

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

1. GRANT/AGREEMENT NO. NRC-38-10-959		2. MODIFICATION NO.		3. PERIOD OF PERFORMANCE FROM: 5/1/2010 TO: 4/30/2014		4. AUTHORITY Pursuant to Section 31b and 141b of the Atomic Energy Act of 1954, as amended	
5. TYPE OF AWARD <input checked="" type="checkbox"/> GRANT <input type="checkbox"/> COOPERATIVE AGREEMENT		6. ORGANIZATION TYPE Public State-Controlled Institution of Higher ED		7. RECIPIENT NAME, ADDRESS, and EMAIL ADDRESS University of California-Berkeley Graduate Fellowship Program Department of Nuclear Engineering Berkeley, CA 94720-1730			
8. PROJECT TITLE: Nuclear Engineering Faculty Development Project							
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 Colorado School of Mining Attn: Dr. Jeffrey King Assistant Professor, Nuclear Science and Engineering Program Email: kingjc@mines.edu 303-384-2133			
12. NRC PROGRAM OFFICE (NAME and ADDRESS) NRC Attn: John Gutteridge Office of Human Resources MS: GW5A6 (301) 492-2313 11545 Rockville Pike Rockville, Maryland 20852		13. ACCOUNTING and APPROPRIATION DATA APPN. NO: 31X0200 B&R NO: 0-8415-5C1115 JOB CODE: T8460 BOC NO: 4110 OFFICE ID NO: RFPA: HR-10-959		14. METHOD OF PAYMENT <input type="checkbox"/> ADVANCE BY TREASURY CHECK <input type="checkbox"/> REIMBURSEMENT BY TREASURY CHECK <input type="checkbox"/> LETTER OF CREDIT <input checked="" type="checkbox"/> OTHER (SPECIFY) Electronic ASAP.gov (See Remarks in Item #20 "Payment Information")			
15. NRC OBLIGATION FUNDS THIS ACTION <u>\$200,000.00</u> PREVIOUS OBLIGATION _____ TOTAL <u>\$200,000.00</u>		16. TOTAL FUNDING AGREEMENT NRC <u>\$200,000.00</u> RECIPIENT <u>\$0.00</u> TOTAL <u>\$200,000.00</u> This action provides funds for Fiscal Year _____ in the amount of See Page Two					
17. NRC ISSUING OFFICE (NAME, ADDRESS and EMAIL ADDRESS) U.S. Nuclear Regulatory Commission Div. of Contracts Attn: Sheila Bumpass Mail Stop: TWB-01-B10M Rockville MD 20852							
18. Signature Not Required				19. NRC CONTRACTING OFFICER <u>Sheila Bumpass</u> (Signature) _____ (Date) _____ NAME (TYPED) <u>Sheila Bumpass</u> TITLE <u>Contracting Officer</u> TELEPHONE NO. <u>301-492-3484</u>			
20. PAYMENT INFORMATION Payment will be made through the Automated Standard Application for Payment (ASAP.gov) unless the recipient has failed to comply with the program objectives, award conditions, Federal reporting requirements or other conditions specified in 2 CFR 215 (OMB Circular A110).							
21. Attached is a copy of the "NRC General Provisions for Grants and Cooperative Agreements Awarded to Non-Government Recipients. Acceptance of these terms and conditions is acknowledged when Federal funds are used on this project.							
22. ORDER OF PRECEDENCE In the event of a conflict between the recipient's proposal and this award, the terms of the Award shall prevail.							
23. By this award, the Recipient certifies that payment of any audit-related debt will not reduce the level of performance of any Federal Program.							

TEMPLATE - ADM001

SUNSI REVIEW COMPLETE

MAY 28 2010

ADM001

ATTACHMENT A - SCHEDULE

A.1 PURPOSE OF GRANT

The purpose of this Grant is to provide support to the "University of California-Berkeley Graduate Fellowship Program" as described in Attachment B entitled "Program Description."

A.2 PERIOD OF GRANT

1. The effective date of this Grant is May 1, 2010. The estimated completion date of this Grant is April 30, 2014.

2. Funds obligated hereunder are available for program expenditures for the estimated period: May 1, 2010 – April 30, 2014.

A. GENERAL

1. Total Estimated NRC Amount:	\$200,000
2. Total Obligated Amount:	\$200,000
3. Cost-Sharing Amount:	\$0
4. Activity Title:	UC Berkeley Department of Nuclear Engineering Graduate Fellowship Program.
5. NRC Project Officer:	John Gutteridge
6. DUNS No.:	124726725

B. SPECIFIC

RFPA No.:	HR-10-959
FFS:	N/A
Job Code:	T8460
BOC:	4110
B&R Number:	0-8415-5C1115
Appropriation #:	31X0200
Amount Obligated:	\$200,000

A.3 BUDGET

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

	Year 1
Tuition and Fees	\$150,000.00
Stipend	<u>\$50,000.00</u>
Total Direct Costs	\$200,000.00
Indirect Costs (8% MTDC)	<u>\$0.00</u>
Yearly Total	<u>\$200,000.00</u>

All travel must be in accordance with the University of California-Berkeley 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 \$200,000 for the four year period.

2. NRC hereby obligates the amount of \$200,000 for program expenditures during the period set forth above and in support of the Budget above. The Grantee will be given written notice by the Contracting Officer when additional funds will be added. NRC is not obligated to reimburse the Grantee for the expenditure of amounts in excess of the total obligated amount.

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

Attachment B – Program Description

PROGRAM DESCRIPTION

UC Berkeley Department of Engineering Graduate Fellowship Program

B.1 Introduction

As we mark progress with the Nuclear Renaissance, in addition to research and development for the current generation of nuclear reactors, we need to establish parallel technical capability to develop and regulate the advanced reactors and fuel-cycle facilities for safety, security, and environmental protection for the public. For example, the closing of the nuclear fuel cycle with advanced reactors will require the design, construction and operation of facilities, containing plutonium and minor actinides, for spent fuel reprocessing, for fuel fabrication, for transportation, and for fabrication and storage of nuclear waste packages. It is essential to expose the new generation of nuclear engineers to various different disciplines, not only engineering but also regulations, and social sciences.

The Department of Nuclear Engineering at UC Berkeley (UCBNE) offers both undergraduate and graduate programs. UCBNE is the only NE department in California. The Undergraduate Program offers comprehensive ABET-accredited nuclear engineering programs, and has been consistently ranked among the top four in the Nation. The Graduate Program has also been very strong and has consistently ranked among the top 5 nuclear engineering programs in the Nation. In the past decade, the numbers of applications, admissions, and enrollments for both the graduate and undergraduate NE program at UCBNE have increased (Figure 1). The quality of the applicant pool has improved significantly over the last several years, particularly the pool of domestic applicants. Thirteen regular faculty offer instruction in over 28 specialized courses (Tables A and E) and provide research opportunities and supervision for both graduates and undergraduates. Associated faculty in other departments and scientists at the nearby Lawrence Berkeley Laboratory and Lawrence Livermore Laboratory offer additional resources. Currently twenty graduate students hold research appointments at these labs.

B.2 Current Graduate Programs at Department of Nuclear Engineering, UC Berkeley (UCBNE)

UC Berkeley has an enrollment of approximately 28,500 and is noted for the academic distinction of its faculty, the quality and scope of its research activities, and the variety and vitality of student activities. The College of Engineering is ranked by its academic peers as one of the best undergraduate institutions in the United States. UCBNE was established in 1958 by Thomas Pigford at the suggestion of Edward Teller and Glenn Seaborg. UCBNE offers one of the best educational programs in the nation. Our objective is to be the pre-eminent provider of nuclear engineering education at all levels and to perform world-class research across all nuclear engineering disciplines, utilizing the resources available within the University and

through our unique National Laboratory partnerships. Our scientific and technical research competency ensures continual enhancement of our educational ability and serves the University of California, the U.S. Department of Energy, the U.S. Nuclear Regulatory Commission, and the Nation (industry, national laboratories, universities).

In 2008-09, 32 degrees were awarded: 12 bachelor's, 12 master's, and 8 doctoral degrees; in 2007-08, 37 degrees were awarded: 17 bachelor's, 12 master's and 8 doctoral degrees; in 2006-07, 33 degrees were awarded: 17 bachelor's, 10 master's and 6 doctoral degrees, compared with 22 degrees awarded in 2005-06.

The program is designed to prepare students for a career in industry, the national laboratories, or in state or federal regulatory agencies. The Department offers three distinct Masters degrees: two types of Master of Science degrees (20 course units plus MS thesis or 24 course units plus MS project/presentation) and a Master of Engineering degree (40 course units plus an ME project). Doctoral students complete a minimum of six courses in Nuclear Engineering and four to six courses in minor fields.

B.2.1 Areas of instruction and research from which graduate students can select a specialty include:

- Applied nuclear physics
- Advanced fission reactor concepts
- Nuclear materials and chemistry
- Reactor engineering
- Nuclear thermal hydraulics
- Fuel cycles and radioactive waste
- Bionuclear and radiological physics
- Risk, safety and systems analysis

B.2.2 The facilities that support the research include the following (Table F):

- Advanced nuclear engineering computational laboratory
- Computational laboratory for multiscale modeling of radiation damage
- Nuclear materials laboratory
- Thermal hydraulics laboratory
- Nuclear waste computational research laboratory
- Applied nuclear physics laboratory
- McClellan Nuclear Research Center

B.2.3 The University of California (UC) has been managing 3 national laboratories for over 50 years:

Los Alamos National Laboratory (LANL), Lawrence Livermore National Laboratory (LLNL), and Lawrence Berkeley National Laboratory (LBNL). UC is still a part of the consortia that manage LANL and LLNL, after the recent change in the Labs management. The NE Department has been in a unique position over many years to establish and maintain excellent collaboration with all three national laboratories, which allowed both faculty and graduate students to have access to a broad range of advanced experimental facilities and the Labs researchers. The department tries to provide 100% funding for graduate students through fellowship, teaching and research positions in the department and at the nearby national labs.

The Nuclear Engineering department currently has 65 declared undergraduate majors and 65 graduate students. NE students have increased interaction with industry contacts through internships, meetings with colloquium visitors and monthly dinner meetings with industry representatives. The NE faculty have organized numerous workshops, seminars and summer schools, with the participants from industry, academia, national laboratories, and the government (DOE, NRC). Both the NE Department and its faculty have strong international collaboration, allowing graduate students exposure to researchers from international universities, institutes and industry.

The Department has expanded its international network with European and Asian universities. In 2006, the Department started distant learning collaboration with Department of Nuclear Engineering, University of Tokyo. By utilizing video conferencing via internet, lectures and colloquia were shared with University of Tokyo and Shanghai Jiaotong University.

Faculty and students have energetically promoted nuclear education through outreach programs such as the annual NE-ANS Science Teachers workshop, attended by 30 high-school teachers from across California and a day of demonstrations for ATOMS ("Adventures through open Minds Science") Club members--80 elementary school children that their parents.

The NE Student Chapter of the American Nuclear Society provides not only social and professional venues for students but assists with outreach efforts through their participation in department demonstrations and lab tours for high school and junior college students, the University's annual Open House, and the ANS sponsored Annual Science Teachers Workshop. Several years ago, the ANS Student Chapter organized a very successful ANS Student Conference and the NE Department continues to sponsor several graduate and undergraduate students to attend both the ANS Student Conferences, as well as other professional conferences. Students also visit local high schools and sponsor a day-long workshop for elementary school children. Faculty and students actively recruit prospective students at national industry meetings, through visits to colleges and universities across the country and through industry contacts. The NE Department web site www.nuc.berkeley.edu gives details about the undergraduate programs, research groups and projects, admissions and procedures. All students are assigned a faculty adviser who meets with them every semester to discuss their degree progress and monitor their academic work. The NE Department Undergraduate Student Adviser has an overall responsibility to monitor quality of undergraduate graduate admission process and student progress during their studies.

B.3 Establishment of a Graduate Fellowship Program

The UCBNE NRC Fellowship program will support 1-2 Ph.D. students during the first year of their 2-year Master's program or 4-year doctoral program. The fellowship will cover the tuition and fees and stipend for one academic year, including non-resident tuition for one student or tuition and partial stipend for two students. During the summer, and for subsequent years, NRC Fellows will be guaranteed full support in the form of research assistantships in their area of interest.

The students will be required:

- a) to maintain 3.5 GPA in major field and 3.0 GPA in minor fields,
- b) to maintain a course load of at least 12 credit hour per semester,
- c) each student will be is required to join one of the research groups in the NE Department and attend weekly research group seminars and the weekly departmental colloquium.

Students meet every semester with their academic adviser to discuss their degree progress. NRC recipients will be required to report directly to the Fellowship committee to summarize their research progress and professional goals. The committee will assess the success of the program and provide assistance in job placement and follow-up.

Support after the first year will be contingent upon continued academic progress in Nuclear Engineering.

8.4 Cost Sharing

The Department of Nuclear Engineering has been recently awarded a multi-year award through the UC Office of the President Lab Fees Research Program. This award has allowed the Department to establish the Berkeley Nuclear Research Center (BNRC), a joint UCB venture with Lawrence Livermore National Laboratory and Los Alamos National Laboratory. Prof. Jasmina Vujic (NE), principal investigator, along with co-PI's Dave McCallen (LLNL), Sara Scott (LANL), Jim Siegrist (LBNL, UCB) and UCB collaborators Joonhong Ahn (NE) and Michael Nacht (Public Policy) have set up a research and policy center (BNRC) that will harness the campus and laboratories joint strengths in nuclear science, technology, and policy, in all key aspects of sustainable nuclear energy development. The BNRC will provide strategic insight, science and engineering leadership, and research and development results to positively impact issues in the areas of nuclear energy, nuclear waste repositories and environmental impact, nuclear regulation and non-proliferation.

The existence of the Center will simplify exchange and collaboration among faculty, Lab researchers, students and international partners, particularly from Asia-Pacific countries. BNRC-supported Laboratory scientists will spend from several weeks to several months on the UCB Campus as Affiliated Researchers, participating in proposed research, contributing to graduate teaching in various UCB departments (Nuclear Engineering, Physics, Chemistry, Public Policy, and others), and participating in organizing seminars and workshops. The Center is supporting several graduate and undergraduate students per year, as well as two postdoctoral researchers per year that will spend extended periods of time at the national laboratories. Thus, the Center will be able to share the cost of supporting both undergraduate and graduate students through the Departmental scholarships and fellowships.

Additionally, the Department will provide \$155,000/yr in Graduate Student Fellowship support

using the Graduate Division's block grant program. The Department will supplement stipends to bring them up to standard levels of department support.

B.5 Concluding Remarks

In the proposed fellowship program, we will award 2 graduate fellowships per year. Utilizing our extensive alumni database in both the College of Engineering and in the department, we can track our graduates professional careers. We are confident that we can establish an effective system for recruitment, selection, monitoring/mentoring, and feedback.

The Principal Investigator and Co-PI's have successfully mentored dozens of graduate students through the program in Nuclear Engineering.

B.6 Summary of Relevant Current Funding Support

NRC-38-07-506 (by the co-PI):

This is the funding for the project, titled Development of the graduate course in "Scientific and Regulatory Basis for Environmental Protection in Nuclear Fuel Cycle" for the term between September 2007 and August 2009. In this project, a graduate course for environmental safety of nuclear fuel cycle facilities has been developed.

In the first and second (current) fiscal years, the fundamental literature survey and class material development were carried out. With these results, the course was first offered in Fall 2008 semester for graduate students as NE290G with the same title after obtaining approval from the UC Berkeley Committee on Courses and Instructions.

The main tasks of the second fiscal year (current) are, based on the feedback from the students who took the course, (1) improvement of the class materials, including homework sets and mini-projects, (2) development of web-based educational materials, and (3) the distance education.

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 these URLs to the Office of Management and Budget Cost Circulars are included for reference:

A-21 (now 2CFR 220): <http://www.whitehouse.gov/omb/circulars/a021/print/a021.html>
A-87 (now 2CFR 225): <http://www.whitehouse.gov/omb/circulars/a087/print/a087-all.html>
A-122:(now 2 CFR 230) <http://www.whitehouse.gov/omb/circulars/a122/print/a122.html>
A-102, SF 424: <http://www.whitehouse.gov/omb/circulars/a102/print/a102.html>
Form 990: <http://www.irs.gov/pub/irs-pdf/i990-ez.pdf>

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.

By drawing funds from the Automated Standard Application for Payment system (ASAP), the recipient agrees to the terms and conditions of an award.

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 Part 180 and include this term in lower-tier (subaward) covered transactions.

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

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

2. Award Package

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 FY 2010 HR grant awards, in addition to the customary performance progress report requested on the SF-PPR, SF-PPR-B, and SF-PPR-E forms, HR requires the following metrics to be reported on by the awardees as follows:

Fellowship Awards

1. The number and percentage of STEM graduates who take a job in a STEM or STEM-related field;
2. The number and percentage of students who participate in scientific activities or research experiences in industry, government, or the not-for-profit sector;
3. The number and percentage of students who present research findings at scientific meetings or student science exchange events;
4. The number of students who participate in interdisciplinary research or educational experiences;
5. The number of students who engage in research experiences in an academic, government, or non-for-profit industry;
6. The number and percentage of graduate and postdoctoral fellowships who complete a STEM graduate or postdoctoral program;
7. The number and percentage of program completers who are employed in a STEM or STEM-related field;
8. The number and percentage of students who participate in scientific activities or research experiences in industry, government, or the not-for-profit sector. This metric will include internships;
9. The number and percentage of students who present research findings at scientific meetings or student science exchange events.

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.

§ 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 215.180 and 215.41.

Nondiscrimination

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

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 VII 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 VII, 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 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 must 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, termination of the award, or other enforcement action within NRC's authority.

Lobbying Restrictions

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

The Grantee shall comply with provisions of 31 USC § 1352. This provision generally prohibits the use of Federal funds for lobbying in the Executive or Legislative Branches of the Federal

Government in connection with the award, and requires disclosure of the use of non-Federal funds for lobbying.

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

§ 215.13 Debarment And Suspension.

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

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

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

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

'Debarment, Suspension, Ineligibility, and Voluntary Exclusion

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

Drug-Free Workplace

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

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

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

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

Procurement Standards, § 215.40

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 is an appropriate charge to this award and prior authorization for specific trips are not required, as long as the trip is identified in the Grantee's original program description and original budget. All other travel, domestic or international, must not increase the total estimated award amount. Trips that have not been identified in the approved budget require the written prior approval of the Grants Officer.

Travel will be in accordance with the US Government Travel Regulations at: www.gsa.gov/federaltravelregulation and the per diem rates set forth at: www.gsa.gov/perdiem.

Travel costs to the grant must be consistent with provisions as established in Appendix A to 2 CFR 220 (J.53)

Property Management Standards

Property standards of this award shall follow provisions as established in 2 CFR 215.30.

Equipment procedures shall follow provision established in 2 CFR 215.34.

Procurement Standards

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

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 title and retain ownership 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 of this award shall follow provisions as established in 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 a review committee consisting of a minimum of three persons.
- 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.

Monitoring and Reporting § 215.51

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

- Payment – 2 CFR 215.22
- Cost Share – 2 CFR 215.23
- Program Income – 2 CFR 215.24
 - Earned program income, if any, shall be added to funds committed to the project by the NRC and Grantee and used to further eligible project or program objectives.
- Budget Revision – 2 CFR 215.25
 - In accordance with 2 CFR 215.25(e), the NRC waives the prior approval requirement for items identified in sub-part (e)(1-4).

- The Grantee is not authorized to rebudget between direct costs and indirect costs without written approval of the Grants Officer.
- Allowable Costs – 2 CFR 215.27

b. Federal Financial Reports

Effective October 1, 2008, NRC transitioned from the SF-269, SF-269A, SF-272, and SF-272A to the Federal Financial Report (SF-425) as required by OMB:

http://www.whitehouse.gov/omb/fedreg/2008/081308_ffr.pdf

http://www.whitehouse.gov/omb/grants/standard_forms/ffr.pdf

http://www.whitehouse.gov/omb/grants/standard_forms/ffr_instructions.pdf

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 shall be submitted within 90 days after expiration of the award.

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 shall 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 shall 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 as specified in the special award conditions in the same frequency as the Federal Financial Report unless otherwise authorized by the Grants Officer.

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

c. The Office of Human Resources requires the submission of the semi-annual progress report on the SF-PPR, SF-PPR-B, and the SF-PPR-E forms. The submission for the six month period ending March 31st is due by April 30th. The submission for the six month period ending September 30th is due by October 31st.

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 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."

**U.S. Nuclear Regulatory Commission
Lobbying Certification**

TERMS OF CERTIFICATION

This certification applies only to the instant federal action for which the certification is being obtained and is a material representation of fact upon which reliance is placed in connection with award of this grant. Submission of this certification is a prerequisite to award of a grant imposed by 31 U.S.C. §1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each failure.

The undersigned certifies, to the best of his or her knowledge and belief, that:

In accordance with 31 U.S.C. §1352, "Limitation on Use of Appropriated Funds to Influence Certain Federal Contracting and Financial Transactions," I, (printed name) as an authorized representative of (University Name), declare and certify that the (University Name) has not made, and will not make in the future, any payment, (with either appropriated or non-appropriated funds) to any person for influencing or attempting to influence an officer or employee of any agency, Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following actions:

1. A Federal Contract, Grant, Cooperative Agreement or loan;
2. The extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
3. Language in this certification will be included in the award documents for all sub-awards at all tiers (including any sub-contract, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all recipients of sub-contracts in excess of \$100,000 will be required to certify and disclose accordingly.

Signature of Authorized Official

Title

Date

**2010 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: eduscholar@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