



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

July 1, 2016

K. Linga Murty, Ph.D.
North Carolina State University
Research Administration/SPARCS
2701 Sullivan Drive
Admin Services III; Box 7514
Raleigh, NC 27695

VIA Electronic Mail
murty@ncsu.edu

SUBJECT: GRANT NO: NRC-HQ-84-16-G-0034

Dear Dr. Murty:

Pursuant to the authority contained in the Federal Grant and Cooperative Agreement Act of 1977, as amended, and the Atomic Energy Act of 1954, as amended, the Nuclear Regulatory Commission (NRC) hereby awards to North Carolina State University (hereinafter referred to as the "Grantee" or "Recipient"), the sum of \$400,000.00 to provide support for "North Carolina State University's Graduate Fellowship In Nuclear Engineering (NCSU-GFINE) - 2016" entitled "Program Description."

This award is effective July 1, 2016 and shall apply to expenditures made by the Recipient furtherance of program objectives during the period beginning with the effective date of July 1, 2016 and ending June 30, 2020.

This award is made to the Recipient on condition that the funds will be administered in accordance with the terms and conditions as set forth in Attachment A (the Schedule); Attachment B (the Program Description); and Attachment C (the Standard Terms & Conditions); all of which have been agreed to by your organization. In addition your grant application proposes \$160,626.00 in cost share. Please ensure your cost share conforms to the provisions in 2 CFR 200, and is reported on the semi-annual Federal Financial Report.

Based on the pre-award compliance review conducted by NRC's Small Business and Civil Rights Office (SBCR), your institution is placed in a periodic status pending resolution of concerns raised during the review. Within 60 days, SBCR will conduct a periodic review to ensure compliance with applicable Civil Rights statutes. Your cooperation with SBCR is essential. The continued eligibility of Federal financial assistance is conditioned upon compliance with anti-discrimination regulations.

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

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

Sincerely yours,

Erika Eam

Erika Eam
Grants Officer
Resources & Grants Team
Acquisition Management Division

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

TEMPLATE - ADM001

SUNSI REVIEW COMPLETE

ADM002

Grant and Cooperative Agreement

CHOOSE ONE:

- ☐ COOPERATIVE AGREEMENT
- ☒ GRANT

CHOOSE ONE:

☒ EDUCATION☐ FACILITIES☐ RESEARCH☐ SDCR☐ TRAINING

1. GRANT/COOPERATIVE AGREEMENT NUMBER

NRC-HQ-84-16-G-0034

2. SUPPLEMENT NUMBER

3. EFFECTIVE DATE

07/01/2016

4. COMPLETION DATE

5. ISSUED TO

NAME/ADDRESS OF RECIPIENT (No., Street, City/County, State, Zip)
 NORTH CAROLINA STATE UNIVERSITY
 2701 SULLIVAN DR STE 240 CAMPUS BX
 RALEIGH NC 276957003

6. ISSUED BY

U.S. NRC - HQ

Mailing Address:

Acquisition Management Division
 Mail Stop: TWFN-5E03
 Washington DC 20555-0001

7. TAXPAYER IDENTIFICATION NO. (TIN)

8. COMMERCIAL & GOVERNMENT ENTITY (CAGE) NO.

9. PRINCIPAL INVESTIGATOR/ORGANIZATION'S PROJECT OR PROGRAM MGR. (Name & Phone)

Dr. K.Linga Murty
 murty@ncsu.edu, 919-515-3657

10. RESEARCH, PROJECT OR PROGRAM TITLE

North Carolina State University's Graduate Fellowship in Nuclear Engineering (NCSU-GFINE) - 2016

11. PURPOSE

See Schedule

12. PERIOD OF PERFORMANCE (Approximately)

07/01/2016 through 06/30/2020

13A.	AWARD HISTORY	13B.	FUNDING HISTORY
PREVIOUS	\$0.00	PREVIOUS	\$0.00
THIS ACTION	\$400,000.00	THIS ACTION	\$400,000.00
CASH SHARE	\$0.00	TOTAL	\$400,000.00
NON-CASH SHARE	\$0.00		
RECIPIENT SHARE	\$160,626.00		
TOTAL	\$400,000.00		

14. ACCOUNTING AND APPROPRIATION DATA

2016-X0200-IUPMRU-84-84D002-52-S-164-T8458-4110

PURCHASE REQUEST NO.	JOB ORDER NO.	AMOUNT	STATUS
OCHCO-16-0117			

15. POINTS OF CONTACT

	NAME	MAIL STOP	TELEPHONE	E-MAIL ADDRESS
TECHNICAL OFFICER	NANCY V. HEBRON-ISREAL	3WFN/3AF12	301-287-0718	Nancy.Hebron-Isreal@nrc.gov
NEGOTIATOR				
ADMINISTRATOR	M'LITA R. CARR		(301) 415-6869	MLITA.CARR@nrc.gov
PAYMENTS				

16. THIS AWARD IS MADE UNDER THE AUTHORITY OF:

Pursuant to Section 31b and 141b of the Atomic Energy Act of 1954, as amended.

17. APPLICABLE STATEMENT(S), IF CHECKED:

- ☐ NO CHANGE IS MADE TO EXISTING PROVISIONS
- ☐ FDP TERMS AND CONDITIONS AND THE AGENCY-SPECIFIC REQUIREMENTS APPLY TO THIS GRANT

18. APPLICABLE ENCLOSURE(S), IF CHECKED:

- ☐ PROVISIONS ☐ SPECIAL CONDITIONS
- ☐ REQUIRED PUBLICATIONS AND REPORTS

UNITED STATES OF AMERICA

COOPERATIVE AGREEMENT RECIPIENT

CONTRACTING/GRANT OFFICER

M'LITA R. CARR

DATE

06/30/2016

AUTHORIZED REPRESENTATIVE

DATE

Grant and Cooperative Agreement

ITEM NO. (A)	ITEM OR SERVICE (Include Specifications and Special Instructions) (B)	QUANTITY (C)	UNIT (D)	ESTIMATED COST	
				UNIT PRICE (E)	AMOUNT (F)
	<p>CFDA Number: 77.008</p> <p>DUNS Number: 042092122</p> <p>Payment will be made through the Automated Standard Application for Payment (ASAP.gov) unless the recipient has failed to comply with the program objectives, award conditions, Federal reporting requirements or other conditions specified in 2 CFR 200.</p> <p>Payment:</p> <p>ASAP GRANT FUNDS REIMBURSEMENT SYS</p> <p>US TREASURY</p> <p>Period of Performance: 07/01/2016 to 06/30/2020</p>				

Attachment A - Schedule**A.1 PURPOSE OF GRANT**

The purpose of this Grant is to provide support to the "North Carolina State University's Graduate Fellowship in Nuclear Engineering (NCSU-GFINE) - 2016" as described in Attachment B entitled "Program Description."

A.2 PERIOD OF GRANT

1. The effective date of this Grant is 07/01/2016. The estimated completion date of this Grant is 06/30/2020.

2. Funds obligated hereunder are available for program expenditures for the estimated period: 07/01/2016 – 06/30/2020.

A. GENERAL

1. Total Estimated NRC Amount:	\$400,000.00
2. Total Obligated Amount:	\$400,000.00
3. Cost-Sharing Amount:	\$160,626.00
4. Activity Title:	North Carolina State University's Graduate Fellowship in Nuclear Engineering(NCSU-GFINE) - 2016
5. NRC Project Officer:	Nancy Hebron-Isreal
6. DUNS No.:	042092122

A.3 BUDGET

Revisions to the budget shall be made in accordance with Revision of Grant Budget in accordance with 2 CFR 200.

	Year 1	Year 2	Year 3	Year 4
Personnel	\$21,740.00	\$9,105.00	\$9,378.00	\$9,660.00
Fringe Benefits	\$13,174.00	\$9,005.00	\$9,095.00	\$9,188.00
Travel	\$2,000.00	\$2,000.00	\$2,000.00	\$2,000.00
Supplies	\$2,000.00	\$2,000.00	\$2,000.00	\$2,000.00
Other (tuition)	<u>\$57,500.00</u>	<u>\$59,300.00</u>	<u>\$61,280.00</u>	<u>\$60,806.00</u>
Total Direct Cost	\$96,414.00	\$81,410.00	\$83,753.00	\$83,654.00
Indirect Cost (50.5%)	<u>\$20,041.00</u>	<u>\$11,387.00</u>	<u>\$11,574.00</u>	<u>\$11,767.00</u>
Total Cost	\$116,455.00	\$92,797.00	\$95,327.00	\$95,421.00

All travel must be in accordance with the North Carolina 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 \$560,626.00 for the four year period; inclusive of \$160,626.00 in cost share.

2. NRC hereby obligates the amount of \$400,000.00 for program expenditures during the period set forth above and in support of the Budget above. The Grantee will be given

written notice by the Grants Officer when additional funds will be added. NRC is not obligated to reimburse the Grantee for the expenditure of amounts in excess of the total obligated amount.

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

Attachment B – Program Description

North Carolina State University's Graduate Fellowship In Nuclear Engineering (NCSU-GFINE) - 2016 Project Description

This proposal is a request for financial support for 2 graduate students in nuclear engineering through the North Carolina State University's Graduate Fellowship in Nuclear Engineering (NCSU-GFINE) program that helps to develop a highly talented and competent workforce with post-baccalaureate education capable of leading the nation's charge to reinvigorate its nuclear industry. Every attempt will be made during the recruitment and selection processes to ensure that the sponsored students reflect the diverse groups that make up our nation's populace. Moreover, the high academic standards inherent to NC State's Department of Nuclear Engineering and the proposed selection formula will ensure the highest caliber of the sponsored fellows. These individuals will shepherd the design, construction, operation, and regulation of new and innovative nuclear facilities, while maintaining the safety and security of processes for the handling of requisite nuclear materials in the coming decades, a period crucial for the revamping of an industry that has fallen to neglect. Upon graduation the sponsored fellows will be contractually required to complete nuclear-related employment at the rate of six months per year of NCSU-GFINE sponsorship. The commitment by NCSU's Department of Nuclear Engineering and College of Engineering to the success of NCSU-GFINE is evidenced by a cost-sharing contribution (that includes un-recovered indirect costs). The support of industry for the Department and its mission, and their interest in NCSU-GFINE is evidenced by Dominion Energy, Progress Energy and AREVA's contribution to the cost-sharing arrangement in the past.

Brief Overview of NCSU's Department of Nuclear Engineering

The MS and PhD programs in nuclear engineering were established within NC State's Department of Physics around 1950, concurrently with the construction on campus of the world's first university-based non-governmental reactor. The first batch of MS degrees in nuclear engineering was awarded in 1952 and two PhD's were awarded in 1955. In 1962, the Department of Nuclear Engineering was formally established within the College of Engineering recognizing the rapid development of nuclear power generation and radioisotope utilization within the US and abroad. In 2007 NCSU's Distance Education (DE) operation began to offer nuclear engineering courses for Post Baccalaureate Studies (PBS) students, primarily in industry. Enrolment in the DE MNE program has been growing since then, populated primarily by young employees in the nuclear industry wishing to further their career goals through advanced degrees. In 2011 our Department entered into an agreement with South Carolina State University (SCSU), the only HBCU University in the nation that offers a degree in nuclear engineering, wherein their senior students will have the opportunity to take most of their specialized senior-year courses, including the Senior Design Project, at NCSU. The commitment of NCSU's top administration to this arrangement is evident from their strong appeal to the university system's administrative arm to permit SCSU students to

pay in-state tuition for courses they take at NCSU while ultimately earning their degrees from SCSU. The inaugural class in this unique arrangement started in Fall 2012 with SCSU students participating in our Senior Design Project Preparation course (NE 406) while sitting at SCSU and completing other degree requirements and commuting to our campus once a month. These activities have continued in the Fall semesters of the following years up now whereas in Spring semesters these SCSU students have moved to our campus, fully integrated with our student body and participated in curricular and extra-curricular activities typical of the senior class. This has enriched the diversity of our graduate student population and the GFINE pool of candidates allowing us to recognize excellence among the underrepresented groups in our field.

For many years the Department benefited from the active, frequent, and thorough review and advice from its fifteen-member Industrial Advisory Committee (IAC) that has been succeeded by a nine-member Nuclear Engineering Department Advisory Council (NEDAC) in 2011. They played an instrumental role in keeping the graduate program, as well as the undergraduate program, in synch with the needs of a broad spectrum of employers in industry and national laboratories.

Overview of NCSU's Graduate Programs (GP) in Nuclear Engineering (NE)

NC State's Department of Nuclear Engineering administers three graduate degrees for students holding a BS degree in the physical sciences or any engineering discipline: **Master of Nuclear Engineering (MNE), Master of Science (MS) and Doctor of Philosophy (PhD)**. At present, the department offers its graduate students research opportunities in **four** tracks: **Nuclear Fission Power, Radiation Applications, Industrial Plasma Applications, and Crosscutting Areas** such as nuclear materials and nuclear computational science research with broad applications in the above tracks. Currently we have 95 enrolled graduate students in total with 64 of them seeking PhD degree.

Faculty and Graduate Students of NCSU's Department of Nuclear Engineering

The number of faculty lines in NC State's Department of Nuclear Engineering today stands at 16 active tenured and tenure-track faculty. This is an increase of 100% compared to the Fall 2007 count of eight lines. In addition, current searches include two endowed professorships (Progress Energy and Duke Energy) along with 3 more positions, one with partial CASL support which stemmed from the hiring of new department head, Dr. Kostadin Ivanov. Thus the growth of the departmental faculty has been phenomenal since 2007 when the total number was around 8. It is interesting to note that along with the department head, 2 new faculty members were hired in 2015. A list of the current faculty and a brief description of their specialty areas are included under Section V.1 on Evaluation Criteria.

The Department's graduate student population has been experiencing a healthy growth over the past several years as described in more detail also in Section V.1. Outreach activities have been very successful due to the dedicated service of our Director for Outreach Programs, Ms. Lisa Marshall, yielding 10-20% female and 5-10% under-represented diversity in the department's profile, an admirable achievement that we seek to further with the new arrangement involving SCSU. It is to be emphasized that the ratio of US student population increased to 70% from around 40-50% till 2009 (details in Selection Criteria descriptions).

The executive office of NCSU's Department of Nuclear Engineering comprises the Department Head, Dr. Kostadin Ivanov, since August 2015, a University Program Manager and two Administrative Support Associates, one IT specialist and one lab

coordinator. Assistant Director for Graduate Student activities is in search. Administration of the Graduate Programs (GP) is entrusted to the Director of Graduate Programs (DGP), Dr. K. L. Murty since June 2007, assisted by the Graduate Student Coordinator (GSC), *Graduate Programs Focus Group* (GPFG) whose function is to administer the GP, fellowships and scholarships, help with recruitment of graduate students, consider applications to GP and recommend admissions to the Graduate College, and generally provide support to the graduate student population. In addition, a new appointee will be selected to specifically assist the DGP in graduate student recruiting along with contacting various institutions in US and abroad. We believe this additional person devoting to graduate student recruiting will be highly beneficial in attracting outstanding students to our Nuclear Engineering graduate program. Moreover, our college of engineering has been very supportive of our efforts in providing required funds for graduate student recruiting. The proposed NRC fellowship program will be highly beneficial in this important endeavor that will yield significant results in filling the gaps encountered by nuclear energy technologies that needs young professionals to replace aging nuclear industry personnel.

Statement of Problem Addressed by Proposed Project

With the addition of new faculty as described above, and also with the growing MNE Distance Education program, significant further growth in graduate student enrolments is anticipated. The desirable steady-state size for the graduate student population with the current number of faculty members is somewhere between 110 and 120 students, with further growth projected with additional faculty hiring in the near future. While the department and the college welcome this growth, and while employers of our graduating students are supportive and encouraging of this trend, it raises some challenges to our ability to recruit high quality students and places undue burden on the department's resources. The pressures on university finances and how these influence recruitment activities necessary to sustain the nuclear renaissance demand continued diligence. Our current NCSU-GFINE project clearly demonstrated the benefit of NRC's support and we seek to sustain this success that allows us to extend a more favorable financial offer to top applicants without overly increasing the financial burden or risk. In conjunction with our successful recruitment of female and under-represented students in the past, NCSU-GFINE will help us more aggressively recruit from such groups to bring a better balance to the diversity of our graduate student population.

Description of NCSU-GFINE

The proposed NCSU-GFINE program will award two Fellowships per year for four consecutive years. We propose to re-compete the awards every year in order to include as many students in the program as possible and to ensure continuing high performance of the selected students for the duration of their award. The selection criteria will neither favor nor penalize students who previously won NCSU-GFINE awards. Each NCSU-GFINE award will comprise:

- ☐ Nine-month stipend of \$29,000 paid over twelve months (compared to our standard twelve-month stipend of \$24,000 for RA or TA) along with Tuition and fees and Health insurance.
- ☐ Laptop computer, unless the student won a previous NCSU-GFINE award (see below).
- ☐ Travel to one professional conference per year regardless of whether or not the student won a previous NCSU-GFINE award.

The nine-month term of the stipend is intended to accomplish two purposes: (i) It increases the monthly stipend differential compared to RA/TA appointments by over \$5,000/year to increase the desirability of winning a Fellowship thus raising the quality of the applicant pool. (ii) It permits the selected Fellow to supplement their annual income through a paid internship during the summer months in support of the goals of this program as it will establish a working relationship for the Fellow with potential future employers in the nuclear field. It is worth noting that NCSU's matching of the Fellows' stipend in the ratio of about one-to-four is necessary due to the university's accounting requirements that prohibit other expenditures (i.e. travel and laptop) from university funds unless other costs are shared in comparable proportions. In this particular case this works better for the Fellows as it results in a larger stipend without incurring additional cost to the NRC. Each Fellow will be provided with a laptop computer in support of high productivity during their appointment. Support for one trip to a professional conference per year per Fellow is provided in order to help the student build their network in the nuclear engineering community early on, and help identify a host for his/her summer internship.

Tuition and fees amount to \$14,337 per student per year that include in-state tuition, GSSP (graduate student support plan) and college fees. These figures, as indicated in the requested budget, with a 10% increase per year are standard practice to include in funding proposals. The request for \$2,000 for two Fellows per year (matched by NCSU's \$1,000) for student travel and similar amounts for the purchase of a laptop computer are estimates based on current expenditures for similar purposes.

Recruitment Activities

NC State's Department of Nuclear Engineering organizes and participates in several activities to attract US citizens into the program. Ms. Lisa Marshall is Director of Outreach Programs in the Department of Nuclear Engineering, whose mission is to implement a sound enrolment management process – both at the undergraduate and graduate levels; as mentioned earlier, we are in the process of hiring a new person who will be mainly responsible for graduate recruitment leaving Ms. Marshall to concentrate on undergraduate program and students. Activities implemented throughout the year include data mining, analysis and educational marketing. Participation in The Graduate School's Visit NC State Day, selected national graduate and professional career fairs, ORNL Day of Science are just a few examples.

The flagship of the Outreach Program is a two-day, by-invitation-only Open House typically organized in February of each year. During their visit, prospective students interact with faculty members, current students and alumni; tour departmental facilities including the PULSTAR reactor and research laboratories; participate in class observations; and, visit campus and some surrounding neighborhoods. The event has been very successful in attracting highly qualified students to our program.

Diversity is an integral part of our recruitment initiatives where relationships are being forged with national, regional, and local engineering organizations and colleges. The Society of Women Engineers, the National Black Society of Engineers, the Society of Hispanic Professional Engineers, and the American Indian Science and Engineering Society represent key entry points. Involvement with science and engineering students and professors at Historically Black Colleges and Universities (HBCUs), women-only colleges and Tribal Colleges also provide an opportunity to engage with students and develop the Department's pipeline of students from underrepresented groups. Students

from such HBCUs as South Carolina State University and North Carolina Agricultural and Technology University have enrolled in our graduate program. There are several articulation agreements that have yielded students for the department. These 2+2 relationships bring students from such feeder schools as the University of North Carolina at Wilmington and/or Wake Technical Community College to complete the last two years in our Department. Activities such as the undergraduate student research program and symposium, the American Nuclear Society Student Conference, and the Nuclear Engineering Seniors Graduate Education Overview Event provide students with experiences and opportunities to explore graduate education. NCSU–GFINE will be utilized as a recruitment tool by advertising its benefits and availability to new students. Targeted groups will be particularly advised of pertinent information to prod them to apply.

Selection Process

Initially, graduate student applications are screened mainly by GPA (from the BS degree) and GRE scores. While the GPA cutoff for admission is 3.0, financial offers in the form of Graduate Assistantships, are usually made only to students with a GPA of 3.5 or higher. Some of the highly qualified applicants are also nominated for other NCSU fellowships to supplement the departmental assistantship offer. Additional information that factors into the decision to recommend admission includes the applicant's letter of purpose, reference letters, and their grades in undergraduate courses relevant to our program, primarily courses in engineering and the physical sciences. Finally, the admission process recognizes other desirable criteria like US citizenship or US permanent residency, ethnic background and gender seeking diversity in the student population. Upon identifying all qualifying graduate students they will be invited to apply electronically for NCSU–GFINE. In the application form they will be required to provide the following: (i) Their actual GPA upon conclusion of the Spring semester, (ii) Statement he/she is a US citizen or US permanent resident, (iii) A commitment to carry a full load (defined as 9 credit hours per semester at NCSU) for the two-semester term of the NCSU–GFINE, and (iv) A commitment to work in the nuclear field upon graduation for at least six months per academic year, or fractional academic year, of NCSU–GFINE support.

At a prescribed application deadline in the first half of June data will be pulled from the NCSU–GFINE application forms, verified against admissions records for new students or against NCSU records for continuing students, and fed into an Excel workbook to rank the applicants according to the following formula (subject to revision via negotiation with NRC):

(GPA – 3.3) × 50: Range is 0 to 28 points; GPA is on 4.0 scale, and multiplied by 4/5 if provided on scale of 5.0
 + (Major-GPA – 3.3) × 60: Range is 0 to 42 points; requires four or more courses
 + 10 points for having passed NCSU's Nuclear Engineering PhD Qualifying Exam
 + 10 points at the discretion of the DGP (subject to NRC approval; see below)

The last item is meant to give the DGP some flexibility to recognize attributes not captured in the above formula. These may include offering one fellowship each to an MS and a PhD student, rewarding a student who did an internship with NRC, or simply to break a tie in the score. Once the two winning students are identified they will be advised of their selection, required to enter into a binding contractual agreement (see below). At the conclusion of the selection process the names of the two selected Fellows will be provided to the NRC.

NCSU–GFINE Management & Student Support Structure

The NCSU's Department of Nuclear Engineering has in place the necessary administrative structure and competency to manage the proposed NCSU–GFINE program. As explained above, the overlapping domains of the GP and NCSU–GFINE demand tight synchronization between the two processes. This will be accomplished by assigning the management of NCSU–GFINE to the DGP assisted by the GPFG, the Director of Outreach, and the Department's executive office staff and Department Head, who collectively have many man-years of experience running the GP.

Evaluation Plan

Past experience with fellowship awardees has been that in general they successfully complete their degree MNE/MS or PhD within the expected timeframe. Occasional cases were encountered where due to unforeseen circumstances academic performance is adversely affected or graduation is delayed, but this is rare as far as fellowship holders are concerned. Standard mechanisms for monitoring the academic performance of all students in the Department involve individual instructors for enrolled courses, who follow the students' progress via their grades in tests, in-class quizzes and homework assignments. The faculty advisor and the DGP monitor the student's progress on the degree's research project, and towards completing the degree requirements in general. Appropriate advice is given to the students not able to meet the requirements. The re-competition feature of the proposed program is designed to ensure that the selected Fellows continue to perform their best academically.

Contractual Agreement with Participating Students

As a condition for winning an NCSU–GFINE award, the selected Fellow must sign a binding contractual agreement whose language will reflect the following criteria:

1. The student will maintain full-time student status in NCSU's Department of Nuclear Engineering and carry a full academic load, defined as 9 credit hours per semester.
2. The student understands he/she must maintain a 3.3 GPA or higher for the term of the Fellowship, and that otherwise the Fellowship will be terminated at NRC's discretion.
3. The student commits to serve 6 months in nuclear-related employment for each full or partial year of NCSU–GFINE academic support. The employment may be with NRC, other Federal agencies, State agencies, Department of Energy laboratories, nuclear-related industry, or academia in the students' sponsored fields of study.
4. NCSU–GFINE Fellows who fail to satisfy the requirements of the program must reimburse the United States Government for the entire amount of the assistance provided them under the fellowship plus interest at a rate determined by the NRC.

Past GFINE Fellows Program (since 2010) supported 11 students among whom 7 completed their graduate degrees (2 MNE and 1 PhD) and were gainfully employed by nuclear industry companies (Newport News Ship Building, Westinghouse, AREVA and Studsvik Nuclear). The remaining 3 fellows, among whom one is a minority student, are currently pursuing Ph.D. degrees. The number of applications to NCSU–GFINE increased during the last 3 years and the selection has been highly competitive.

Attachment C - Standard Terms and Conditions

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

Preface

This award is based on the application submitted to, and as approved by, the Nuclear Regulatory Commission (NRC) under the authorization 42 U.S.C. § 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 grant or cooperative agreement. The following also apply:

- 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 Part 200 Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards.

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 (E.O.), Office of Management and Budget (OMB) Circulars, the NRC's 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 200

All provisions of 2 CFR Part 200 and all Standard Provisions attached to this grant/cooperative agreement are applicable to the Recipient and to sub-recipients which meet the definition of "Recipient" in 2 Part §200.86, unless a section specifically excludes a sub-recipient from coverage. The Recipient 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 D of 2 CFR Part 200 and include this term in lower-tier (sub-award) covered transactions.

Recipients must comply with monitoring procedures and audit requirements in accordance with 2 CFR Part 200, Subpart F—AUDIT REQUIREMENTS.

2. Award Package

The Recipient is obligated to conduct project oversight as may be appropriate, to manage the funds with prudence, and to comply with the provisions outlined in 2 CFR Part 200. Within this framework, the Principal Investigator (PI) named on the award face page, 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, and is subject to a refund of unexpended grant funds to the NRC.

The non-Federal entity alone must be responsible, in accordance with good administrative practice and sound business judgment, for the settlement of all contractual and administrative issues arising out of procurements related to its grant award. These issues include, but are not limited to, source evaluation, protests, disputes, and claims. These standards do not relieve the non-Federal entity of any financial or fiduciary responsibilities or obligations arising under its grant, including sub-

contracts and sub-awards, or any other contractual or financial obligation. The Federal awarding agency will not substitute its judgment for that of the non-Federal entity unless the matter is primarily a Federal concern. Violations of law will be referred to the local, State, or Federal authority having proper jurisdiction. See 2 CFR § 200.318(k), General Procurement Standards.

Subawards

Appendix II to Part 200 Contract Provisions for Non-Federal Entity Contracts Under Federal Awards

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 Recipient to NRC. See 2 CFR § 200.318.

Nondiscrimination

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

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

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. §§ 2000d et seq.), which prohibits discrimination on the grounds of race, color, or national origin in any program or activity receiving federal financial assistance.
- Title IX of the Education Amendments of 1972 (20 U.S.C. §§ 1681 et seq.), which prohibits discrimination on the basis of sex in any education program or activity receiving federal financial assistance.
- Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. § 794), which prohibits discrimination on the basis of disability in any program or activity receiving federal financial assistance.
- The Age Discrimination Act of 1975, as amended (42 U.S.C. §§ 6101 et seq.), which prohibits discrimination on the basis of age in any program receiving federal financial assistance.
- The Americans with Disabilities Act of 1990 (42 U.S.C. §§ 12101 et seq.), which prohibits recipients from discriminating on the basis of disability in employment (Title I); State and local government services (Title II); and places of public accommodation and commercial facilities (Title III).
- Parts II and III of E.O. 11246, as amended by E.O. 11375, 11478, 12086, 12107, 13279, 13665, and 13672, which prohibits federal contractors and federally assisted construction contractors and subcontractors, who do over \$10,000 in Government business in one year, from discriminating in employment decisions on the basis of race, color, religion, sex, or national origin and requires that government contractors take affirmative action to ensure that equal opportunity is provided in all aspects of their employment.
- E.O. 13166, "Improving Access to Services for Persons with Limited English Proficiency," which clarifies that national origin discrimination under Title VI includes discrimination on the basis of limited English proficiency (LEP) and requires that the recipient take reasonable steps to ensure that LEP persons have meaningful access to programs and activities.
- Any other applicable non-discrimination law(s).

Generally, Title VII of the Civil Rights Act of 1964, 42 U.S.C. § 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 VII, 42 U.S.C. § 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 Recipient 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 and obtained from the NRC Grants Officer in advance of the change or obligation of funds. All requests for NRC prior approval, including requests for extensions to the period of performance, must be made, in writing (which includes submission by e-mail), to the designated Grants Officer at least 30 days before the proposed change. The request must be signed by 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 Recipient will comply, as applicable, with provisions of the Hatch Act (5 U.S.C. §§ 1501-1508 and 7324-7328) which limits the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

The Recipient will comply with provisions of 31 U.S.C § 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 Recipient shall submit a completed "Certification Regarding Lobbying" form, regardless of dollar value.

If applicable, the Recipient receiving in excess of \$100,000.00 in Federal funding shall submit a completed Standard Form (SF-LLL), "Disclosure of Lobbying Activities" for any persons engaged in lobbying activities, as discussed at 31 U.S. Code § 1352 – Limitation on use of appropriated funds to influence certain Federal contracting and financial transactions. The form concerns 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. If the Recipient must submit the SF-LLL, including those received from sub-recipients, contractors, and subcontractors, to the Grants Officer.

Debarment And Suspension – (See 2 CFR Part 180; 2 CFR § 200.205; 2 CFR § 200.113; and 2 CFR Part 200, Appendix II.)

The Recipient 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 the recipient's 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); or
- (4) Have had one or more public transactions (Federal, State, or local) terminated for cause or default within the preceding three years.
- (5) The Recipient agrees that, unless authorized by the Grants Officer, it will not knowingly enter into any subaward or contracts under this grant/cooperative agreement with a person or entity that is not included on the System for Award Management (SAM) (<https://www.sam.gov>).

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

Debarment, Suspension, Ineligibility, and Voluntary Exclusion

The Recipient 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 2 CFR Part 180 and 2 CFR Part 200.

Drug-Free Workplace

The Recipient 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 U.S.C. §§ 8101-8106.

Implementation of E.O.13224 – Executive Order on Terrorist Financing

The Recipient 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 Recipient 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.

The Recipient must comply with E.O. 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:

Implementation of Executive Order 13224 Blocking Property and Prohibiting Transactions With Persons Who Commit, Threaten To Commit, or Support Terrorism amended by E.O. 13268, 13284, and 13372.

Procurement Standards - 2 CFR §§ 200.318-200.326

Sections 200.318 - 200.326 set forth standards for use by Recipients 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 will be imposed by the Federal awarding agencies upon Recipients, unless specifically required by Federal statute, executive order, or approved by OMB.

Travel and Transportation

Travel must be in accordance with the Recipient's Travel Regulations or the U.S. Government Travel Policy and Regulations at: <http://www.gsa.gov/portal/category/21222> and the per diem rates set forth at: <http://www.gsa.gov/portal/content/104877>, absent Recipient's travel regulations. Travel and transportation costs for the grant must be consistent with provisions as established in 2 CFR § 200.473-474.

All other travel, domestic or international, must not increase the total estimated award amount for the grant.

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 Recipient'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 for the grant.

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 Recipient's policies and practices. Travel by first-class travel is not authorized unless prior approval is obtained, in writing, 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 Recipient will comply with the provisions of the Fly America Act (49 U.S.C 40118), as implemented at 41 CFR §§ 301-10.131 through 301-10.143.

Property Standards

Property standards of this award shall follow provisions as established 2 CFR §§ 200.310-200.316.

Intangible Property

Intangible and intellectual property of this award shall generally follow provisions established in 2 CFR § 200.315.

Inventions Report - The Bayh-Dole Act (P.L. 96-517) affords Recipients 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 Recipient 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 Recipient report all subject inventions to the awarding agency (NRC) as well as include an acknowledgement of federal support in any patents.

Patent Notification Procedures - If the NRC or its Recipients, 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, E.O. 12889 requires NRC to notify the owner. If the Recipient uses or has used patented technology under this award without license or permission from the owner, the Recipient must notify the Grants Officer. This notice does not imply 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, such as data, databases or software are determined by Subpart D of 2 CFR Part 200. The Recipient 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 Recipient 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 Recipient employees may be copyrighted, but only the part authored by the Recipient is protected because, under 17 U.S.C. § 105, works produced by Government employees are not copyrightable in the United States. On occasion, NRC may ask the Recipient 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 U.S.C. § 105.

Record Retention and Access

Recipient shall follow established provisions in 2 CFR §§ 200.333-337.

Conflict Of Interest

Conflict of Interest standards for this award will follow the Organizational Conflict of Interest (OCOI) requirements set forth in Section 170A of the Atomic Energy Act of 1954, as amended, and provisions set forth at 2 CFR § 200.112, Conflict of Interest.

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 Recipient'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 Acquisition Management Division, unless otherwise delegated, who shall appoint an intra-agency Appeal Board to review a recipient 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 Recipient 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.

Remedies for Noncompliance

Termination of this award will follow provisions as established and described above in "Dispute Review Process" in 2 CFR §§ 200.338-342.

Performance and Financial Monitoring and Reporting - 2 CFR §§ 200.327-329

Recipient Financial Management systems must comply with the provisions in 2 CFR § 200.302.

- Payment – 2 CFR § 200.305
- Cost Share or Matching – 2 CFR § 200.306
 - Recipients are to be careful with providing excessive cost share or match since at the end of the grant, if the identified match has not been provided, then a portion of the federal share may be required to be returned to the Government.
- Program Income – 2 CFR § 200.307
 - Earned program income, if any, will be added to funds committed to the project by the NRC and Recipient and used to further eligible project or program objectives or be deducted from the total project cost for the grant, as directed by the Grants Officer or indicated in the terms and conditions of the award.
- Revision of Budget and Program Plans – 2 CFR § 200.308
 - The Recipient is required to report deviations from the approved budget and program descriptions in accordance with – 2 CFR § 200.308(b) and request prior written approval from the Project Officer and the Grants Officer.

- The Recipient is not authorized to re-budget between direct costs and indirect costs without written prior approval of the Grants Officer.
 - The Recipient is authorized to transfer funds among direct cost categories up to a cumulative 10 percent of the total approved budget. The Recipient 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 §§ 200.403
- See section 2 CFR §§ 200.330-332 for Subrecipient Monitoring and Management.

FEDERAL FINANCIAL REPORTS

Federal Financial Reports (SF-425) are semi-annually, for the periods ending March 31 and September 30. Reports are due within 30 calendar days following the end of the reporting period and must be emailed to the Project Officer at the email addressed indicated in the Notice of Award, and to the Grants Officer at: Grants FFR.Resource@nrc.gov. (NOTE: *There is an underscore between Grants and FFR in the email address.*) The SF-425 form and instructions are available at the following URL: http://www.whitehouse.gov/omb/grants_forms/.

PERFORMANCE PROGRESS REPORTS

The performance (technical) reports indicated below are subject to 2 CFR §200.328.

Scholarship and Fellowship Programs

Performance Progress reports must be submitted annually, for the period ending September 30, or any portion thereof, regardless of the award date. Reports are due within 30 days following the end of each reporting period and must be emailed to the Project Officer at the email addressed indicated in the Notice of Award, and to the Grants Officer at: Grants PPR.Resource@nrc.gov. (NOTE: *There is an underscore between Grants and PPR in the email address.*)

Final Reports - The Recipient is required to submit final reports, both Financial (SF-425) and Performance (SF-PPR, SF-PPR-B, SF-PPR-E) within 90 days of the grant expiration. In addition to these reports, a final SF-428, Tangible property report, is also required, if applicable. The final PPR (for Scholarship, Fellowship, and Trade School and Community College Scholarship awards) must include the names of all students with up to date contact information (mailing address, telephone/cell phone, email address). The reports must be emailed to the Project Officer at the email addressed indicated in the Notice of Award, and to the Grants Officer at: Grants FFR.Resource@nrc.gov and Grants PPR.Resource@nrc.gov. (NOTE: *There is an underscore between Grants and FFR and Grants and PPR in the email addresses.*)

Period of Performance – 2 CFR § 200.309

The recipient may charge to the Federal award only allowable costs incurred during the period of performance and any costs incurred before the NRC or pass-through entity made the Federal award that was authorized by the NRC or pass through entity.

Unless otherwise authorized in 2 CFR Part 200 or by special award condition, any extension of the award period can only be authorized by the Grants Officer in writing. Assurances of funding from other than the Grants Officer shall not constitute authority to obligate funds for programmatic activities beyond the expiration date.

The NRC Grant Officer may authorize a no cost extension of the period of performance. The recipient must submit a no cost extension request no less than 30 days prior to the award end date. Any request for a no cost extension after the grant has expired will not be approved. However, the NRC has no obligation to provide any additional prospective or incremental funding. Any modification of the award to increase funding and/or to extend the period of performance is at the sole discretion of the NRC.

Automated Standard Application For Payments (ASAP) Procedures

Unless otherwise stated, Recipient payments are made using the Department of Treasury's Automated Standard Application for Payment (ASAP) system, ASAP.gov, through preauthorized electronic funds transfers. To receive payments, Recipients 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 is required to make ASAP withdrawals: (1) ASAP account number – the award number found on the cover sheet of the award; (2) Agency Location Code (ALC) – 31000001; and Region Code. Recipients enrolled in the ASAP system do not need to submit a "Request for Advance or Reimbursement" (SF-270).

II. Audit Requirements

Audits

Organization-wide or program-specific audits are performed in accordance with the Single Audit Act of 1996, as amended, and as implemented by 2 CFR Part 200, Subpart F—AUDIT REQUIREMENTS. Recipients are subject to the provisions of this subpart if they expend \$750,000 or more in a year in Federal awards. See 2 CFR 200.501.

The Form SF-SAC and the Single Audit Reporting packages for fiscal periods ending on or after January 1, 2008 are submitted online, as follows:

1. Create the recipient's 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; and
5. Click "Submit."

Organizations expending less than \$750,000 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

The recipient is responsible for providing documentation to the NRC that tracks each student's progress in achievement of the academic program for which federal funds were provided. This includes: (1) ensuring the service agreement is signed by the student prior to providing support; (2) providing the NRC with student contact information

upon student entry into the program, upon completion or withdrawal from the program, and upon request by the NRC; and (3) monitoring the student's fulfillment of the service agreement for the duration of the award. The NRC shall be notified immediately if a student is not fulfilling the academic program or the service agreement.

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 OMB requirements indicated above (for metric reporting), the recipient shall address the following questions and submit responses with the required progress reports:

Fellowship Metrics:

1. How many graduate students have been sponsored by NRC funding?
 - a. Response is the number of students, for this reporting period and cumulative to the grant.
2. How many students, supported by NRC funding, have received M.S. or equivalent degrees?
 - a. Response is the number of students, for this reporting period and cumulative to the grant.
3. How many students, supported by NRC funding, have received Ph.D. or equivalent degrees?
 - a. Response is the number of students, for this reporting period and cumulative to the grant.
4. How many students, supported by NRC funding, have accepted a job and are employed in the nuclear industry?
 - a. Response is the number of students, for this reporting period and cumulative to the grant.
5. How many items have students produced, for example, Professional Journal articles, publications, patents, or conference reports?
 - a. Response is the type and number of items, for this reporting period and cumulative to the grant.

As part of the PPR, include the following information for each student support under this award:

1. Student Name
2. Years of Support
3. Cumulative Support in Dollars
4. Estimated Graduation Date
5. Status

6. Up to date student contact information (mailing address, telephone/cell phone, email address) for students no longer participating in the program, i.e. transferred programs, graduated, withdrew, etc.
7. Up to date student contract information, for all students at time of grant expiration, i.e. Final PPR.

Examples of status could be:

"Employed in Nuclear Industry", if so, where;
"Looking for employment", if so, how long;
"Deferred due to continuing education", if so, what degree;
"Employed by Non-Nuclear", if so, where; and
"Dropped out of program"

Unsatisfactory Performance

Failure to perform the work in accordance with the terms of the award and maintain at least a satisfactory performance rating may result in designation of the Recipient as high risk and the assignment of special award conditions. Further action may be required as specified in the standard term and condition entitled "Remedies for Noncompliance."

Failure to comply with the award provisions may result in a negative impact on future NRC funding. In addition, the Grants Officer may withhold payments; change the method of payment from advance to reimbursement; impose special award conditions; suspend or terminate the grant.

Other Federal Awards With Similar Programmatic Activities

The Recipient will immediately notify the Project Officer and the Grants Officer in writing if after award, other financial assistance is received to support or fund any portion of the program description stated in the NRC award. NRC will not pay for costs that are funded by other sources.

Prohibition Against Assignment By The Recipient

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

Site Visits

The NRC, through authorized representatives, has the right to make site visits to review project accomplishments and management control systems and to provide technical assistance as required. If any site visit is made by the NRC on the premises of the Recipient or contractor under an award, the Recipient shall provide and shall require his/her contractors to provide reasonable access to all facilities and provide necessary assistance for the safety and convenience of the Government representative in the performance of his/her official duties.

IV. Additional Requirements

Criminal and Prohibited Activities

The Program Fraud Civil Remedies Act (31 U.S.C. §§ 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).

False statements (18 U.S.C. § 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.

False Claims Act (31 U.S.C. § 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.

Copeland "Anti-Kickback" Act (18 U.S.C. § 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

Recipients are encouraged to purchase American-made equipment and products with funding provided under this award.

Increasing Seat Belt Use in the United States

E.O. 13043, amended by E.O. 13652, requires Recipients to 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

E.O. 13513 requires Recipients to 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 barred from accepting funds from a Recipient 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 Recipient'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 Recipients or applicants regardless of the source.

Minority Serving Institutions (MSIs) Initiative

Pursuant to E.O.s 13230 and 13270, amended by E.O. 13316 and 13385, 13532, 13592, 13555, 13515, and 13621, 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 Recipients 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 Recipient 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 Recipient organization shall investigate the allegation and submit its findings to the Grants Officer. The NRC may accept the Recipient's findings or proceed with its own investigation. The Grants Officer shall inform the Recipient 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 Recipient 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 Recipient 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 [Recipient 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 recipient or any subrecipient, 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." (See 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 \$25,000.00 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 \$25,000.00 or more;

ii. in the preceding fiscal year, you received—

(A) 80 percent or more of your annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR § 170.320 (and subawards); and

(B) \$25,000,000 or more in annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR § 170.320 (and subawards); and

iii. The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/execomp.htm>.)

2. *Where and when to report.* You must report executive total compensation described in paragraph b.1. of this award term:

- i. As part of your registration profile at <http://www.sam.gov>.
- ii. By the end of the month following the month in which this award is made, and annually thereafter.

c. *Reporting of Total Compensation of Subrecipient Executives.*

1. *Applicability and what to report.* Unless you are exempt as provided in paragraph d. of this award term, for each first-tier subrecipient under this award, you shall report the names and total compensation of each of the subrecipient's five most highly compensated executives for the subrecipient's preceding completed fiscal year, if—

- i. in the subrecipient's preceding fiscal year, the subrecipient received—

(A) 80 percent or more of its annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR § 170.320 (and subawards); and

(B) \$25,000,000 or more in annual gross revenues from Federal procurement contracts (and subcontracts), and Federal financial assistance subject to the Transparency Act (and subawards); and

- ii. The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/execomp.htm>.)

2. *Where and when to report.* You must report subrecipient executive total compensation described in paragraph c.1. of this award term:

- i. To the recipient.
- ii. By the end of the month following the month during which you make the subaward. For example, if a subaward is obligated on any date during the month of October of a given year (*i.e.*, between October 1 and 31), you must report any required compensation information of the subrecipient by November 30 of that year.

d. *Exemptions*

If, in the previous tax year, you had gross income, from all sources, under \$300,000.00, 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 \$10,000.00.