

Grant and Cooperative Agreement

CHOOSE ONE:

- ☐ COOPERATIVE AGREEMENT
- ☒ GRANT

CHOOSE ONE:

☒ EDUCATION☐ FACILITIES☐ RESEARCH☐ SDCR☐ TRAINING

1. GRANT/COOPERATIVE AGREEMENT NUMBER 31310018M0030		2. SUPPLEMENT NUMBER		3. EFFECTIVE DATE 07/03/2018		4. COMPLETION DATE	
5. ISSUED TO NAME/ADDRESS OF RECIPIENT (No., Street, City/County, State, Zip) UNIVERSITY OF MICHIGAN Attn: Kathryn Dewitt 1058 Wolverine Tower - ORSP 3003 South State Street Ann Arbor MI 481091274				6. ISSUED BY U.S. NRC - HQ Mailing Address: Acquisition Management Division Mail Stop: TWFN-07B20M Washington DC 20555-0001			
7. TAXPAYER IDENTIFICATION NO. (TIN) (N-one)				9. PRINCIPAL INVESTIGATOR/ORGANIZATION'S PROJECT OR PROGRAM MGR. (Name & Phone) Annalisa Manera, Ph.D. E: manera@umich.edu P: 734-647-2433			
8. COMMERCIAL & GOVERNMENT ENTITY (CAGE) NO.							
10. RESEARCH, PROJECT OR PROGRAM TITLE Nuclear Engineering Graduate Fellowship Program at the University of Michigan							
11. PURPOSE See Schedule A.1							
12. PERIOD OF PERFORMANCE (Approximately) 07/03/2018 through 07/02/2022							
13A.		AWARD HISTORY		13B.		FUNDING HISTORY	
PREVIOUS		\$0.00		PREVIOUS		\$0.00	
THIS ACTION		\$400,000.00		THIS ACTION		\$400,000.00	
CASH SHARE		\$0.00		TOTAL		\$400,000.00	
NON-CASH SHARE		\$0.00					
RECIPIENT SHARE		\$100,000.00					
TOTAL		\$400,000.00					
14. ACCOUNTING AND APPROPRIATION DATA 2018-X0200-IUPMRU-60-60D099-60B991-1148-72-S-164-4110-72-S-164-1148							
PURCHASE REQUEST NO.		JOB ORDER NO.		AMOUNT		STATUS	
RES-18-0163							
15. POINTS OF CONTACT							
	NAME	MAIL STOP	TELEPHONE	E-MAIL ADDRESS			
TECHNICAL OFFICER	NANCY V. HEBRON-ISREAL	TWFN10B56	301-415-6996	Nancy.Hebron-Isreal@nrc.gov			
NEGOTIATOR							
ADMINISTRATOR	M'LITA R. CARR		301-415-6869	MLita.Carr@nrc.gov			
PAYMENTS							
16. THIS AWARD IS MADE UNDER THE AUTHORITY OF: PURSUANT TO SECTION 31B AND 141B OF THE ATOMIC ENGERGY 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 M'LITA R. CARR		DATE 07/03/2018		AUTHORIZED REPRESENTATIVE		DATE	

Grant and Cooperative Agreement

ITEM NO. (A)	ITEM OR SERVICE (Include Specifications and Special Instructions) (B)	QUANTITY (C)	UNIT (D)	ESTIMATED COST	
				UNIT PRICE (E)	AMOUNT (F)
	<p>CFDA Number: 77.008</p> <p>Payment will be made through the Automated Standard Application for Payment (ASAP.gov) unless the recipient has failed to comply with the program objectives, award conditions, Federal reporting requirements or other conditions specified in 2 CFR 200.</p> <p>Payment:</p> <p>Period of Performance: 07/03/2018 to 07/02/2022</p>				



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

July 3, 2018

Annalisa Manera, Ph.D.
Regents of the University of Michigan
3003 S. State Street
Ann Arbor, MI 48109-1274

VIA Electronic Mail
manera@umich.edu

SUBJECT: GRANT NO: 31310018M0030

Dear Dr. Manera:

Pursuant to the authority contained in the Federal Grant and Cooperative Agreement Act of 1977, as amended, and the Atomic Energy Act of 1954, as amended, the Nuclear Regulatory Commission (NRC) hereby awards to Regents of the University of Michigan (hereinafter referred to as the "Grantee" or "Recipient"), the sum of \$400,000.00 to provide support for "Nuclear Engineering Graduate Fellowship Program at the University of Michigan" entitled "Program Description."

This award is effective July 3, 2018 and shall apply to expenditures made by the Recipient furtherance of program objectives during the period beginning with the effective date of July 3, 2018 and ending July 2, 2022.

This award is made to the Recipient on condition that the funds will be administered in accordance with the terms and conditions as set forth in Attachment A (the Schedule); Attachment B (the Program Description); and Attachment C (the Standard Provisions); all of which have been agreed to by your organization. In addition your grant application proposes \$100,000.00 in cost share for this program. Please ensure your cost share conforms to the provisions in 2 CFR 200, and is reported on the semi-annual Federal Financial Report.

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

As a recipient of this award you are required to have an active account with FedConnect, please confirm your account status at www.FedConnect.com.

Sincerely yours,

M'Lita Carr
Assistance Agreement Officer
Operations Branch B
Acquisition Management Division

Attachments:

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

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

The purpose of this Grant is to provide support to the "Nuclear Engineering Graduate Fellowship Program at the University of Michigan" as described in Attachment B entitled "Program Description."

A.2 PERIOD OF GRANT

1. The effective date of this Grant is July 3, 2018. The estimated completion date of this Grant is July 2, 2022.
2. Funds obligated hereunder are available for program expenditures for the estimated period: July 3, 2018 – July 2, 2022.

A.3 GENERAL

- | | |
|--------------------------------|--|
| 1. Total Estimated NRC Amount: | \$400,000.00 |
| 2. Total Obligated Amount: | \$400,000.00 |
| 3. Cost-Sharing Amount: | \$100,000.00 |
| 4. Activity Title: | Nuclear Engineering Graduate Fellowship
Program at the University of Michigan |
| 5. NRC Project Officer: | Nancy Hebron-Isreal |
| 6. DUNS No.: | 073133571 |

A.4 AMOUNT OF AWARD AND PAYMENT PROCEDURES

1. The total estimated amount of this Award is \$500,000.00 for the four year period; inclusive of \$100,000.00 in cost share.
2. NRC hereby obligates the amount of \$400,000.00 for program expenditures during the period set forth above and in support of the Budget above. 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 Recipient in accordance with procedures set forth in the Automated Standard Application for Payments (ASAP) Procedures set forth below.

A.5 BUDGET

Revisions to the grant award budget shall be made in accordance with Revision of Grant Budget in accordance with [2 CFR § 200.308](#).

	Year 1	Year 2	Year 3	Year 4	Total Estimated Cost
Personnel	\$67,200.00	\$69,216.00	\$71,292.00	\$73,431.00	\$281,139.00
Fringe Benefits	\$12,999.00	\$13,389.00	\$13,790.00	\$14,204.00	\$54,382.00
Other (Tuition)	\$19,801.00	\$17,395.00	\$14,918.00	\$12,365.00	\$64,479.00
Total Direct Cost	\$100,000.00	\$100,000.00	\$100,000.00	\$100,000.00	\$400,000.00
Indirect Cost (56%)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Total Cost	\$100,000.00	\$100,000.00	\$100,000.00	\$100,000.00	\$400,000.00
Recipient Share					\$100,000.00

ATTACHMENT B - PROJECT DESCRIPTION

Project Description

1. Nuclear Engineering (NE) Fellowship Program. The NE Fellowship Program will support a mix of MS and PhD students in Nuclear Engineering and Radiological Sciences (NERS) in the College of Engineering (CoE) at the University of Michigan (UM). Fellowship support will cover stipend, benefits, and tuition for MS and PhD students. Fellows will be US citizens or permanent residents and will be full-time students with at least a 3.3 GPA on a 4.0 scale.

The expected duration of the NE Fellowship support will be 2-3 terms for MS Fellows (typical time to a MS degree at Michigan is three academic terms) and 1-2 years for PhD Fellows. PhD Fellows will be encouraged to move to a research grant following their first year but no later than the end of their second year. The following is an example illustrating the number of new and continuing NE Fellows that can be supported during the 4 year duration of the Fellowship Program:

- **Year 1:** 1 new MS Fellow + 1 new PhD Fellow
- **Year 2:** 1 new MS Fellow + 1 cont. MS Fellow (1 term) + 1 cont. PhD Fellow (1 term)
- **Year 3:** 1 new MS Fellow + 1 new PhD Fellow
- **Year 4:** 1 new MS Fellow + 1 cont. MS Fellow (1 term) + 1 cont. PhD Fellow (1 term)

The actual progression of the 4-year NE Fellowship program will depend on the number and quality of MS and PhD applicants and the number of terms of support beyond the first year. The Budget Narrative section of this proposal details the 4-year expenses for the NE Fellowship Program.

The funds available for NE Fellows may be higher due to NERS and CoE initiatives that are discussed later. Since these funds cannot be relied upon, they are not used in our budget projections or leveraging calculations.

2. Recruiting and Marketing. NERS has traditionally attracted a large number of outstanding graduate students. This is due partly to the quality of our graduate program, which has been ranked #1 in the country over the past several years, as well as to the active recruiting by the NERS department. This includes active participation in university recruiting events such as "Recruit at Home" where current students visit their alma maters, as well as a NERS web site consistent with the U-M College of Engineering template. All of these approaches attract the

best and the brightest future nuclear engineers who are a key part of the high ranking of the NERS graduate program. The key elements of our recruiting and marketing programs are briefly described below.

NERS Graduate Coordinator. The Graduate Coordinator is full-time staff who is responsible for all aspects of a graduate student's career at Michigan. The graduate coordinator assists the NE Committee in choosing eligible candidates for the NE fellowships. Additionally, the responsibilities include recruiting, retention, annual reviews, and taking care of issues that graduate students encounter as they progress thorough the program. These responsibilities include administrative tasks such as processing NE fellowship stipends, ensuring students maintain full-time status to meet academic requirements, as well as monitoring other fellowships' eligibility requirements. The graduate coordinator also arranges doctoral committees and oral examinations, and is usually the first person the prospective graduate student interacts with to handle graduate administrative matters. We have found that having a dedicated person to provide this "human element" to the graduate program is instrumental to the success of our recruiting and retention in the MS and PhD students.

College of Engineering NERS Website. The NERS website has a new look consistent with the College of Engineering's efforts to improve the appearance and content of all the department websites. The site has Flickr photos of our students, professors, staff, labs, equipment, videos, promotions and announcements of new funding, student defenses, undergraduate and graduate pages, "In the News", etc. The link is <https://ners.engin.umich.edu/>

Recruiting at Universities. The College of Engineering (CoE) has established the "Recruit at Home" initiative where the CoE awards travel stipends to current students to make formal presentations at their alma maters. This new initiative has had successful results in attracting higher caliber applicants. In addition, NERS provides funding to allow NERS faculty to travel to peer institutions and give presentations and take the opportunity to inform graduate students about opportunities at Michigan.

Financial incentives. Another new initiative promoted by the CoE is waiving application fees to the top students with a GPA of 3.70 or above. This new initiative yielded a number of high quality applications resulting in an overall 3.73 GPA average for the 2016 incoming class.

Competitive stipends. Graduate student stipends are reviewed every year to make sure NERS remains competitive with other top universities. The current master's and PhD pre-candidate stipend is \$2700/month. The stipend comes with full tuition, fees, benefits and medical benefits.

Five year commitment of financial support. In accordance with a new CoE policy regarding admission of new PhD students, all first year PhD students are assured five years of full financial support contingent on satisfactory progress, which is assessed on an annual basis.

Quality. The Department is a well-known and highly respected department in Nuclear Engineering. As in past years, also in the recent 2017 survey, the *US News and World Report* ranked the NERS graduate program as the #1 Nuclear Engineering department in the nation. In the same survey, the UM College of Engineering maintained its 5th national ranking among all Engineering Colleges in the country. The University of Michigan is typically ranked among the top three public universities in the country for the quality of its graduate programs. The high reputation of the Department, College, and University helps the Department attract excellent applicants to its graduate program. Of special interest is that *USNWR* ranked U-M 9th in the

nation that assists veterans and active service members pursuing an affordable college education. The #9 ranking is up 8 spots from last year and 14 spots from two years ago.

Campus visits for prospective students. NERS is an active participant in the CoE graduate recruiting initiative, where all departments invite their top prospects to campus on two different weekends. Prospective students visit the Department and interact with the current students and faculty about research and instructional activities in their field of interest. This helps the students become comfortable with the department and to match up with a specific research area. Every visiting candidate is scheduled for one-on-one discussions with the faculty in their area of interest. Our experience is that these visits not only help recruiting but also contributes to the low graduate attrition rate in the Department. We feel that fostering a personal relationship between the candidates and the NERS graduate students, professors, and staff the year before the students begins their studies helps creates a very positive graduate environment.

Mentoring and Advising. All first-year graduate students are assigned a graduate advisor who is consistent with their research interests and resources of the faculty. Annual reviews of PhD students are conducted and students become aware of the sequence of steps to obtain a PhD as well as areas where they may need to improve. The NE PhD Fellows will have additional reviews by the NE Fellowship Committee at the end of every semester to make sure they are making satisfactory progress toward their degrees and monitor the transition from fellowship funds to a research grant. The discipline of working on a focused research project with opportunities for presenting talks and writing reports is essential for a PhD student to progress on the path to graduation. We have also found that mentoring by senior graduate students is also a valuable part of the students' development, particularly for assistance in scheduling classes, discussing homework, studying together for exams, etc. Therefore, we make a concerted effort to mix senior and new students in offices.

Faculty role models for minority and female students. When minority students and female students become acquainted with our instructional faculty, whether by being an undergraduate in NERS or during a recruiting visit to Michigan, they will find excellent role models, since NERS has five female faculty and one minority faculty, who make extra efforts to arrange meetings and luncheons to discuss their experiences in our department. This helps demonstrate to prospective graduate students that fostering a positive environment for minority and female students is a top priority in the department. As a result, we have significantly increased our minority enrollment; and in turn, our minority students are the best recruiters to continue that momentum.

Table 1. NERS Graduate Courses

Course #	Course Title	Course #	Course Title
NERS 421	Nuclear Engineering Materials	NERS 471	Introduction to Plasmas
NERS 425	Applications of Radiation	NERS 472	Fusion Reactor Technology
NERS 441	Nuclear Reactor Theory I	NERS 481	Engineering Principles of Radiation Imaging
NERS 442	Nuclear Power Reactor Design	NERS 484	Radiological Health Engineering Fundamentals
NERS	Thermal-hydraulics for	NERS 490	Special Topics in Nuclear Eng &

444	Nuclear Systems		Radiological Sci
NERS 462	Reactor Safety Analysis	NERS 499	Research in Nuclear Eng & Radiological Sci
NERS 511	Quantum Mechanics in Neutron-Nuclear Reactions	NERS 524	Nuclear Fuels
NERS 512	Interaction of Radiation and Matter	NERS 531	Nuclear Waste Management
NERS 515	Nuclear Measurements Laboratory	NERS 535	Detection Techniques of Nuclear Non-proliferation
NERS 518	Advanced Radiation Measurements and Imaging	NERS 543	Nuclear Reactor Theory II
NERS 521	Radiation Materials Science I	NERS 544	Monte Carlo Methods
NERS 522	Radiation Materials Science II	NERS 546	Thermal Fluids for Nuclear Reactor Safety Analysis
NERS 547*	Computational Fluid Dynamics for Nuclear Applications	NERS 572	Intermediate Plasma Physics II
NERS 551	Nuclear Reactor Kinetics	NERS 573	Plasma Engineering
NERS 554	Radiation Shielding Design	NERS 574*	Intro to Computational Plasma Physics
NERS 561	Nuclear Core Design and Analysis I	NERS 575	Plasma Generation and Diagnostics Laboratory
NERS 562*	Nuclear Core Design and Analysis II	NERS 576	Charged Particle Accelerators and Beams
NERS 571	Intermediate Plasma Physics I	NERS 577	Plasma Spectroscopy
NERS 578	Physical Processes in Plasmas	NERS 586	Applied Radiological Measurements
NERS 579	Physics of Diagnostic Radiology	NERS 587	Internal Radiation Dose Assessment
NERS 580	Computation Projects in Radiation Imaging	NERS 588	Radiation Safety and Medical Physics Practicum
NERS 582	Medical Radiological Health Engineering	NERS 590	Special Topics in Nuclear Eng & Radiological Sci II
NERS 583	Applied Radiation Dose Assessment	NERS 599	Master's Project
NERS 585	Transportation of Radioactive Materials	NERS 621	Nuclear Waste Forms
NERS 622	Ion Beam Modification and Analysis of Materials	NERS 673	Electrons and Coherent Radiation
NERS 644	Transport Theory	NERS 674	High Intensity Laser-Plasma Interactions
NERS 671	Theory of Plasma Confinement in Fusion Systems I	NERS 799	Special Projects
NERS 672	Theory of Plasma Confinement in Fusion Systems II	NERS590-4	Parallel computing

NERS 995	Dissertation/Candidate	NERS590-5	Fast reactor physics and methods
NERS 990	Dissertation /Precandidate		

NERS graduate curriculum. With 28 full-time faculty including 3 joint appointments (plus one ongoing faculty search), 127 graduate students, and 101 undergraduate students, NERS has very strong undergraduate and graduate programs. The Department has considerable strengths in the core nuclear engineering areas, including fission systems and radiation transport, plasma physics and fusion, nuclear materials, and radiation measurements. Additionally, we have recently added an accredited Medical Physics Certificate Program to our academic program offering. We attract outstanding students who are focused in these areas and related areas. Over 55 NERS graduate courses have been offered during the past few years in the field of nuclear engineering (see Table 1), demonstrating both the breadth and depth of the graduate curriculum which a key consideration for prospective graduate students.

Master's Chair Position. Several years ago, the CoE decided to strengthen the master's programs in all departments. The process included establishing a Master's Graduate Chair in every department who would manage the program with a goal of increasing the caliber and number of students in the MS program, as well as increasing the number of under-represented minorities and females. In 2012, John Foster was appointed the first Master's Graduate Chair in NERS. Professor Foster meets each MS student during the first term checking in as to academics, forming cohorts within the department, concerns, etc. He has found the interviews productive and reports at the full faculty if there are any issues that should be discussed among full faculty.

3. Selection Process. The selection process for NE Fellows is a multistep process involving the Graduate Committee, an existing NERS committee that reviews all applications for graduate admission and financial assistance, and the NE Fellowship Committee, a committee formed for the express purpose of selecting the NE Fellows and monitoring and evaluating the NE Fellowship Program. The Graduate Committee consists of a Master's Program Chair, a PhD Program Chair, and four faculty members representing each of the four principal research areas in NERS. Additionally, the committee is staffed by the Graduate Coordinator.

The initial review of applicants is performed by the faculty and submitted to the Graduate Committee. For the Fall 2016 recruiting season, NERS had 145 applications—102 PHD and 43 master's. Reviewing, evaluating, ranking, and deciding which of these applicants should be admitted and supported is the primary responsibility of each of the four research options and then reviewed by the Graduate Committee. This year approximately the top 42 prospects were invited to visit NERS for an interview based on the quality of the student's record (i.e., university attended, GPA, GRE scores, and letters of recommendation), and other factors such as research interests, number of new students needed in each area of study, and availability of funding.

If an applicant is recommended by the Graduate Committee, and satisfies the eligibility criteria (US citizen or permanent resident and 3.3 GPA or above), he or she is eligible for selection as a NE Fellow by the NE Fellowship Committee. This committee consists of three faculty (Downar, Martin, and Lee) and the PIs of this grant (Manera and Gilgenbach), along with the Graduate Coordinator (Roberts) who is a non-voting member of the committee. Towards the end of the Fall term and again at the end of the Winter term, the NE Fellowship Committee reviews the status of the current NE Fellows and decides which, if any, will continue for the following year, taking into consideration the student's performance and available funding.

In addition to academic merit, consideration will be given to student financial needs since the University of Michigan and the NERS department is committed to diversity in the student body. The UM NERS Department will follow Federal guidelines for administration of Affirmative Action Programs for promoting opportunities for Under-Represented Minorities and Women in connection with this Federally Funded Fellowship program.

4. Management Structure/Capability. The PI of this grant is Professor Annalisa Manera. Professor Manera will oversee the overall administration of this grant. The Co-PI is Professor Ronald M. Gilgenbach, who is also the NERS Department Chair. The NERS Department has had one of the largest and most successful graduate programs in the nation for several decades. NERS demonstrated the capability and capacity to carry out the mission of the NE Fellowship Program which in turn is a vital component to the sustained success of our graduate program.

5. Evaluation Plan. The NE Fellowship Committee performs an annual review of the program, comparing the performance of the NE Fellows with other graduate students in the Department. NE Fellows will be interviewed by the PI when they leave the department for employment. The students are asked to comment on their graduate experience. The exit interview typically includes questions such as the following:

- What are your plans to fulfill your employment obligation?
- Where did you learn about the NE Fellowship Program?
- Was the NE Fellowship a deciding factor in choosing Michigan?
- How important was the NE Fellowship for you to get your degree?
- Would you have chosen to pursue Nuclear Engineering without an NE Fellowship?
- What are your overall impressions of the NE Fellowship Program?
- Do you have any suggestions for the structure or administration of the Program?
-

The responses will be used to improve the NE Fellowship Program and will be reported in the semi-annual and final reports for the Fellowship grant.

6. Tuition, Fees, and Expenses for NE Fellowships. The NE Fellows will have the same monthly stipend and benefits as the standard stipend for a Graduate Student Research Assistant (GSRA). The estimated monthly stipend rate will be \$2800/month. The benefits include full medical coverage and full tuition and fees, regardless of residency. The support is for 12 months, including tuition for two academic terms as a full-time student. Table 2 in the Budget Narrative summarizes the estimated cost to support incoming graduate students in NERS at Michigan in AY 2018-19, as a function of marital status and residency status.

7. Relation to a State or Regional Strategic Plan. The NE Fellowship Program is not related to any state or regional strategic plan.

8. Leveraged Funding. It is estimated in the Budget Narrative that the shortfall would be \$190,571, if we take the average tuition rate between in-state, out-state, and candidate rates. Only an estimate is possible at this time because we can only guess at the residency status of our incoming students, as explained in the Budget Narrative. For the purpose of providing an estimate of the leveraging, the institutional leveraging is estimated to be 52% of this near-maximum shortfall, and would be sufficient to support one resident and one PhD candidate, although the UM will provide any excess for tuition only beyond this amount if needed.

9. Service agreement. NE Fellows are required to accept the NE Fellowship in writing and acknowledge their understanding and acceptance of the employment obligation in return for their fellowship. This must occur before funds are disbursed to the NE Fellows.

10. Institutional Support and Sustainability. The Department of Nuclear Engineering and Radiological Sciences has had very strong support from the University of Michigan and the College of Engineering ever since the Department was created in 1958. Even with the prolonged stagnation period for nuclear engineering in the 1980s and 1990s, when total undergraduate enrollment in NERS was less than 30 students (it is currently 101) the Department continued to receive strong support from the College. With the upsurge in nuclear power and the increase in enrollment during the last few years, ten faculty have been hired since 2006 with only one retirement and one resignation (to take a position in the government sector). Currently NERS has an ongoing search for an additional faculty. This sustained investment in faculty is a clear sign of the continuing institutional support for Nuclear Engineering at the University of Michigan.

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

Preface

This award is based on the application submitted to, and as approved by, the Nuclear Regulatory Commission (NRC) under the authorization [42 U.S.C. § 2051\(b\)](#), pursuant to section 31b and 141b of the Atomic Energy Act of 1954, as amended, and is subject to the terms and conditions incorporated either directly or by reference in the grant or cooperative agreement. The following also apply:

- Restrictions on the expenditure of Federal funds in appropriation acts, to the extent those restrictions are pertinent to the award.
- Code of Federal Regulations/Regulatory Requirements – [2 CFR Part 200](#) Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards.

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

Certifications and Representations: These terms incorporate the certifications and representations required by statute, executive order, or regulation that were submitted with the SF424B application through [GRANTS.GOV](#).

I. Mandatory General Requirements

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

1. Applicability of [2 CFR Part 200](#)

All provisions of 2 CFR Part 200 and all Standard Provisions attached to this grant/cooperative agreement are applicable to the Recipient and to sub-recipients which meet the definition of "Recipient" in 2 Part [§200.86](#), unless a section specifically excludes a sub-recipient from coverage. The Recipient and any sub-recipients must, in addition to the assurances made as part of the application, comply and require each of its sub-awardees employed in the completion of the project to comply with [Subpart D](#) of [2 CFR Part 200](#) and include this term in lower-tier (sub-award) covered transactions.

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

2. Award Package

The Recipient is obligated to conduct project oversight as may be appropriate, to manage the funds with prudence, and to comply with the provisions outlined in [2 CFR Part 200](#). Within this

framework, the Principal Investigator (PI) named on the award face page, is responsible for the scientific or technical direction of the project and for preparation of the project performance reports. This award is funded on a cost-reimbursement basis, not to exceed the amount awarded as indicated on the face page, and is subject to a refund of unexpended grant funds to the NRC.

The non-Federal entity alone must be responsible, in accordance with good administrative practice and sound business judgment, for the settlement of all contractual and administrative issues arising out of procurements related to its grant award. These issues include, but are not limited to, source evaluation, protests, disputes, and claims. These standards do not relieve the non-Federal entity of any financial or fiduciary responsibilities or obligations arising under its grant, including sub-contracts and sub-awards, or any other contractual or financial obligation. The Federal awarding agency will not substitute its judgment for that of the non-Federal entity unless the matter is primarily a Federal concern. Violations of law will be referred to the local, State, or Federal authority having proper jurisdiction. See [2 CFR § 200.318\(k\)](#), General Procurement Standards.

Registration in FedConnect®

The Nuclear Regulatory Commission (NRC) uses Compusearch Software Systems' secure and auditable two-way web portal, FedConnect®, to communicate with vendors and contractors. FedConnect® provides bi-directional communication between the vendor/contractor and the NRC throughout pre-award, award, and post-award acquisition phases. Therefore, in order to do business with the NRC, vendors and contractors must register to use FedConnect® at <https://www.fedconnect.net/FedConnect>. The individual registering in FedConnect® must have authority to bind the vendor/contractor. There is no charge for using FedConnect®. Assistance with FedConnect® is provided by Compusearch Software Systems, not the NRC. FedConnect® contact and assistance information is provided on the FedConnect® web site at <https://www.fedconnect.net/FedConnect>.

Subawards

[Appendix II to Part 200](#) Contract Provisions for Non-Federal Entity Contracts Under Federal Awards

Sub-recipients, sub-awardees, and contractors have no relationship with NRC under the terms of this grant/cooperative agreement. All required NRC approvals must be directed through the Recipient to NRC. See [2 CFR § 200.318](#).

Nondiscrimination

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

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

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. §§ 2000d et seq.), which prohibits discrimination on the grounds of race, color, or national origin in any program or activity receiving federal financial assistance.

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

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

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

Modifications/Prior Approval

NRC's prior written approval may be required before a Recipient makes certain budget modifications or undertakes particular activities. If NRC approval is required for changes in the grant or cooperative agreement, it must be requested and obtained from the NRC Grants Officer in advance of the change or obligation of funds. All requests for NRC prior approval, including requests for extensions to the period of performance extension, must be made, in writing (which includes submission by e-mail), to the designated Grants Officer at least 30 business days before the proposed change. The request must be signed by the authorized

organizational official. Failure to obtain prior approval, when required, from the NRC Grants Officer, may result in the disallowance of costs, or other enforcement action within NRC's authority.

No-Cost Extension Requests that are not received in a timely manner as described above may result in requests being disapproved by the NRC Program Managers and Grant Officer.

Lobbying Restrictions

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

The Recipient will comply with provisions of 31 U.S.C § 1352. This provision generally prohibits the use of Federal funds for lobbying in the Executive or Legislative Branches of the Federal Government in connection with the award, and requires disclosure of the use of non-Federal funds for lobbying.

The Recipient shall submit, at the time of application, a completed "Certification Regarding Lobbying" form, regardless of dollar value.

If applicable, the Recipient receiving in excess of \$100,000.00 in Federal funding shall submit a completed Standard Form (SF-LLL), "Disclosure of Lobbying Activities" for any persons engaged in lobbying activities, as discussed at 31 U.S. Code § 1352 – Limitation on use of appropriated funds to influence certain Federal contracting and financial transactions. The form concerns the use of non-Federal funds for lobbying within 30 days following the end of the calendar quarter in which there occurs any event that requires disclosure or that materially affects the accuracy of the information contained in any disclosure form previously filed. If the Recipient must submit the SF-LLL, including those received from sub-recipients, contractors, and subcontractors, to the Grants Officer.

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

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

- (1) Are presently excluded or disqualified from covered transactions by any Federal department or agency;
- (2) Have been convicted, within the preceding three-year period preceding this proposal, of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, receiving stolen property, making false claims, or obstruction of justice; commission of any other offense indicating a lack of business integrity or business honesty that seriously and directly affects the recipient's present responsibility;

(3) Are presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (1)(b); or

(4) Have had one or more public transactions (Federal, State, or local) terminated for cause or default within the preceding three years.

(5) The Recipient agrees that, unless authorized by the Grants Officer, it will not knowingly enter into any subaward or contracts under this grant/cooperative agreement with a person or entity that is not included on the System for Award Management (SAM) (<https://www.sam.gov>).

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

Debarment, Suspension, Ineligibility, and Voluntary Exclusion

The Recipient certifies that neither it nor its principals is presently excluded or disqualified from participation in this transaction by any Federal department or agency. The policies and procedures applicable to debarment, suspension, and ineligibility under NRC-financed transactions are set forth [2 CFR Part 180](#) and [2 CFR Part 200](#).

Drug-Free Workplace

The Recipient must be in compliance with The Federal Drug Free Workplace Act of 1988. The policies and procedures applicable to violations of these requirements are set forth in [41 U.S.C. §§ 8101-8106](#).

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

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

The Recipient must comply with E.O. 13224, Blocking Property and Prohibiting Transactions with Persons who Commit, Threaten to Commit, or Support Terrorism. Information about this Executive Order can be found at:

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

Procurement Standards - [2 CFR §§ 200.318-200.326](#)

Sections 200.318 - 200.326 set forth standards for use by Recipients in establishing procedures for the procurement of supplies and other expendable property, equipment, real property and other services with Federal funds. These standards are furnished to ensure that such materials and services are obtained in an effective manner and in compliance with the provisions of applicable Federal statutes and executive orders. No additional procurement

standards or requirements will be imposed by the Federal awarding agencies upon Recipients, unless specifically required by Federal statute, executive order, or approved by OMB.

Travel and Transportation

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

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

The Recipient will comply with the provisions of the Fly America Act (49 U.S.C 40118), as implemented at 41 CFR §§ 301-10.131 through 301-10.143.

Federal funds may not be used to travel to countries identified under the US Department of States, Directorate of Defense Trade Controls, Country Policies and Embargoes, http://www.pmddtc.state.gov/embargoed_countries/index.html.

Property Standards

Property standards of this award shall follow provisions as established [2 CFR §§ 200.310-200.316](#).

Intangible Property

Intangible and intellectual property of this award shall generally follow provisions established in [2 CFR § 200.315](#).

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

Patent Notification Procedures - If the NRC or its Recipients, without making a patent search, knows (or has demonstrable reasonable grounds to know) that technology covered by a valid United States patent has been or will be used without a license from the owner, E.O.12889 requires NRC to notify the owner. If the Recipient uses or has used patented technology under this award without license or permission from the owner, the Recipient must notify the Grants Officer. This notice does not imply that the Government authorizes and consents to any copyright or patent infringement occurring under the financial assistance.

Data, Databases, and Software - The rights to any work produced or purchased under a NRC federal financial assistance award, such as data, databases or software are

determined by [Subpart D](#) of [2 CFR Part 200](#). The Recipient owns any work produced or purchased under a NRC federal financial assistance award subject to NRC's right to obtain, reproduce, publish or otherwise use the work or authorize others to receive, reproduce, publish or otherwise use the data for Government purposes.

Copyright - The Recipient may copyright any work produced under a NRC federal financial assistance award subject to NRC's royalty-free nonexclusive and irrevocable right to reproduce, publish or otherwise use the work or authorize others to do so for Government purposes. Works jointly authored by NRC and Recipient employees may be copyrighted, but only the part authored by the Recipient is protected because, under [17 U.S.C. § 105](#), works produced by Government employees are not copyrightable in the United States. On occasion, NRC may ask the Recipient to transfer to NRC its copyright in a particular work when NRC is undertaking the primary dissemination of the work. Ownership of copyright by the Government through assignment is permitted under [17 U.S.C. § 105](#).

Record Retention and Access

Recipient shall follow established provisions in [2 CFR §§ 200.333-337](#).

Conflict Of Interest

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

Dispute Review Procedures

- a. Any request for review of a notice of termination or other adverse decision should be addressed to the Grants Officer. It must be postmarked or transmitted electronically no later than 30 days after the postmarked date of such termination or adverse decision from the Grants Officer.
- b. The request for review must contain a full statement of the Recipient's position and the pertinent facts and reasons in support of such position.
- c. The Grants Officer will promptly acknowledge receipt of the request for review and shall forward it to the Director, Acquisition Management Division, unless otherwise delegated, who shall appoint an intra-agency Appeal Board to review a recipient appeal of an agency action, if required, which will consist of the program office director, the Deputy Director of Office of Administration, and the Office of General Counsel, or their designees.
- d. Pending resolution of the request for review, the NRC may withhold or defer payments under the award during the review proceedings.
- e. The review committee will request the Grants Officer who issued the notice of termination or adverse action to provide copies of all relevant background materials and documents. The committee may, at its discretion, invite representatives of the Recipient and the NRC program office to discuss pertinent issues and to submit such additional information

as it deems appropriate. The chairman of the review committee will insure that all review activities or proceedings are adequately documented.

f. Based on its review, the committee will prepare its recommendation to the Director, Office of Administration, who will advise the parties concerned of his/her decision.

Remedies for Noncompliance

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

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

Recipient Financial Management systems must comply with the provisions in [2 CFR § 200.302](#).

- Payment – [2 CFR § 200.305](#)
- Cost Share or Matching – [2 CFR § 200.306](#)
 - Recipients are to be careful with providing excessive cost share or match since at the end of the grant, if the identified match has not been provided, then a portion of the federal share may be required to be returned to the Government.
- Program Income – [2 CFR § 200.307](#)
 - Earned program income, if any, will be added to funds committed to the project by the NRC and Recipient and used to further eligible project or program objectives or be deducted from the total project cost for the grant, as directed by the Grants Officer or indicated in the terms and conditions of the award.
- Revision of Budget and Program Plans – [2 CFR § 200.308](#)
 - The Recipient is required to report deviations from the approved budget and program descriptions in accordance with – [2 CFR § 200.308\(b\)](#) and request prior written approval from the Project Officer and the Grants Officer.
 - The Recipient is not authorized to re-budget between direct costs and indirect costs without written prior approval of the Grants Officer.
 - The Recipient is authorized to transfer funds among direct cost categories up to a cumulative 10 percent of the total approved budget. The Recipient is not allowed to transfer funds if the transfer would cause any Federal appropriation to be used for purposes other than those consistent with the original intent of the appropriation.
 - Allowable Costs – [2 CFR §§ 200.403](#)
- See section [2 CFR §§ 200.330-332](#) for Subrecipient Monitoring and Management.

FEDERAL FINANCIAL REPORTS

Federal Financial Reports (SF-425) are semi-annually, for the periods ending March 31 and September 30, or any portion thereof, regardless of the award date. Reports are due within 30 calendar days following the end of the reporting period and must be

submitted through [FedConnect](#). The SF-425 form and instructions are available at [Grant.gov](#).

PERFORMANCE PROGRESS REPORTS

The performance (technical) progress report indicated below is subject to [2 CFR §200.328](#).

Fellowship

Performance Progress reports must be submitted annually, for the period ending September 30, or any portion thereof, regardless of the award date. Reports are due within 30 days following the end of each reporting period and must be submitted through [FedConnect](#). Click the link to find the required format and information when submitting the [NRC Performance Progress Report \(PPR\)](#).

Final Reports - The Recipient is required to submit final reports, both Financial (SF-425) and Performance within 90 days of the grant expiration. In addition to these reports, a final SF-428, Tangible property report, is also required, if applicable. The final PPR (for Scholarship, Fellowship, and Trade School and Community College Scholarship awards) must include the names of all students with up to date contact information (mailing address, telephone/cell phone, email address). The reports must be submitted through [FedConnect](#).

Period of Performance – [2 CFR § 200.309](#)

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

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

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

Incremental Funding (if applicable refer to Attachment A - AVAILABILITY OF FUNDS)

Additional funding for this award is contingent upon the availability of appropriated funds, satisfactory performance, and the recipient's capacity to manage the award and comply with award requirements. The Recipient agrees to perform work up to the amount obligated as specified in Attachment A of the grant award. NRC is not obligated to reimburse the Recipient for expenditures in excess of the total funds obligated by NRC. The Recipient is not authorized to continue performance beyond the amount obligated to this award. Any work performed by the grantee beyond the funding amount obligated in Section A will be at the grantee's risk.

Automated Standard Application For Payments (ASAP) Procedures

Unless otherwise stated, Recipient payments are made using the Department of Treasury's Automated Standard Application for Payment (ASAP) system, ASAP.gov, through preauthorized electronic funds transfers. To receive payments, Recipients are required to enroll with the Department of Treasury, Financial Management Service, and Regional Financial Centers, which allows them to use the on-line method of withdrawing funds from their ASAP established accounts. The following information is required to make ASAP withdrawals: (1) ASAP account number – the award number found on the cover sheet of the award; (2) Agency Location Code (ALC) – 31000001; and Region Code. Recipients enrolled in the ASAP system do not need to submit a "Request for Advance or Reimbursement" (SF-270).

II. Audit Requirements

Audits

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

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

1. Create the recipient's online report ID at:
<http://harvester.census.gov/fac/collect/ddeindex.html>;
2. Complete the Form SF-SAC;
3. Upload the Single Audit;
4. Certify the Submission; and
5. Click "Submit."

Organizations expending less than \$750,000 a year are not required to have an annual audit for that year but must make their grant-related records available to NRC or other designated officials for review or audit.

III. Programmatic Requirements

The recipient is responsible for providing documentation to the NRC that tracks each student's progress in achievement of the academic program for which federal funds were provided. This includes: (1) ensuring the service agreement is signed by the student prior to providing support; (2) providing the NRC with student contact information upon student entry into the program, upon completion or withdrawal from the program, and upon request by the NRC; and (3) monitoring the student's fulfillment of the service agreement for the duration of the award. The NRC shall be notified immediately if a student is not fulfilling the academic program or the service agreement.

Grant Performance Metrics

The Office of Management and Budget requires all Federal Agencies providing funding for educational scholarships and fellowships as well as other educational related funding to report on specific metrics. These metrics are part of the Academic Competitiveness Council's (ACC)

2007 report and specifically relates to Science, Technology, Engineering, and Mathematics (STEM) curricula.

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

Fellowship Metrics:

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

As part of the PPR, include the following information for each student supported under this award. The information must be provided in the format below:

Student Name	Estimated Graduation Date	Support in Years Required	Amount of Grant Funds Received Cumulative of award	Status	Comments/Place of work	Position Held at Employment	Is the position Nuclear Related?
	*month/day/year	*6 months for every full or Partial year		*Choose an option below	*If employed where does the student work?		
				Student	*If withdrawn - why and please include updated contact information below. And please indicate if funds were repaid		
				Employed - Not Nuclear			
				Employed - Nuclear			
				Withdrawn			
Update New Student Contact information (if changed)							
Address							
Phone							
Email							

Unsatisfactory Performance

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

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

Other Federal Awards With Similar Programmatic Activities

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

Prohibition Against Assignment By The Recipient

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

Site Visits

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

IV. Additional Requirements

Criminal and Prohibited Activities

The Program Fraud Civil Remedies Act ([31 U.S.C. §§ 3801-3812](#)), provides for the imposition of civil penalties against persons who make false, fictitious, or fraudulent claims to the Federal government for money (including money representing grant/cooperative agreements, loans, or other benefits).

False statements ([18 U.S.C. § 287](#)), provides that whoever makes or presents any false, fictitious, or fraudulent statements, representations, or claims against the United States shall be subject to imprisonment of not more than five years and shall be subject to a fine in the amount provided by 18 USC §287.

False Claims Act ([31 U.S.C. § 3729 et seq.](#)), provides that suits under this Act can be brought by the government, or a person on behalf of the government, for false claims under federal assistance programs.

Copeland “Anti-Kickback” Act ([18 U.S.C. § 874](#)), prohibits a person or organization engaged in a federally supported project from enticing an employee working on the project from giving up a part of his compensation under an employment contract.

American-Made Equipment and Products

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

Increasing Seat Belt Use in the United States

E.O. 13043, amended by E.O. 13652, requires Recipients to encourage employees and contractors to enforce on-the-job seat belt policies and programs when operating company-owned, rented or personally-owned vehicle.

Federal Leadership of Reducing Text Messaging While Driving

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

Federal Employee Expenses

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

Minority Serving Institutions (MSIs) Initiative

Pursuant to E.O.s 13230 and 13270, [amended by E.O. 13316](#) and [13385](#), 13532, 13592, 13555, 13515, and 13621, NRC is strongly committed to broadening the participation of MSIs in its financial assistance program. NRC's goals include achieving full participation of MSIs in order to advance the development of human potential, strengthen the Nation's capacity to provide high-quality education, and increase opportunities for MSIs to participate in and benefit from Federal financial assistance programs. NRC encourages all applicants and recipients to include meaningful participations of MSIs. Institutions eligible to be considered MSIs are listed on the Department of Education website: <http://www.ed.gov/about/offices/list/ocr/edlite-minorityinst.html>

Research Misconduct

Scientific or research misconduct refers to the fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results. It does not include honest errors or differences of opinions. The Recipient organization has the primary responsibility to investigate allegations and provide reports to the Federal Government. Funds

expended on an activity that is determined to be invalid or unreliable because of scientific misconduct may result in a disallowance of costs for which the institution may be liable for repayment to the awarding agency. The Office of Science and Technology Policy at the White House published in the Federal Register on December 6, 2000, a final policy that addressed research misconduct. The policy was developed by the National Science and Technology Council ([65 FR 76260](#)). The NRC requires that any allegation be submitted to the Grants Officer, who will also notify the OIG of such allegation. Generally, the Recipient organization shall investigate the allegation and submit its findings to the Grants Officer. The NRC may accept the Recipient's findings or proceed with its own investigation. The Grants Officer shall inform the Recipient of the NRC's final determination.

Publications, Videos, and Acknowledgment of Sponsorship

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

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

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

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

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

EXECUTIVE COMPENSATION REPORTING

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

Reporting Subawards and Executive Compensation.

a. Reporting of first-tier subawards.

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

2. *Where and when to report.*

i. You must report each obligating action described in paragraph a.1. of this award term to <http://www.fsrs.gov>.

ii. For subaward information, report no later than the end of the month following the month in which the obligation was made. (For example, if the obligation was made on November 7, 2010, the obligation must be reported by no later than December 31, 2010.)

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

b. Reporting Total Compensation of Recipient Executives.

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

i. the total Federal funding authorized to date under this award is \$25,000.00 or more;

ii. in the preceding fiscal year, you received—

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

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

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

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

i. As part of your registration profile at <http://www.sam.gov>.

ii. By the end of the month following the month in which this award is made, and annually thereafter.

c. Reporting of Total Compensation of Subrecipient Executives.

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

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

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

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

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

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

i. To the recipient.

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

d. Exemptions

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

i. Subawards,

and

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

e. Definitions. For purposes of this award term:

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

- i. A Governmental organization, which is a State, local government, or Indian tribe;
- ii. A foreign public entity;
- iii. A domestic or foreign nonprofit organization;
- iv. A domestic or foreign for-profit organization;
- v. A Federal agency, but only as a subrecipient under an award or subaward to a non-Federal entity.

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

3. *Subaward*:

- i. This term means a legal instrument to provide support for the performance of any portion of the substantive project or program for which you received this award and that you as the recipient award to an eligible subrecipient.
- ii. The term does not include your procurement of property and services needed to carry out the project or program (for further explanation, see Sec. __ .210 of the attachment to OMB Circular A-133, "Audits of States, Local Governments, and Non-Profit Organizations")
- iii. A subaward may be provided through any legal agreement, including an agreement that you or a subrecipient considers a contract.

4. *Subrecipient* means an entity that:

- i. Receives a subaward from you (the recipient) under this award; and
- ii. Is accountable to you for the use of the Federal funds provided by the subaward.

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

- i. *Salary and bonus*.
- ii. *Awards of stock, stock options, and stock appreciation rights*. Use the dollar amount recognized for financial statement reporting purposes with respect to the fiscal year in accordance with the Statement of Financial Accounting Standards No. 123 (Revised 2004) (FAS 123R), Shared Based Payments.
- iii. *Earnings for services under non-equity incentive plans*. This does not include group life, health, hospitalization or medical reimbursement plans that do not discriminate in favor of executives, and are available generally to all salaried employees.

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

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

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