



## ATTACHMENT A - SCHEDULE

### A.1 PURPOSE OF GRANT

The purpose of this Grant is to provide support to the "University of Nevada, Reno" 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: \$399,997.00
2. Total Obligated Amount: \$399,997.00
3. Cost-Sharing Amount: \$151,001.00
4. Activity Title: University of Nevada, Reno Fellowship Program in Materials and Thermal Science for Nuclear Power
5. NRC Project Officer: John Gutteridge
6. DUNS No.: 146515460

### B. SPECIFIC

- RFPA No.: HR-10-949  
FFS: N/A  
Job Code: T8460  
BOC: 4110  
B&R Number: 0-8415-5C1115  
Appropriation #: 31X0200  
Amount Obligated: \$399,997.00

### A.3 BUDGET

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

	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>
Direct Participant Cost	\$102,426.00	\$90,243.00	\$92,605.00	\$88,037.00
Indirect Cost	<u>\$7,446.00</u>	<u>\$6,442.00</u>	<u>\$6,599.00</u>	<u>\$6,202.00</u>
Total	\$109,872.00	\$96,685.00	\$99,204.00	\$94,239.00

All travel must be in accordance with the University of Nevada, Reno 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 \$399,997.00 for the four year period.
2. NRC hereby obligates the amount of \$399,997.00 for program expenditures during the period set forth above and in support of the Budget above. The Grantee will be given written notice by the Contracting Officer when additional funds will be added. NRC is not obligated to reimburse the Grantee for the expenditure of amounts in excess of the total obligated amount.
3. Payment shall be made to the Grantee in accordance with procedures set forth in the Automated Standard Application For Payments (ASAP) Procedures set forth below.

#### **Attachment B – Program Description**

##### **PROGRAM DESCRIPTION University of Nevada, Reno Fellowship Program In Materials and Thermal Science for Nuclear Power**

#### **Introduction**

**Background** The Mechanical Engineering (ME) and the Chemical and Metallurgical Engineering (CME) Departments at the University of Nevada, Reno (UNR) have conducted externally-funded nuclear-related research since 1992. For example, the ME Department has developed experimentally-benchmarked computational simulations to predict the performance of spent nuclear fuel transport casks under fire accident conditions. The CME Department has conducted research to determine the performance and reliability of materials in advanced nuclear power applications. These projects have been supported by the Nuclear Regulatory Commission (NRC), the Department of Energy (DOE), the Nevada Office of Nuclear Projects, and private corporations. The two departments share a seminar program in which speakers from the NRC, GE-Hitachi, as well as Argonne, Sandia, Idaho and Oak Ridge National Labs have lectured on nuclear energy topics. Last year, the CME department initiated a Nuclear Materials Emphasis which includes courses entitled Materials Applications in Nuclear Reactors, Fundamentals of Nuclear Energy, and Corrosion Degradation of Nuclear Materials. The CME and ME Departments recently submitted a Letter of Interest to the NRC Nuclear Education Curricula Development Grant Opportunity to develop additional nuclear-power related courses. UNR is working with the University of Nevada, Las Vegas (UNLV) and the University of Utah (UU), which have, respectively, a program in radiochemistry and a new minor in Nuclear Engineering, to develop an internet-based system to share unique Nuclear-Related Engineering Courses. While UNR does not have a Nuclear Engineering Department, the faculty at UNR are performing research and developing educational opportunities in Materials and Thermal Science for Nuclear Power that help prepare students who can support the mission of the NRC.

**Objective** This funding will initiate a Fellowship Program in Materials and Thermal Science for Nuclear Power that recruits and supports outstanding students to earn graduate degrees at UNR. The goal is to increase the number and quality of students receiving MS and Ph.D. degrees at UNR who are able to support the design, construction, operation, and regulation of nuclear facilities, and the safe handling of nuclear materials. There are at least nine faculty members across four departments conducting nuclear science research at UNR.

## **Fellowship Administration**

**Fellowships Benefits** The following describes the benefits a graduate student will receive if he/she is awarded a Fellowship at UNR:

1. A yearly stipend of \$32,500 for Ph.D. Fellows for up to four years; or \$29,500 for MS Fellows for up to two years.
2. Full time graduate tuition
3. Faculty research supervision and professional career advisement
4. Travel and registration for one professional conference per year
5. Relocation expenses for the Fellow to intern at a National Lab, NRC or a nuclear industry site during one summer

The Ph.D. stipend matches that of the DOE National Nuclear Security Administration (NNSA) Stewardship Science Graduate Fellowship. The MS stipend is roughly 10% less. The Fellow will select a UNR faculty Research Advisor, and together they will choose an appropriate MS thesis or Ph.D. dissertation topic. The Research Advisor will provide an appropriate research environment, including all needed laboratory space, research materials, equipment, computational facilities, research supervision, and program/professional advice. The Fellow will spend one summer working as an intern at a National Lab, the NRC or a nuclear industry facility performing research and analysis that will enhance his/her professional experience and development. Faculty members at UNR have collaborations with members of several facilities. The appendix (attachments 8, 9, & 10) of this proposal contains letters from the NRC, Argonne and Sandia National Labs, stating their support of the proposed fellowship program, and their interest in hosting summer fellows. The Fellows will continue to receive their stipends from UNR and relocation costs while they intern at these sites.

**Fellowship Requirements** The following describes the conditions the Fellows must fulfill to receive and maintain a fellowship at UNR:

1. US Citizenship or permanent residency
2. Enroll full time (10 credits/semester) in the graduate program at UNR
3. Perform research leading to an MS or Ph.D. under supervision of a Faculty Research Advisor
4. Sign the mandatory Service agreement with NRC
5. Maintain a GPA of 3.3 or better (on a 4.0 scale) each semester
6. Author or co-author and submit one paper per year to a peer-reviewed conference
7. Apply to the UNR Graduate School for supplemental travel funds to present a conference paper (funds not provided by the Graduate School will be provided by the Fellowship Program).
8. Make one application, with the support of the faculty advisor, to a national graduate fellowship program, such as those from the DOE NNSA or DOE Office of Science.
9. Intern one summer at a nuclear related National Lab, government agency or nuclear industrial site

The first five conditions are required by the NRC. If the Fellow does not maintain the required GPA during a semester, then he/she will be placed on probation for one semester, during which time the Fellow will be required to bring the GPA to the required level. If not, the student will be dismissed from the Fellowship Program, and replaced by another student. The last four conditions are additional requirement of the UNR Fellowship Program. Condition six is intended to require the Fellow to participate in the larger professional

community. Conditions seven and eight require the Fellow to take advantage of existing financial opportunities (national fellowships are also considered highly prestigious awards). Any savings to the Fellowship Program will be used to either support an additional Fellow, or support the research activities of an existing Fellow. The summer internship is intended to help the Fellow gain work experience and develop professional contacts, which will help him/her find an appropriate nuclear related professional placement after graduation.

**Fellowship Program Committee** This committee will administer the program. It will consist of the two principal investigators, the graduate program chairs of the ME and CME Departments (or their nominees), and one external member. The bulk of the work will be performed by the PI's, but the other committee members will provide input and have voting rights. This committee will market the program to senior undergraduates and graduate students at UNR and other universities, *with efforts to reach out to women, minorities and disabled students*. Students pursuing Ph.D. and MS degrees will be recruited. Students will submit a Fellowship Application consisting of a UNR graduate admission application (which includes transcripts, GPA, standardized test scores, and letters of recommendations), proof of US citizenship or permanent residency, an essay describing their background and professional goals, and an indication that they are willing to fulfill the Fellowship Requirements (listed above) if they accept the fellowship. The Fellowship Committee will review all applications based on merit, and the ability of researchers at UNR to help the student reach his/her professional goal. The Committee will select, invite and reimburse travel expenses for outstanding off-campus applicants to visit UNR. Awards will be made so that two Fellows are funded at all times during the four year duration of the program. Awards will not be made until the student has signed the NRC service agreement, and a letter indicating he/she is aware of and will fulfill the Fellowship Requirements to the best of their abilities. The Committee and Research Advisor will evaluate the progress of the Fellow at the end of each semester. If satisfactory progress is not made, the Fellow will be placed on probation or dismissed from the Fellowship Program.

If there is any reduction of costs to the program compared to the budgeted amounts, the Program Committee will have the responsibility of assigning those funds to either support an additional Fellow, or to support the research environment of an existing fellow. Cost reductions may come about if an MS student is funded instead of a Ph.D., a student leaves the program or graduates earlier than expected, or other unanticipated reasons.

## **Review Criteria**

**Recruitment and Marketing** At UNR, each academic department and the graduate school (<http://www.unr.edu/grad/>) have dynamic programs for recruiting graduate students. The UNR Graduate School is a recruiting member of the California Forum for Diversity in Graduate Education (CFDGE). CFDGE is a consortium of public and private colleges and universities in California. CFDGE organizes two forums every year to meet the needs of advanced undergraduates and master's candidates belonging to groups that are currently underrepresented in doctoral-level programs. The groups include low-income and first-generation college students, African Americans, American Indians, Hispanics, Pacific Islanders and Asian American women. Well over 1200 students attend and participate in these forums and more than 75% of the students have a GPA of over 3.0. UNR Graduate School has been highly successful in recruiting graduate students at these forums. At the departmental level, both the ME and CME departments are actively involved in marketing our programs to undergraduate seniors at UNR and various institutions. The departments have printed flyers, brochures and leaflets that provide information regarding our graduate programs, faculty research areas and available assistantships. These materials are mailed to institutions throughout the country. Further, faculty members in the two departments visit regional institutions, such as UNLV and UU, to provide lectures and actively publicize our

programs. Moreover, the departments maintain a comprehensive website to inform potential students about our academic graduate programs.

In addition to our routine recruiting programs described above, we propose to conduct the following activities *specifically* for the purpose of administering a successful NRC grant:

1. Design, print and mail informational flyers and brochures advertising the NRC Fellowship program at UNR. These brochures will also be published online on the UNR graduate school and departmental websites. Announcements of the fellowships will be made on academickeyes.com website. Funds for this purpose are being provided as matching contribution by the College of Engineering (Attachment 2).
2. Provide these informational materials to the UNR recruiters who will be participating in the CFDGE forums twice a year, and thereby *increase the diversity of the next generation nuclear workforce*
3. Provide these materials to our departmental faculty who actively travel to other institutions for research, instruction and recruiting purposes.
4. We will also conduct teleconference-based advertising of these fellowships at other institutions with whom we have collaborations
5. We also have informal agreements with our regional partner institutions, UNLV and UU, for cross-referral of students due to our very complementary research strengths
6. We will also hold a recruitment weekend for invited eligible applicants, probably in early spring, with complete or partial travel support. The agenda would consist of individual meetings with selected faculty in our departmental programs, interaction with existing departmental graduate students, tours of the campus and facilities. The college of Engineering and the ME Department have agreed to cover these expenses in part (see Attachments 2 and 3).

In summary, we will work diligently to identify the best and the brightest of the students to receive these coveted fellowships.

**Mentoring, Advising and Existing Programs of Study** Mentoring and advisement will be primarily performed by the Faculty Research Advisor with support from the Fellowship Program Committee. The Committee will provide the Fellows with a clear statement of the program requirements, and will describe how the fellow will be evaluated for retention in the program. The Research Advisor will help the student choose courses, mentor his/her research activities, and provide professional guidance. The Advisor will also help the fellow make contacts with technical staff at National Laboratories, the NRC and/or nuclear related industry to further the Fellow's professional objectives and to identify the most appropriate internship opportunity. The Advisor will have the responsibility of monitoring the Fellows progress (including grades and evaluation by the course instructors).

As mentioned earlier, UNR has a history of nuclear materials and thermal science research funding from the NRC, DOE, National Labs, the State of Nevada and private industry. We also have nuclear related coursework and seminar speakers. These established programs will provide the Fellows with a wide variety of research and educational opportunities, and will prepare them for productive careers in the nuclear industry.

**Evaluation Plan** We believe the success of the UNR Fellowship Program will be based on the following achievements:

1. The professional placement of the Fellows in positions of leadership in the nuclear

industry or government, which will help the Fellows realize a satisfying and productive career.

2. The contribution the Fellows make to the development and growth of UNR programs. The contribution of the Program to student success cannot be fully measured until well after the Fellow has completed the program. However, the following attributes are widely believed to lead to success, and will be continuously monitored and emphasized by the Research Advisor during the Fellow's graduate study:

1. Course Grades, and supplemental evaluation by course instructors
2. Development of new methods and knowledge leading to archival publications
3. Fellow's professional growth, including research independence, thoughtfulness, and ability to be mentored.
4. Participation and leadership within University and associated National Laboratory research groups
5. Participation in proposal writing
6. Conference and Professional Society student awards
7. Timely progression toward degree completion

The Fellow will make contributions to the life and growth of the program by his/her interaction with faculty members and peers. The Fellowship program is expected to increase the visibility of the Materials and Thermal Science research at UNR, and hence improve the number and quality of the graduate school applicants and graduates. To assess the effect of the Fellowship Program, the following quantitative measures during the program will be compared to historical statistics: (i) the number of student applicants, (ii) the number of US applicants, (iii) the average GPA of the applicants and, (iv) the standardized test scores of the applicants. We will try to determine if the professional placement of Fellows differs from that of the other students.

**Institutional Support, Sustainability, Number of Students Served** UNR recently established a Renewable Energy Center to develop a roadmap for future research and educational development. Discussion is underway to add sustainable nuclear power to this effort. Last year the UNR College of Engineering supported nuclear power engineering by establishing the Nuclear Materials Emphasis within the MTE department. This emphasis includes courses on Materials Applications in Nuclear Reactors, Fundamentals of Nuclear Energy, and Corrosion Degradation of Nuclear Materials. This emphasis has formalized an association between a number of faculty members and students performing research in nuclear power engineering. The ME and MET departments also sponsor a joint seminar series which hosts numerous nuclear power speakers.

The Funding Opportunity Announcement indicates that NRC may not be able to fund all four years due to circumstances beyond NRC's control. If that happens, the Fellowship Program will be sustained to the extent possible by giving the Fellows priority in receiving assistantships from other grants and/or the departments.

The Fellows will be required to apply for travel support from the UNR graduate school and to other DOE funded fellowship opportunities (with assistance from the Research Advisor). This is an effort to sustain the program by conserving funding. This will allow additional students to receive fellowships.

The number of student served by this program will depend on the mix of MS and Ph.D. students selected by the Program Committee, and the amount of time the Fellows require to complete their degree. If two Ph.D. fellows are initially funded, and they require four years to

complete their degrees, then two students will be served. However, if they require less time to complete their degrees, and/or MS students (who normally take 1.5 to 2 years to graduate) are funded, then four or five students will be served.

**Innovation-Partnerships/Consortia/Minority Institutional/Distance Learning** UNR is a member of a consortium on Nuclear Power Educational with the UNLV and UU. We are currently developing methods to share unique courses using web-based methods. We also have an informal agreement to advertise Fellowships offered by each institution to our students. The Fellows will intern at a National Lab or other off-campus facility. This will further develop our collaboration with technical staff at those locations. The Fellowship Program will make funding UNR research programs more attractive to researchers at those facilities because they will have experience working with our Fellows, the Fellows gain experience working in areas of interest to the off-campus researchers, and the Fellows will already be funded by NRC.

**Leveraging/Matching Funds** The UNR College of Engineering will supply \$2000 for the cost of producing and mailing posters that announce the Fellowship Program to all engineering college in the US (Attachment 2). The UNR Mechanical Engineering Department and the College of Engineering will also supply another \$3000 to reimburse travel expenses of promising off campus applicants to visit UNR (Attachments 2 and 3). The University will support this project by reducing the overhead rate from the normal 51% charged for on-campus educational grants to the allowed 8%, which amounts to at least \$143,451 match. Program Director J. Gutteridge has given his approval for considering this support as matching funds. Total matching funds is \$151,001 (Attachment 1a).

## **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:(now2 CFR 230) <http://www.whitehouse.gov/omb/circulars/a122/print/a122.html>

A-102, SF 424:  
Form 990:

<http://www.whitehouse.gov/omb/circulars/a102/print/a102.html>  
<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](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](http://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](http://www.gsa.gov/federaltravelregulation) and the per diem rates set forth at: [www.gsa.gov/perdiem](http://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/fedreg/2008/081308_ffr.pdf)

[http://www.whitehouse.gov/omb/grants/standard\\_forms/ffr.pdf](http://www.whitehouse.gov/omb/grants/standard_forms/ffr.pdf)

[http://www.whitehouse.gov/omb/grants/standard\\_forms/ffr\\_instructions.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 31<sup>st</sup> is due by April 30<sup>th</sup>. The submission for the six month period ending September 30<sup>th</sup> is due by October 31<sup>st</sup>.

#### **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."

**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](mailto: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