

# Grant and Cooperative Agreement

CHOOSE ONE:

- COOPERATIVE AGREEMENT
- GRANT

CHOOSE ONE:  EDUCATION  FACILITIES  RESEARCH  SDCR  TRAINING

1. GRANT/COOPERATIVE AGREEMENT NUMBER NRC-HQ-60-14-G-0011		2. SUPPLEMENT NUMBER		3. EFFECTIVE DATE 09/30/2014		4. COMPLETION DATE	
5. ISSUED TO NAME/ADDRESS OF RECIPIENT (No., Street, City/County, State, Zip) NATIONAL COUNCIL ON RADIATION PROTECTION AND MEASUREMENTS WOODMOUNT AVE STE 400 BETHESDA MD 20814-3074				6. ISSUED BY U.S. NRC - HQ Mailing Address: Acquisition Management Division Mail Stop: 3WFN-05-C64MP Washington DC 20555-0001			
7. TAXPAYER IDENTIFICATION NO. (TIN)				9. PRINCIPAL INVESTIGATOR/ORGANIZATION'S PROJECT OR PROGRAM MGR. (Name & Phone) Dr. John Dunning Boice Email: boice@ncrponline.org Phone: 301-657-2652			
8. COMMERCIAL & GOVERNMENT ENTITY (CAGE) NO.							
10. RESEARCH, PROJECT OR PROGRAM TITLE Radiation Protection Guidance for the United States							
11. PURPOSE See Schedule							
12. PERIOD OF PERFORMANCE (Approximately) 09/30/2014 through 09/29/2016							
13A. AWARD HISTORY		13B. FUNDING HISTORY					
PREVIOUS	\$0.00	PREVIOUS	\$0.00				
THIS ACTION	\$325,000.00	THIS ACTION	\$291,000.00				
CASH SHARE	\$0.00	<b>TOTAL</b>	\$291,000.00				
NON-CASH SHARE	\$0.00						
RECIPIENT SHARE	\$0.00						
<b>TOTAL</b>	\$325,000.00						
14. ACCOUNTING AND APPROPRIATION DATA See Schedule							
PURCHASE REQUEST NO.		JOB ORDER NO.		AMOUNT		STATUS	
RES-14-0466							
15. POINTS OF CONTACT							
	NAME	MAIL STOP	TELEPHONE	E-MAIL ADDRESS			
TECHNICAL OFFICER	SARAH B. SHAFFER		301-251-7942	SARAH.SHAFER@NRC.GOV			
NEGOTIATOR							
ADMINISTRATOR	GORDANA ZUBER		301-287-0900	gordana.zuber@nrc.gov			
PAYMENTS							
16. THIS AWARD IS MADE UNDER THE AUTHORITY OF : Pursuant to Section 31b and 141b of the Atomic Energy Act of 1954, as amended							
17. APPLICABLE STATEMENT(S), IF CHECKED: <input type="checkbox"/> NO CHANGE IS MADE TO EXISTING PROVISIONS <input type="checkbox"/> FDP TERMS AND CONDITIONS AND THE AGENCY-SPECIFIC REQUIREMENTS APPLY TO THIS GRANT				18. APPLICABLE ENCLOSURE(S), IF CHECKED: <input type="checkbox"/> PROVISIONS <input type="checkbox"/> SPECIAL CONDITIONS <input type="checkbox"/> REQUIRED PUBLICATIONS AND REPORTS			
UNITED STATES OF AMERICA				COOPERATIVE AGREEMENT RECIPIENT			
CONTRACTING/GRANT OFFICER SHEILA H. BUMPASS <i>Sheila Bumpass</i>		DATE 09/24/2014		AUTHORIZED REPRESENTATIVE		DATE	

TEMPLATE - ADM001

SUNSI REVIEW COMPLETE

ADM002

# Grant and Cooperative Agreement

ITEM NO. (A)	ITEM OR SERVICE (Include Specifications and Special Instructions) (B)	QUANTITY (C)	UNIT (D)	ESTIMATED COST	
				UNIT PRICE (E)	AMOUNT (F)
	<p>CFDA Number: 77.009</p> <p>Payment will be made through the Automated Standard Application for Payment (ASAP.gov) unless the recipient has failed to comply with the program objectives, award conditions, Federal reporting requirements or other conditions specified in 2 CFR 215 (OMB Circular A110).</p> <p>Technical Analyst: Terry Brock Phoen: 301-251-7487 Email: terry.brock@nrc.gov</p> <p>Payment: ASAP GRANT FUNDS REIMBURSEMENT SYS US TREASURY</p> <p>Period of Performance: 09/30/2014 to 09/29/2016</p>				

**ATTACHMENT A - SCHEDULE**

**A.1 PURPOSE OF GRANT**

The purpose of this Grant is to provide support to the "Radiation Protection Guidance for the United States" as described in Attachment B entitled "Program Description."

**A.2 PERIOD OF GRANT**

1. The effective date of this Grant is September 30, 2014. The estimated completion date of this Grant is September 29, 2016.
2. Funds obligated hereunder are available for program expenditures for the estimated period: September 30, 2014 – September 29, 2016.

**A. GENERAL**

- |                                |   |
|--------------------------------|---|
| 1. Total Estimated NRC Amount: | \$325,000.00  |
| 2. Total Obligated Amount:     | \$291,000.00  |
| 3. Cost-Sharing Amount:        | \$0.00  |
| 4. Activity Title:             | Radiation Protection Guidance for the United States |
| 5. NRC Project Officer:        | Sarah Shaffer                                       |
| 6. NRC Technical Analyst       | Terry Brock   |
| 7. DUNS No.:                   | 097783914   |

**A.3 BUDGET**

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

Category	Year 1	Year 2	Total
Personnel	\$44,928.82	\$19,381.32	\$64,310.14
Fringe Benefits	\$11,901.64	\$5,134.11	\$17,035.75
Travel	\$29,116.29	\$14,794.24	\$43,910.53
Other	\$25,000.00	\$10,000.00	\$35,000.00
Indirect Charges	\$114,053.25	\$50,690.33	\$164,743.59
<b>Totals</b>	<b>\$225,000.00</b>	<b>\$100,000</b>	<b>\$325,000.00</b>

All travel must be in accordance with National Council on Radiation Protection and Measurements 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 \$325,000.00 for the two year period.
2. NRC hereby obligates the amount of \$291,000.00 for program expenditures during the period set forth above and in support of the Budget above. The Grantee will be given written

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

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

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

### **ATTACHMENT 4 Program Description**

#### Background:

Radiation-related cataracts and the associated radiation protection issues are of current interest. There is debate over the new annual 20 mSv dose limit for the lens of the eye recommended by the International Commission on Radiological Protection (ICRP) and accepted by many countries (ICRP Publication 118; 9). The scientific and operational issues for reducing the current occupational dose limit from 150 mSv to 20 mSv are complex. The only general agreement is that radiation-induced cataracts (serious lens opacities leading to visual impairment) can occur at doses lower than previously recognized: the previous threshold dose was thought to be ~5 Gy and now is estimated to be ~0.5 Gy. ICRP did not recommend changing the lens of the eye limit of 15 mSv  $y^{-1}$  for members of the public.

Currently in the US, dose limits to the lens of the eye are set at 150 mSv in a given year based on consideration of the induction of cataracts as a deterministic effect of radiation exposure. Rather high occupational exposures to the eyes can occur today among several occupations, e.g., industrial radiographers, interventional radiologists and cardiologists, with the potential to attain radiation doses to the lens above the ICRP recommended 20 mSv per year limit.

The ICRP recommended the change from 150 mSv  $y^{-1}$  to 20 mSv  $y^{-1}$  and the EU accepted the recommendation in part because of new evidence that supported increased cataract occurrence at dose levels lower than previously recognized. Several reports have documented excesses of cataracts among several medical occupations including interventional cardiologists and nurses (1-4) and others (5). Anecdotal comments among interventional radiologists have revealed similar problems, suggesting that cataract induction may occur at lower doses than previously thought. It is generally agreed that a threshold dose of 5 Gy is no longer tenable and such a threshold, if it exists, may be closer to 0.5 Gy. Hence, radiation workers in the US with eye exposure as a consequence of their work may be at greater risk for the development of cataracts than anticipated because of the high historical dose limits.

Data are also available from American astronauts who have been exposed not only to low-LET x-rays but also high-LET HZE radiation in space. While the study numbers are low, preliminary indications are that cataract induction in astronauts can occur at doses lower than predicted by the 2 Sv threshold model (6, 7). A variety of studies of low-LET radiation also suggest that excess cataracts are seen at lens doses under 1 Gy, especially for those who are young at the time of exposure (see reviews (8, 9)).

In addition, for many years it has been reported that radiation-induced cataracts differ from those associated with aging and health consequences (diabetes, etc.) by being induced in

the posterior subcapsular portion of the eye. Several recent studies, however, have found a dose-related excess of cortical opacities as well (10), so both types of cataracts need to be considered in epidemiological studies.

#### OVERRIDING ISSUES TO ADDRESS

- *Is cataract development stochastic or deterministic?* It is not entirely clear whether the mechanism for radiation induced cataracts is a deterministic process which requires a significant number of cells to become dysfunctional or possibly a stochastic process similar to cancer induction that would imply that no matter how low the dose a small risk might be present, albeit undetectable. Some evidence supports a stochastic process (11); while the most recent investigation from the study of the atomic-bomb survivors appears consistent with a threshold effect at 0.5 Gy based on surgically removed lenses there were no significant findings < 1 Gy and the elevation at dose < 1 Gy appeared only in Nagasaki (12).
- *Does protraction matter?* It is not entirely clear whether the risk following protracted exposures is the same or lower than what has been seen following acute or brief exposures (11). Studies of interventional radiologists and cardiologists indicating that protracted exposure can result in serious lens opacities, albeit at high cumulative doses (2), and the recent ICRP Publication 118 (9) implies that protraction may not be that important in cataract formation. The quantification of dose to the lens is challenging in studies of protracted exposure.
- *How should severity of the effect be addressed?* Cancer and some non-cancer effects, such as coronary heart disease and cataracts, can occur at dose levels lower than previously recognized. Coronary heart disease is substantially more serious than a cataract. Should equal weight be given to nonfatal outcomes as to fatal ones in protection guidance? Should cataracts be placed at the same level of concern as radiation induced cancer? And if so, how could lens dose be incorporated into any computation of effective dose? The ICRP measure of detriment includes a factor for lethality but because cataract is a nonfatal outcome, dose to the lens might not contribute to effective dose under the current system of protection.
- *If a change in protection limits is justified, what limit should be considered?* The current annual dose limit for lens of the eye in the United States is 150 mSv. The ICRP recommendation is 20 mSv  $y^{-1}$ . The annual whole-body dose limit for the United States today is 50 mSv and is unlikely to change in the near future. The NCRP recommendation for cumulative whole body exposures is 10 mSv  $\times$  age which is actually more conservative (i.e., protective) than the 20 mSv  $y^{-1}$  limit in terms of limiting cumulative dose (NCRP Report No. 116; 13). One perplexing issue for the United States would be considering a limit to the lens of the eye that is lower than the limit for whole-body exposure—the ramifications with regard to implementation could be challenging and formidable to address.

## Attachment C – Standard Terms and Conditions

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

#### Preface

This award is based on the application submitted to, and as approved by, the Nuclear Regulatory Commission (NRC) under the authorization 42 USC 2051(b) pursuant to section 31b and 141b of the Atomic Energy Act of 1954, as amended, and is subject to the terms and conditions incorporated either directly or by reference in the following:

- Grant program legislation and program regulation cited in this Notice of Grant Award.
- Restrictions on the expenditure of Federal funds in appropriation acts, to the extent those restrictions are pertinent to the award.
- Code of Federal Regulations/Regulatory Requirements - 2 CFR 215 Uniform Administrative Requirements For Grants And Agreements With Institutions Of Higher Education, Hospitals, And Other Non-Profit Organizations (OMB Circulars), as applicable.

To assist with finding additional guidance for selected items of cost as required in 2 CFR 220, 2 CFR 225, and 2 CFR 230 this URL to the Office of Management and Budget Cost Circulars is included for reference: [http://www.whitehouse.gov/omb/circulars\\_index-ffm](http://www.whitehouse.gov/omb/circulars_index-ffm).

Any inconsistency or conflict in terms and conditions specified in the award will be resolved according to the following order of precedence: public laws, regulations, applicable notices published in the Federal Register, Executive Orders (EOs), Office of Management and Budget (OMB) Circulars, the Nuclear Regulatory Commission's (NRC) Mandatory Standard Provisions, special award conditions, and standard award conditions.

Certifications and Representations: These terms incorporate the certifications and representations required by statute, executive order, or regulation that were submitted with the SF424B application through Grants.gov.

#### **I. Mandatory General Requirements**

The order of these requirements does not make one requirement more important than any other requirement.

##### **1. Applicability of 2 CFR Part 215**

All provisions of 2 CFR Part 215 and all Standard Provisions attached to this grant/cooperative agreement are applicable to the Grantee and to sub-recipients which meet the definition of "Grantee" in Part 215, unless a section specifically excludes a sub-recipient from coverage. The Grantee and any sub-recipients must, in addition to the assurances made as part of the application, comply and require each of its sub-awardees employed in the completion of the project to comply with Subpart C of 2 CFR 215 and include this term in lower-tier (subaward) covered transactions.

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

## **2. Award Package**

### **§ 215.41 Grantee responsibilities.**

The Grantee is obligated to conduct project oversight as may be appropriate, to manage the funds with prudence, and to comply with the provisions outlined in 2 CFR 215.41. Within this framework, the Principal Investigator (PI) named on the award face page, Block 11, is responsible for the scientific or technical direction of the project and for preparation of the project performance reports. This award is funded on a cost reimbursement basis not to exceed the amount awarded as indicated on the face page, Block 16, and is subject to a refund of unexpended funds to NRC.

The standards contained in this section do not relieve the Grantee of the contractual responsibilities arising under its contract(s). The Grantee is the responsible authority, without recourse to the NRC, regarding the settlement and satisfaction of all contractual and administrative issues arising out of procurements entered into in support of an award or other agreement. This includes disputes, claims, protests of award, source evaluation or other matters of a contractual nature. Matters concerning violation of statute are to be referred to such Federal, State or local authority as may have proper jurisdiction.

### **Subgrants**

#### **Appendix A to Part 215—Contract Provisions**

Sub-recipients, sub-awardees, and contractors have no relationship with NRC under the terms of this grant/cooperative agreement. All required NRC approvals must be directed through the Grantee to NRC. See 2 CFR 215 and 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.

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

- Title VI of the Civil Rights Act of 1964 (42 USC §§ 2000d et seq)
- Title IX of the Education Amendments of 1972 (20 USC §§ 1681 et seq)
- Section 504 of the Rehabilitation Act of 1973, as amended (29 USC § 794)
- The Age Discrimination Act of 1975, as amended (42 USC §§ 6101 et seq)
- The Americans with Disabilities Act of 1990 (42 USC §§ 12101 et seq)
- Parts II and III of EO 11246 as amended by EO 11375 and 12086.
- EO 13166, "Improving Access to Services for Persons with Limited English Proficiency."
- Any other applicable non-discrimination law(s).

Generally, Title VI of the Civil Rights Act of 1964, 42 USC § 2000e et seq, provides that it shall be an unlawful employment practice for an employer to discharge any individual or otherwise to discriminate against an individual with respect to compensation, terms, conditions, or privileges of employment because of such individual's race, color, religion, sex, or national origin. However, Title VI, 42 USC § 2000e-1(a), expressly exempts from the prohibition against discrimination on the basis of religion, a religious corporation, association, educational

institution, or society with respect to the employment of individuals of a particular religion to perform work connected with the carrying on by such corporation, association, educational institution, or society of its activities.

### **Modifications/Prior Approval**

NRC's prior written approval may be required before a Grantee makes certain budget modifications or undertakes particular activities. If NRC approval is required for changes in the grant or cooperative agreement, it must be requested and obtained from the NRC Grants Officer in advance of the change or obligation of funds. All requests for NRC prior approval, including requests for extensions to the period of performance, should be made, in writing (which includes submission by e-mail), to the designated Grants Specialist and Program Office 30 days before the proposed change. The request should be signed by the authorized organizational official. Failure to obtain prior approval, when required, from the NRC Grants Officer, may result in the disallowance of costs, or other enforcement action within NRC's authority.

### **Lobbying Restrictions**

The 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 will 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 \$100,000.00 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 listed as Exclusion on SAM (<http://sam.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.

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

#### **Procurement Standards § 215.40-48**

Sections 215.41 through 215.48 set forth standards for use by Grantees in establishing procedures for the procurement of supplies and other expendable property, equipment, real property and other services with Federal funds. These standards are furnished to ensure that such materials and services are obtained in an effective manner and in compliance with the provisions of applicable Federal statutes and executive orders. No additional procurement standards or requirements will be imposed by the Federal awarding agencies upon Grantees, unless specifically required by Federal statute or executive order or approved by OMB.

#### **Travel**

Travel must be in accordance with the Grantee's Travel Regulations or the US Government Travel Policy and Regulations at: [www.gsa.gov/federaltravelregulation](http://www.gsa.gov/federaltravelregulation) and the per diem rates set forth at: [www.gsa.gov/perdiem](http://www.gsa.gov/perdiem), absent Grantee's travel regulations. Travel costs for the

grant must be consistent with provisions as established in Appendix A to 2 CFR 220 (J.53). All other travel, domestic or international, must not increase the total estimated award amount.

**Domestic Travel:**

Domestic travel is an appropriate charge to this award and prior authorization for specific trips are not required, if the trip is identified in the Grantee's approved program description and approved budget. Domestic trips not stated in the approved budget require the written prior approval of the Grants Officer, and must not increase the total estimated award amount.

All common carrier travel reimbursable hereunder shall be via the least expensive class rates consistent with achieving the objective of the travel and in accordance with the Grantee's policies and practices. Travel by first-class travel is not authorized unless prior approval is obtained from the Grants Officer.

**International Travel:**

International travel requires **PRIOR** written approval by the Project Officer and the Grants Officer, even if the international travel is stated in the approved program description and the approved budget.

The Grantee will comply with the provisions of the Fly American Act (49 USC 40118) as implemented through 41 CFR 301-10.131 through 301-10.143.

**Property and Equipment Management Standards**

Property and equipment standards of this award shall follow provisions as established in 2 CFR 215.30-37.

**Intangible and Intellectual Property**

Intangible and intellectual property of this award shall generally follow provisions established in 2 CFR 215.36.

**Inventions Report** - The Bayh-Dole Act (P.L. 96-517) affords Grantees the right to elect and retain title to inventions they develop with funding under an NRC grant award ("subject inventions"). In accepting an award, the Grantee agrees to comply with applicable NRC policies, the Bayh-Dole Act, and its Government-wide implementing regulations found at Title 37, Code of Federal Regulations (CFR) Part 401. A significant part of the regulations require that the Grantee report all subject inventions to the awarding agency (NRC) as well as include an acknowledgement of federal support in any patents.

**Patent Notification Procedures** - If the NRC or its 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, EO 12889 requires NRC to notify the owner. 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 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, such as data, databases or software are

determined by 2 CFR 215.36. 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**

Grantee shall follow established provisions in 2 CFR 215.53.

### **Conflict Of Interest Standards**

Conflict of Interest Standards for this award will follow OCOI requirements set forth in Section 170A of the Atomic Energy Act of 1954, as amended, and provisions set forth at 2 CFR 215.42 Codes of Conduct.

### **Dispute Review Procedures**

- a. Any request for review of a notice of termination or other adverse decision should be addressed to the Grants Officer. It must be postmarked or transmitted electronically no later than 30 days after the postmarked date of such termination or adverse decision from the Grants Officer.
- b. The request for review must contain a full statement of the Grantee's position and the pertinent facts and reasons in support of such position.
- c. The Grants Officer will promptly acknowledge receipt of the request for review and shall forward it to the Director, Office of Administration, who shall appoint an intra-agency Appeal Board to review a grantee appeal of an agency action, if required, which will consist of the program office director, the Deputy Director of Office of Administration, and the Office of General Counsel.
- d. Pending resolution of the request for review, the NRC may withhold or defer payments under the award during the review proceedings.
- e. The review committee will request the Grants Officer who issued the notice of termination or adverse action to provide copies of all relevant background materials and documents. The committee may, at its discretion, invite representatives of the Grantee and the NRC program office to discuss pertinent issues and to submit such additional information as it deems appropriate. The chairman of the review committee will insure that all review activities or proceedings are adequately documented.
- f. Based on its review, the committee will prepare its recommendation to the Director, Office of Administration, who will advise the parties concerned of his/her decision.

### **Termination and Enforcement**

Termination of this award will follow provisions as established in 2 CFR 215.60-62.

### **Monitoring and Reporting § 215.50-53**

Grantee Financial Management systems must comply with the 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, will be added to funds committed to the project by the NRC and Grantee and used to further eligible project or program objectives or deducted from the total project cost allowable cost as directed by the Grants Officer or the terms and conditions of award.
- Budget Revision – 2 CFR 215.25
  - The Grantee is required to report deviations from the approved budget and program descriptions in accordance with 2 CFR 215.25 and request prior written approval from the Program Officer and the Grants Officer.
  - The Grantee is not authorized to rebudget between direct costs and indirect costs without written approval of the Grants Officer.
  - The Grantee is authorized to transfer funds among direct cost categories up to a cumulative 10 percent of the total approved budget. The Grantee is not allowed to transfer funds if the transfer would cause any Federal appropriation to be used for purposes other than those consistent with the original intent of the appropriation.
  - Allowable Costs – 2 CFR 215.27

### **Federal Financial Reports -**

The Grantee shall submit a “Federal Financial Report” (SF-425) on a quarterly basis for the periods ending March 31, June 30, September 30, and December 31, or any portion thereof, unless otherwise specified in a special award condition. Reports are due no later than 30 days following the end of each reporting period. A final SF-425 is due within 90 days after expiration of the award. The report should be submitted electronically to the following:

1. Grants\_FFR.Resource@NRC.gov (NOTE: There is an underscore between Grants and FFR);
2. RESGrants.Resource@NRC.gov;
3. Technical Analyst; and
4. Grants Officer.

### **Period of Availability of Funds 2 CFR § 215.28**

If 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.

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.

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.

### **Automated Standard Application For Payments (ASAP) Procedures**

Unless otherwise stated, grantee payments are made using the Department of Treasury's Automated Standard Application for Payment (ASAP) system

<http://www.fms.treas.gov/asap/index.html>, through preauthorized electronic funds transfers. To receive payments, 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 is required to make ASAP withdrawals: (1) ASAP account number – the award number found on the cover sheet of the award; (2) Agency Location Code (ALC) – 31000001; and Region Code. Grantees enrolled in the ASAP system do not need to submit a "Request for Advance or Reimbursement" (SF-270).

## **II. Audit Requirements**

### **Audits**

Organization-wide or program-specific audits are performed in accordance with the Single Audit Act Amendments of 1996, as implemented by OMB Circular A-133, "Audits of States, Local Governments, and Non-Profit Organizations." Grantees are subject to the provisions of OMB Circular A-133 if they expend \$500,000.00 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 are 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 \$500,000.00 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 Progress (Technical) Reports**

The Grantee shall submit performance (technical) reports electronically to the NRC Project Officer and Grants Officer on a quarterly for the periods ending March 31, June 30, September 30, and December 31, 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. The report should be submitted electronically to the following:

1. [Grants\\_PPR.Resource@NRC.gov](mailto:Grants_PPR.Resource@NRC.gov) (NOTE: There is an underscore between Grants and PPR);
2. [RESGrants.Resource@NRC.gov](mailto:RESGrants.Resource@NRC.gov);
3. Technical Analyst; and
4. Grants Officer.

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

#### **Unsatisfactory Performance**

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

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

#### **Other Federal Awards With Similar Programmatic Activities**

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

#### **Prohibition Against Assignment By The Grantee**

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

#### **Site Visits**

The NRC, through authorized representatives, has the right to make site visits to review project accomplishments and management control systems and to provide technical assistance as required. If any site visit is made by the NRC on the premises of the 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.

### **IV. Miscellaneous Requirements**

#### **Criminal and Prohibited Activities**

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.)

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.

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.

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

#### **Increasing Seat Belt Use in the United States**

EO 13043 requires Grantees to encourage employees and contractors to enforce on-the-job seat belt policies and programs when operating company-owned, rented or personally-owned vehicle.

#### **Federal Leadership of Reducing Text Messaging While Driving**

EO 13513 requires Grantees to encourage employees, sub-awardees, and contractors to adopt and enforce policies that ban text messaging while driving company-owned, rented vehicles or privately owned vehicles when on official Government business or when performing any work for or on behalf of the Federal Government.

#### **Federal Employee Expenses**

Federal agencies are barred from accepting funds from a Grantee to pay transportation, travel, or other expenses for any Federal employee unless specifically approved in the terms of the award. Use of award funds (Federal or non-Federal) or the Grantee’s provision of in-kind goods or services, for the purposes of transportation, travel, or any other expenses for any Federal employee may raise appropriation augmentation issues. In addition, NRC policy prohibits the acceptance of gifts, including travel payments for Federal employees, from Grantees or applicants regardless of the source.

#### **Minority Serving Institutions (MSIs) Initiative**

Pursuant to EOs 13256, 13230, and 13270, NRC is strongly committed to broadening the participation of MSIs in its financial assistance program. NRC’s goals include achieving full participation of MSIs in order to advance the development of human potential, strengthen the Nation’s capacity to provide high-quality education, and increase opportunities for MSIs to participate in and benefit from Federal financial assistance programs. NRC encourages all applicants and Grantees to include meaningful participations of MSIs. Institutions eligible to be considered MSIs are listed on the Department of Education website:

<http://www.ed.gov/about/offices/list/ocr/edlite-minorityinst.html>

#### **Research Misconduct**

Scientific or research misconduct refers to the fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results. It does not include honest errors or differences of opinions. The Grantee organization has the primary responsibility to investigate allegations and provide reports to the Federal Government. Funds expended on an activity that is determined to be invalid or unreliable because of scientific misconduct may result in a disallowance of costs for which the institution may be liable for repayment to the awarding agency. The Office of Science and Technology Policy at the White House published in the Federal Register on December 6, 2000, a final policy that addressed

research misconduct. The policy was developed by the National Science and Technology Council (65 FR 76260). The NRC requires that any allegation be submitted to the Grants Officer, who will also notify the OIG of such allegation. Generally, the Grantee organization shall investigate the allegation and submit its findings to the Grants Officer. The NRC may accept the Grantee's findings or proceed with its own investigation. The Grants Officer shall inform the Grantee of the NRC's final determination.

### **Publications, Videos, and Acknowledgment of Sponsorship**

Publication of the results or findings of a research project in appropriate professional journals and production of video or other media is encouraged as an important method of recording and reporting scientific information. It is also a constructive means to expand access to federally funded research. The Grantee is required to submit a copy to the NRC and when releasing information related to a funded project include a statement that the project or effort undertaken was or is sponsored by the NRC. The Grantee is also responsible for assuring that every publication of material (including Internet sites and videos) based on or developed under an award, except scientific articles or papers appearing in scientific, technical or professional journals, contains the following disclaimer:

"This [report/video] was prepared by [Grantee name] under award [number] from [name of operating unit], Nuclear Regulatory Commission. The statements, findings, conclusions, and recommendations are those of the author(s) and do not necessarily reflect the view of the [name of operating unit] or the US Nuclear Regulatory Commission."

### **Trafficking In Victims Protection Act Of 2000 (as amended by the Trafficking Victims Protection Reauthorization Act of 2003)**

Section 106(g) of the Trafficking In Victims Protection Act Of 2000 (as amended as amended, directs on a government-wide basis that:

"any grant, contract, or cooperative agreement provided or entered into by a Federal department or agency under which funds are to be provided to a private entity, in whole or in part, shall include a condition that authorizes the department or agency to terminate the grant, contract, or cooperative agreement, without penalty, if the grantee or any subgrantee, or the contractor or any subcontractor (i) engages in severe forms of trafficking in persons or has procured a commercial sex act during the period of time that the grant, contract, or cooperative agreement is in effect, or (ii) uses forced labor in the performance of the grant, contract, or cooperative agreement." (22 U.S.C. § 7104(g)).

### **EXECUTIVE COMPENSATION REPORTING**

2 CFR 170.220 directs agencies to include the following text to each grant award to a non-federal entity if the total funding is \$25,000 or more in Federal funding.

Reporting Subawards and Executive Compensation.

#### *a. Reporting of first-tier subawards.*

1. *Applicability.* Unless you are exempt as provided in paragraph d. of this award term, you must report each action that obligates \$25,000.00 or more in Federal funds that does not include Recovery funds (as defined in section 1512(a)(2) of the American Recovery and Reinvestment Act of 2009, Pub. L. 111-5) for a subaward to an entity (see definitions in paragraph e. of this award term).



2. *Where and when to report.*

- i. You must report each obligating action described in paragraph a.1. of this award term to <http://www.fsrs.gov>.
- ii. For subaward information, report no later than the end of the month following the month in which the obligation was made. (For example, if the obligation was made on November 7, 2010, the obligation must be reported by no later than December 31, 2010.)

3. *What to report.* You must report the information about each obligating action that the submission instructions posted at <http://www.fsrs.gov> specify.

b. *Reporting Total Compensation of Recipient Executives.*

1. *Applicability and what to report.* You must report total compensation for each of your five most highly compensated executives for the preceding completed fiscal year, if—

- i. the total Federal funding authorized to date under this award is \$25,000.00 or more;
- ii. in the preceding fiscal year, you received—

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

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

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

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

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

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

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

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

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

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

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

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

i. To the recipient.

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

d. *Exemptions*

If, in the previous tax year, you had gross income, from all sources, under \$300,000.00, you are exempt from the requirements to report:

i. Subawards,

and

ii. The total compensation of the five most highly compensated executives of any subrecipient.

e. *Definitions.* For purposes of this award term:

1. *Entity* means all of the following, as defined in 2 CFR part 25:

i. A Governmental organization, which is a State, local government, or Indian tribe;

ii. A foreign public entity;

iii. A domestic or foreign nonprofit organization;

iv. A domestic or foreign for-profit organization;

v. A Federal agency, but only as a subrecipient under an award or subaward to a non-Federal entity.

2. *Executive* means officers, managing partners, or any other employees in management positions.

3. *Subaward*:

i. This term means a legal instrument to provide support for the performance of any portion of the substantive project or program for which you received this award and that you as the recipient award to an eligible subrecipient.

ii. The term does not include your procurement of property and services needed to carry out the project or program (for further explanation, see Sec. \_\_ .210 of the attachment to OMB Circular A-133, "Audits of States, Local Governments, and Non-Profit Organizations").

iii. A subaward may be provided through any legal agreement, including an agreement that you or a subrecipient considers a contract.

4. *Subrecipient* means an entity that:

i. Receives a subaward from you (the recipient) under this award; and

ii. Is accountable to you for the use of the Federal funds provided by the subaward.

5. *Total compensation* means the cash and noncash dollar value earned by the executive during the recipient's or subrecipient's preceding fiscal year and includes the following (for more information see 17 CFR 229.402(c)(2)):

i. *Salary and bonus*.

ii. *Awards of stock, stock options, and stock appreciation rights*. Use the dollar amount recognized for financial statement reporting purposes with respect to the fiscal year in accordance with the Statement of Financial Accounting Standards No. 123 (Revised 2004) (FAS 123R), Shared Based Payments.

iii. *Earnings for services under non-equity incentive plans*. This does not include group life, health, hospitalization or medical reimbursement plans that do not discriminate in favor of executives, and are available generally to all salaried employees.

iv. *Change in pension value*. This is the change in present value of defined benefit and actuarial pension plans.

v. *Above-market earnings on deferred compensation which is not tax-qualified*.

vi. Other compensation, if the aggregate value of all such other compensation (e.g. severance, termination payments, value of life insurance paid on behalf of the employee, perquisites or property) for the executive exceeds \$10,000.00.