear physics or work in nuclear science. Each year we will select 4 freshmen students to bring into the program. It is expected that these students will remain in the program until they graduate.

### **4.3.2 Scholarship matching from Howard University**

All students that participate in the Critical Mass Project will be eligible for a \$10,000 scholarship from the university. This scholarship is in addition to the \$10,000 stipend from the Critical Mass Project.

Contributions	Amount per year
Howard University scholarship	\$10,000
NRC stipend	\$10,000
Total for Critical Mass scholars	\$20,000

## **4.4 Retaining project participants.**

### **4.4.1 Support Structures**

Fundamental to the success of the project is the academic and administrative support students will receive. As mentioned in the results from SFSU, passing gatekeeper courses was an essential part of the success of participant students. In addition, students need to earn A's in courses to apply and be accepted in competitive graduate programs. The department has introduced supplemental instruction courses to address these issues.

#### **Departmental Resources**

Peer Tutoring - Physics majors are recruited to tutor their peers. Clear benefits include help for non physics majors. This help is personalized and can be in one on one sessions and group sessions. In addition, majors practice skills learned in previous semesters. The PI for this proposal runs and supervises daily two hour sessions in the physics department.

### **4.4.2 Undergraduate research opportunities at Howard and at other institutions for project participants**

A third fundamental component of student success in the Meyerhoff scholarship program and the SFSU STEM program, and the CPL alumni has been multi-year exposure to quality research. Students in the Critical Mass project will be involved in research from the beginning of their freshman year to their senior year. They will have opportunities to work with partner institutions during their summer breaks.

In particular, the PI's research focus has been non perturbative calculations of relativistic few particle scattering[10][11]. Work has been completed that involved calculating bound state energies for the deuteron using a formalism developed by Lindesay[10].

The PI is currently extending this work to include cross sections and form factors. It is expected that students will be able to understand this work by constructing simple two body T matrix models that may be used in three and four body T matrix calculations for scattering cross sections. It should be emphasized that this is current research work that is non-perturbative. The students may then compare the results with Lattice QCD calculations.

#### **4.4.3 Developing a community of researchers**

The development of a research ethos among the project participants is a fourth component of the project. The results from SFSU MORE program, the Meyerhoff scholarship, and CPL indicate that the interaction between students in their programs had a positive impact on the retention of participants.

It is not enough to develop a critical mass of students. The quality of the experiences and interactions between participants is also important. For example, what has worked in the CPL has been a series of weekly meetings. These meetings are structured to discuss not topics in physics but general points of interest. The meetings will typically include food and are mandatory.

These meetings are also a time to allow faculty that are members of underrepresented groups discuss obstacles that they have faced while attending school from financial difficulties to family crises. The faculty can also discuss what solutions are available and how to implement them. The staggered acceptance of five students each year implies that there will be different levels of experience from which students can draw.

The meetings are also opportunities for students to present research results. It is expected that students will present their results at both the Annual Howard University Undergraduate Research Symposium and national conferences when appropriate. The meeting interactions can result in feedback from faculty and other students that lead to quality presentations.

#### **4.5 Financial Aid Data**

The physics undergraduate **students from Howard University for the past ten years have had an average Financial Need (FN) of \$16,801**, as determined by an analysis of data from a report from the university financial aid office.

Financial Need = Cost of Attendance - Estimated Financial Contribution

Within this data, the Cost of Attendance (COA) and the Estimated Financial Contribution (EFC), as determined by the Free Application for Federal Student Aid (FAFSA), are listed. The Financial Need (FN) is determined by subtracting EFC from COA.

Tuition	\$15,270.00
Mandatory Fee	\$805.00
Books & Supplies	\$2,000.00
Meals/Board	\$3,068.00
Loan Fees for Subsidized Loan	\$84.00
Loan Fees for Unsubsidized Loan	\$157.00
Room	\$10,179.00
Incidentals	\$968.00
Local Transportation	\$1,944.00
<b>TOTAL</b>	<b>\$34,475.00</b>

Table 10. Costs to attend Howard University for 2010-2011.

### 5.0 Evaluation, Assessment, and Dissemination

Project evaluation will be ongoing throughout the project. The project will conduct pre and post annual surveys and observations of group meetings. Data will be obtained for control groups of professional track students not in the project. Data will include GPA, external funding, courses taken, time to complete degree, and attitudinal surveys about the degree program and career choices.

#### Dissemination

The project PI will attend regular meetings of the National Association of Black Physicists and the American Physical Society. Both oral and poster presentations will be made detailing techniques and successes.

### 6.0 Management and Implementation.

The Principal Investigator will have overall responsibility for oversight and management of the project. He will share responsibility for selecting students, placing students with partners and preparing them to work with partners, and liaison with partners. The principal investigator is Marcus Alfred, Associate Professor of Physics. Alfred teaches the introductory calculus based physics sequence for science and engineering students, graduate classical and electricity and magnetism courses, and nuclear and particle physics courses.

The Departmental executive committee will make selections and place students with partner institutions for summer research experiences. The committee will consist of Dr. James Lindsay, Dr. Robert Catchings and Dr. Kimani Stancil. Its responsibility will also be to provide a general oversight of the project.

#### Summary

The **Goal** of the HU Critical Mass Project is to increase the number of African American physics majors graduating from Howard University. There are three objectives associated with this goal: select and award African American physics majors a \$10,000 stipend each year of the project, support participants through rich diversity of support structures, and expose participants to summer research opportunities in nuclear science outside of Howard University. The components of the project include: research stipends, support structures, research experiences at Howard and elsewhere for participants, and research community building activities. Relevant management participants include the PI and an executive committee.

**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](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](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](http://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](http://www.gsa.gov/federaltravelregulation) and the per diem rates set forth at: [www.gsa.gov/perdiem](http://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**

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 Small Business & Civil Rights (SBCR) 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 31<sup>st</sup> is due by April 30<sup>th</sup>, or any portion thereof. The submission for the six month period ending September 30<sup>th</sup> is due by October 31<sup>st</sup> 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 SBCR grant awards, in addition to the customary performance progress report requested on the SF-PPR, SF-PPR-B, and SF-PPR-E forms, SBCR requires the following metrics to be reported on by the awardees as follows:

### **Scholarship Awards**

1. How many students have been sponsored by NRC funding?
  - a. Response is the number of students, for this reporting period and cumulative to the grant.
2. How many students, supported by NRC funding, have received B.S. or equivalent degrees?
  - a. Response is the number of students, for this reporting period and cumulative to the grant.
3. How many students, supported by NRC funding, have accepted a job and are employed in the nuclear industry?
  - a. Response is the number of students, for this reporting period and cumulative to the grant.
4. How many students, supported by NRC funding, are continuing on to Graduate School in a field related to the nuclear industry?
  - a. Response is the number of students, for this reporting period and cumulative to the grant.

### **Service Agreement**

A signed service agreement and resume are required for all student recipients of scholarships or fellowships funded by the US Nuclear Regulatory Commission. The Service Agreement is attached to the Terms and Conditions.

### **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, 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.

**NRC Scholarship and Fellowship Program  
Service Agreement**

1. This service agreement is required for all student recipients of scholarships or fellowships (hereinafter referred to as the "recipient") funded by the U.S. Nuclear Regulatory Commission (NRC) through the University of \_\_\_\_\_.
2. This agreement confirms the recipient's obligations to maintain satisfactory academic progress and serve 6 months in nuclear-related employment for each year of academic support. The employment may be with NRC, other Federal agencies, State agencies, Department of Energy laboratories, nuclear-related industry, or academia in the recipients' sponsored fields of study.
3. The scholarship recipient must: (check here \_\_\_ if scholarship)
  - a. remain matriculated in the degree program for the field of study for which the scholarship was approved,
  - b. maintain satisfactory academic progress in the recipient's field of study, as demonstrated by maintaining a 3.0 Grade Point Average both overall and within the recipient's major, and
  - c. maintain a course load of at least 12 credit hours per semester as a full-time student in good standing.
4. The fellowship recipient must: (check here \_\_\_ if fellowship)
  - a. maintain a 3.3 GPA overall and within a field of study
  - b. maintain a course load of at least 12 credit hours per semester or be classified as a full time student
  - c. remain matriculated in a graduate degree program in a nuclear related area, preferably in the fields of Nuclear Engineering, Health Physics, and Radiochemistry.
5. If a recipient fails to maintain satisfactory academic progress, the scholarship or fellowship will be terminated and the recipient could be obligated to repay the NRC the full amount of the scholarship/fellowship.
6. If a recipient receives any subsequent scholarship(s) or fellowship(s) through this program, the service obligation periods will be consecutive.
7. At the discretion of the NRC, the service obligation period may be delayed to allow the recipient to continue a subsequent degree program immediately following that sponsored under this program. For example, a recipient who receives a fellowship to earn a Master's degree, may request and be permitted to delay fulfilling their service obligation until after they complete a subsequent terminal degree program. Any such requests must be made to the NRC before a student enrolls in a subsequent degree program. If a student enrolls in a subsequent degree program before or without NRC approval, and the NRC does not subsequently approve the request, the NRC will not be held liable for any expenses

incurred to dis-enroll, or for failure to otherwise meet the terms of this service obligation. Recipients only incur a service obligation for funded periods of study.

8. If the student receives no employment offers or does not accept any of the offers received, the student is not relieved of the service obligation, unless, pursuant to this service agreement, the student applies for and receives a waiver from the NRC. Implicit in the waiver request is data or explanation by the student that efforts to secure employment in a nuclear-related field were undertaken. This can be in the form of job searches, referrals, etc. Absent a waiver from the NRC, rejection of one or more job offers could trigger the service agreement obligation.
9. If a recipient voluntarily leaves the employment during a period of obligated post-academic service, the recipient may immediately become liable to the U.S. Government for repayment of the entire amount of the assistance provided under the scholarship or fellowship, for which the service obligation has not been fulfilled.
10. The recipient employed by NRC understands that his or her last pay check and any lump sum payment for annual leave and other payment due on separation will be applied toward any unfulfilled service obligation without further notice. If the recipient's last pay check and any lump sum payment do not satisfy the debt, the recipient may pay the balance of the debt in full or set up a repayment plan.
11. By accepting this scholarship/fellowship, I agree to provide the NRC with current contact information (address, telephone, email), and employment information, subject to the provisions of the Privacy Act, for as long as I remain under obligated service. This information will be used solely for the purposes of verifying appropriate nuclear related employment in compliance with the service obligation requirements of this service agreement. In accordance with the Privacy Act, providing this information is voluntary; however, failure to do so may result in removal from the scholarship/fellowship program and/or repayment of all scholarship/grant money received. Contact information should be reported to: [edusolar@nrc.gov](mailto:edusolar@nrc.gov).
12. By signing this agreement, the recipient certifies that he or she has read this agreement and agrees to all of the obligations it entails.

\_\_\_\_\_  
Scholarship or Fellowship Recipient      Date

\_\_\_\_\_  
University Program Coordinator      Date

\_\_\_\_\_  
NRC Office of Human Resources      Date