

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

July 1, 2016

Jean Ragusa, Ph.D.
Texas A&M University Engineering
Experiment Station
400 Harvey Mitchell Parkway South
Suite 300
College Station, TX 77845

VIA Electronic Mail
ragusa@tamu.edu

SUBJECT: Grant No.: NRC-HQ-13-G-38-0028: Modification No. M0001 (Program B)

Dear Dr. Ragusa:

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 modifies the above referenced award to Texas A&M University Engineering Experiment Station (hereinafter referred to as the "Grantee" or "Recipient"), the additional sum of \$398,310.00 to provide continued support for the "Texas Nuclear Engineering Graduate Fellowship Program" entitled "Program Description – Program B."

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

This award is made to the Recipient on condition that the funds will be administered in accordance with the terms and conditions as set forth in Attachment A (the Schedule); Attachment B (the Program Description); and Attachment C (the Standard Terms & Conditions); all of which have been agreed to by your organization.

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

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

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

Sincerely yours,

Erika Eam

Erika Eam
Grants Officer
Research & Grants Team
Acquisition Management Division

Attachments:

Attachment A – Schedule

Attachment B – Program Description

Attachment C – Standard Terms and Conditions

TEMPLATE - ADM001

SUNSI REVIEW COMPLETE

ADM002

Grant and Cooperative Agreement

CHOOSE ONE:

☐ COOPERATIVE AGREEMENT

☒ GRANT

CHOOSE ONE:

☒ EDUCATION

☐ FACILITIES

☐ RESEARCH

☐ SDCR

☐ TRAINING

1. GRANT/COOPERATIVE AGREEMENT NUMBER NRC-HQ-13-G-38-0028		2. SUPPLEMENT NUMBER M0001		3. EFFECTIVE DATE 07/01/2016		4. COMPLETION DATE	
5. ISSUED TO NAME/ADDRESS OF RECIPIENT (No., Street, City/County, State, Zip) TEES 400 HARVEY MITCHELL PARKWAY SOUTH SUITE 300 COLLEGE STATION TX 778454645				6. ISSUED BY US NRC - HQ Mailing Address: ACQUISITION MANAGEMENT DIVISION MAIL STOP TWFN-5E03 WASHINGTON DC 20555-0001			
7. TAXPAYER IDENTIFICATION NO. (TIN)				9. PRINCIPAL INVESTIGATOR/ORGANIZATION'S PROJECT OR PROGRAM MGR. (Name & Phone) Program A: Dr. Jean Ragusa, ragusa@tamu.edu Program B: Dr. Jean Ragusa, ragusa@tamu.edu			
8. COMMERCIAL & GOVERNMENT ENTITY (CAGE) NO.							
10. RESEARCH, PROJECT OR PROGRAM TITLE See Schedule							
11. PURPOSE See Schedule							
12. PERIOD OF PERFORMANCE (Approximately) 08/01/2013 through 06/30/2020							
13A.		AWARD HISTORY		13B.		FUNDING HISTORY	
PREVIOUS		\$400,000.00		PREVIOUS		\$400,000.00	
THIS ACTION		\$398,310.00		THIS ACTION		\$398,310.00	
CASH SHARE		\$0.00		TOTAL		\$798,310.00	
NON-CASH SHARE		\$0.00					
RECIPIENT SHARE		\$19,000.00					
TOTAL		\$798,310.00					
14. ACCOUNTING AND APPROPRIATION DATA 2016-X0200-IUPMRU-84-84D002-52-S-164-T8458-4110							
PURCHASE REQUEST NO.		JOB ORDER NO.		AMOUNT		STATUS	
OCHCO-16-0183							
15. POINTS OF CONTACT							
	NAME	MAIL STOP	TELEPHONE	E-MAIL ADDRESS			
TECHNICAL OFFICER	NANCY V. HEBRON-ISREAL	3WFN/AF12	301-287-0718	Nancy.Hebron-Isreal@nrc.gov			
NEGOTIATOR							
ADMINISTRATOR	M'LITA R. CARR		(301) 415-6869	MLITA.CARR@nrc.gov			
PAYMENTS							
16. THIS AWARD IS MADE UNDER THE AUTHORITY OF: PURSUANT TO SECTION 31B AND 141B OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED.							
17. APPLICABLE STATEMENT(S), IF CHECKED: <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 06/30/2016		AUTHORIZED REPRESENTATIVE		DATE	

Grant and Cooperative Agreement

ITEM NO. (A)	ITEM OR SERVICE (Include Specifications and Special Instructions) (B)	QUANTITY (C)	UNIT (D)	ESTIMATED COST	
				UNIT PRICE (E)	AMOUNT (F)
	<p>CFDA Number: 77.008 NRC-HQ-13-G-38-0028 OCHCO-16-0183</p> <p>The purpose of this modification is to revise the grant in it's entirety:</p> <p>1) Add an additional program to the existing grant: Program B: entitled "Texas Nuclear Engineering Graduate Fellowship Program"; 2) Update the Terms and Conditions; 3) Provide funding for Program B; 4) Extend the grant's period of performance to incorporate Program B.</p> <p>As a result of this modification:</p> <p>1. Block 9, delete in its entirety and replace with the following: "Program A: Dr. Jean Ragusa, ragusa@tamu.edu Program B: Dr. Jean Ragusa, ragusa@tamu.edu"</p> <p>2. Block 10. RESEARCH, PROJECT OR PROGRAM TITLE, delete in its entirety and replace with the following: "1.Program A: TAMU Nuclear Engineering Graduate Fellowship Program. 2.Program B: Texas Nuclear Engineering Graduate Fellowship Program."</p> <p>3. Attachments A,B and C, delete in its entirety and replace with the following, see attached beginning on page 3. LIST OF CHANGES:Obligated Amount : \$398,310.00 Payment: ASAP GRANT FUNDS REIMBURSEMENT SYS US TREASURY Period of Performance: 08/01/2013 to 06/30/2020</p>				

ATTACHMENT A - SCHEDULE

A.1 PURPOSE OF GRANT

The purpose of this Grant is to provide support to two distinct programs with Texas A&M University Engineering Experiment Station, as described in Attachment B entitled "Program Description."

1. Program A: TAMU Nuclear Engineering Graduate Fellowship Program.
2. Program B: Texas Nuclear Engineering Graduate Fellowship Program.

A.2 PERIOD OF GRANT

The effective date of the grant programs is:

Program A: TAMU Nuclear Engineering Graduate Fellowship Program. The effective date of this program is August 1, 2013. The estimated completion date of this program is July 31, 2017. Funds obligated hereunder are available for program expenditures for the estimated period: August 1, 2013 through July 31, 2017.

Program B: Texas Nuclear Engineering Graduate Fellowship Program. The effective date of this program is July 1, 2016. The estimated completion date of this program is June 30, 2020. Funds obligated hereunder are available for program expenditures for the estimated period: July 1, 2016 through June 30, 2020.

A.3 BUDGET

Revisions to the budget shall be made in accordance with revisions of Grant Budget in accordance with 2 CFR § 200.308. All travel must be in accordance with Texas A&M University Engineering Experiment Station travel regulations or the U.S. Government Travel Policy absent Recipient's travel regulations.

Program A:

- | | |
|--------------------------------|---|
| 1. Total Estimated NRC Amount: | \$400,000.00 |
| 2. Total Obligated Amount: | \$400,000.00 |
| 3. Cost-Sharing Amount: | \$19,000.00 |
| 4. Activity Title: | TAMU Nuclear Engineering
Graduate Fellowship Program |
| 5. NRC Project Officer: | Nancy Hebron-Isreal |
| 6. DUNS No.: | 847205572 |
| 7. Principal Investigator: | Dr. Jean Ragusa |

Personnel	\$262,784.00
Fringe Benefit	\$ 29,092.00
Travel	\$ 8,320.00
Supplies	\$ 1,980.00
Tuition	<u>\$ 73,650.00</u>
Total Direct Costs	\$375,826.00
Indirect Costs	<u>\$ 24,174.00</u>
Total	\$400,000.00

Program B:

1. Total Estimated NRC Amount: \$398,310.00
2. Total Obligated Amount: \$398,310.00
3. Cost-Sharing Amount: \$000,000.00
4. Activity Title: Texas Nuclear Engineering
Graduate Fellowship Program
5. NRC Project Officer: Nancy Hebron-Isreal
6. DUNS No.: 785979618
7. Principal Investigator: Dr. Jean Ragus

	Year 1	Year 2	Year 3	Year 4
Personnel	\$0.00	\$8,278.00	\$8,527.00	\$8,782.00
Fringe Benefits	\$0.00	\$1,821.00	\$1,866.00	\$1,911.00
Other (Fellowship)	<u>\$88,000.00</u>	<u>\$88,000.00</u>	<u>\$88,000.00</u>	<u>\$88,000.00</u>
Total Direct Cost	\$88,000.00	\$98,099.00	\$98,393.00	\$98,693.00
Indirect Cost	<u>\$0.00</u>	<u>\$4,898.00</u>	<u>\$5,041.00</u>	<u>\$5,186.00</u>
Total	\$88,000.00	\$102,997.00	\$103,434.00	\$103,879.00

A.4 AMOUNT OF AWARD AND PAYMENT PROCEDURES

1. Program A: The total estimated amount of this Award is \$419,000.00, inclusive of cost sharing. NRC hereby obligates the amount of \$400,000.00 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.

2. Program B: The total estimated amount of this Award is \$398,310.00. NRC hereby obligates the amount of \$398,310.00 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 Grantee in accordance with procedures set forth in the Automated Standard Application for Payments (ASAP) Procedures set forth below.

Attachment B – Program Description

Program A: TAMU Nuclear Engineering Graduate Fellowship Program

Principal Investigator: Dr. Jean Ragusa

PROGRAM DESCRIPTION

1. Overview of the Proposed Graduate Fellowship Program

The Department of Nuclear Engineering at Texas A&M University (TAMU) proposes to continue the four-year Texas Nuclear Engineering Graduate Fellowship Program, established under sponsorship of the U.S. NRC in Fall 2009. This program will provide two fellowships per year for students pursuing Ph.D. or M.S. degrees in Nuclear Engineering and Health Physics within the Department of Nuclear Engineering at TAMU (over the course of 4 years, 8 fellows will be selected). The fellowships will

cover tuition, fees, stipends, support for travel to professional conferences (e.g., ANS meetings, ANS student conferences); and some small amount for textbook supplies. The fellowship program has an integrated structure that promotes the fellowship recipients' academic and professional success from recruitment to employment in the nuclear sector.

2. Quality and Diversity of the Nuclear Engineering Department at Texas A&M University

The Department of Nuclear Engineering at TAMU is the largest in the country with 323 undergraduate students and 140 graduate students as of fall 2012. The Department offers the Master of Science, Master of Engineering, and Doctor of Philosophy degrees in Nuclear Engineering. At the master level, students can choose the standard Nuclear Engineering track or start a specialization in either Nuclear Materials or Nuclear Nonproliferation. The quality of the program is reflected in the quality of the students, the faculty and the opportunities that the department offers. The department currently has 18 tenured/tenure-track faculty, making it one of the largest and most diverse faculty in the nation among nuclear engineering departments. Statistics on diversity for fall 2012 reveal that 37.4% of the undergraduate and graduate students were of Black, Hispanic, Asian American, American Indian, International, and Other origins. Twenty seven percent of the total was female. The fall 2012 MS students included 17 female (19.8%) and 69 male, and Ph.D. students were 2 female (3.6%) and 54 male. Regarding race, the graduate student population in fall 2012 was 61.3% White, 2.9% Black, 7.9% Hispanic, 2.9% Asian, 24.3% International (race not declared), and 0.7% unknown. The international percentage is smaller than in many other departments because American citizenship is often required for participation in the department's funded research. The faculty's research expertise covers accelerators, aerosols, computational transport, fission systems engineering, health physics, heat transfer and fluid flow (interphase transport phenomena; CFD; two-phase flow PIV experimental measurement), nuclear materials management, reactor physics, and reactor analysis. Research opportunities are varied with emphasis on nuclear fuels, solid/ion interactions, particle transport, multi physics simulations, reactor safety, design of advanced nuclear reactors, thermal hydraulics, computational fluid dynamics, reactor kinetics and control, nuclear safeguards and nonproliferation, and most areas of health physics.

3. Graduate Fellowship: Program Elements and Evaluation Plan

The Graduate Fellowship Program will continue to have an integrated structure that promotes the fellowship recipients' academic and professional success from recruitment through employment in the nuclear sector. The following program elements and their metrics have been defined.

3.1. Recruitment program: The recruitment program will focus on attracting a high-quality, diverse body of students to nuclear engineering graduate studies at TAMU. The Fellowships are advertised via the departmental website, email, and networking. Potential graduate students who take advantage of paid campus visits (the "graduate invitational") through the existing recruitment program are informed of the fellowship opportunity. Over the past years, prospective students from UC Berkeley, Michigan, Penn State, U of Illinois, NC State, and other highly ranked schools have participated in our graduate invitational. Some of the invitees subsequently chose to attend TAMU

under sponsorship of this fellowship program. The best students are frequently recruited out-of-state by other Nuclear Engineering schools with substantial financial support. The graduate fellowship program is a valuable opportunity for an intensive recruitment effort at the above-named schools. Due to the multi-year nature of the program, outreach can be made to undergraduate students before they are applying to graduate schools (e.g., during faculty seminars at these schools, during informal contacts with prospective students via e-mail or at ANS meetings). The research flexibility provided by the fellowship is another strong appeal to students who have a particular project in mind that is not currently funded through any faculty member. Fellowship support enables these students to commence their research upon arrival on campus and eliminate the first year of departmental service. In the past 4 years, the fellowship program fostered student creativity and allowed for student-initiated research ideas that were not connected to a currently funded project. For instance, the fellowship program enabled several prior recipients to perform novel research during their fellowship period and resulted in successful contributions to research publications, research proposals, and other fellowship applications.

Metrics for the recruitment program: number of fellowship applications, quality of applications, diversity of applicants, applicant's institution of origin.

3.2. Fellowship recipient selection process: The selection process will be conducted in a manner to ensure that recipients will be successful in their academic careers and contribute towards the goals of the fellowship program. The Graduate Affairs Committee (GAC) works with the Scholarship & Fellowship Committee (S&FC) to select the recipients of the Fellowship awards. The S&FC is led by the PI of this proposal, Dr. Ragusa, who is also in charge of the current programs that ends in Summer 2013. In the Department, the GAC maintains responsibility to review all applicants for admission to the graduate program and to decide their admission status and the level of funding to be offered to each accepted applicant. Normally, the GAC ranks the students based on this review and makes recommendations to the Department Head for admission and support. Thus, it is only natural that this experienced group of faculty members be used to provide advice to the PI and the S&FC on applicants worthy of a fellowship award. Upon further deliberations, the S&FC makes fellowship awards to the students. If declined by the students (typically because they decide to attend another graduate program), the fellowship is then offered to the next-highest ranked candidate (over the last 4 years, there has never been a shortage of highly motivated, academically outstanding applicants meeting the U.S. NRC requirements). To distinguish between the top-ranked candidates, consideration can be given to students (i) with prior work experience at a nuclear-related employer or a stated desire to work in the nuclear sector, (ii) with prior undergraduate research experience, (iii) with active participation in student chapters such as American Nuclear Society, Health Physics Societies, or Institute for Nuclear Materials Management. Note: under-represented students are encouraged to apply and actively recruited. For instance, one of the current recipients of the fellowship attended an HBCU institution for their undergraduate studies. However, ethnic origin and gender will not be among the selection criteria as this has raised claims of discrimination at other state universities.

Metrics for the fellowship recipient selection process: quality of fellowship recipients, number of fellowship offers made/accepted.

3.3. Retention program: The TAMU Department of Nuclear Engineering has the infrastructure to provide graduate fellowship recipients with a high-quality, motivating academic career. The recipients are assigned a mutually-agreed upon faculty advisor to provide academic and research advising. Technical research areas are a primary criterion for deciding the match. At the academic level, the advisor helps the student form a degree plan for coursework. The advisor serves as the research advisor to work with the student on pursuit of a graduate degree. The Graduate Fellowship Program PI will monitor the student's academic progress and post-graduation employment plans to confirm compliance with fellowship requirements. The PI will also provide professional mentoring complementary to that provided by the advisor.

At the professional level, depending on the project, the advisor may be able to have the student perform the research with or for professionals. Interaction on the research level frequently leads to future employment opportunities. Opportunities for travel to student and professional conferences will also be available.

Metrics for the retention program: percentage of fellowship recipients who successfully complete the NRC program, length of employment at first employer, length of career in the nuclear sector. Mechanisms used for evaluation: graduate student exit surveys, alumni surveys, presently conducted as part of accreditation processes, surveys of fellowship recipient employers, solicitation of employer input, such as from the TAMU Department of Nuclear Engineering Advisory Board. If a student continues on to further graduate studies, the student will be tracked to ensure that the service requirement is satisfied after completion of graduate school.

3.4. Student preparation for, and employment in, nuclear careers: The coursework and research at TAMU provides students with a solid technical background for successful nuclear careers. The employers and alumni will be surveyed after graduation with regard to what part of the TAMU education could be improved to increase employee preparedness. With the varied sources of potential employers, this fellowship program broadly benefits the nuclear sector, including the power industry, regulation, homeland security, national laboratories, radiological health engineering, medicine and other areas. The Department of Nuclear Engineering has established strong ties with the national laboratories and regularly sends graduate students to the laboratories for summer internships. Many of these interns accept permanent employment offers from the laboratories. The graduate fellowship recipients have ample opportunities to interact with potential employers (interaction with the Department's Advisory Council twice a year, career fairs that attract large numbers of nuclear employers are held on campus each semester, faculty members frequently receive notices of available positions from alumni and colleagues, summer internships at national labs and industry, weekly outside speaker at departmental seminar).

Metrics for employment program: number of employment offers per fellowship recipient, employment sectors that students enter (industry, regulation, etc.), success of student in completing service requirement, employer and alumni feedback with regards to their perceived degree of preparation for employment.

3.5. Plans for sustainability: Students who receive a fellowship under this program are typically funded for one year, pending satisfactory academic and research performance. Beyond year 1, funding is continued either through research support that a faculty member obtains or through another fellowship avenue (as a safety net, it has

been proposed that fellowship support can be pursued beyond year 1 under this program; however, such a situation is extremely unlikely and has not yet occurred with the ongoing program). We stress that this fellowship program will not be used to entice students to TAMU with only one year of support or to meet a particular faculty member's objectives, as the program would not be sustainable. Sponsors for sustained funding of the graduate fellowship program include typical research partners (industry, national laboratory, DOE, NRC, ...) and other fellowship programs. With the current program, fellowship support during the first year is typically used to promote new ideas and generated new results that yields a new avenue for subsequent funding.

3.6. Management and Administrative Structure: The management and administrative structure at TAMU is capable of administering the Graduate Fellowship Program in a fair manner with accountability to the students and the sponsor. Regular reporting to the NRC will ensure information exchange for evaluation of the Fellowship Program by the program sponsor.

Principle Investigator : The Principal Investigator (PI) will be Dr. Jean Ragusa, Associate Professor in the Department of Nuclear Engineering and Chair of the Scholarship and Fellowship Committee (S&FC). The PI is also the current administrator for the current fellowship program that ends in Summer 2013 and will continue to assume the following duties for the new program: (i) overall responsibility for the administration of the institution's award within the Department of Nuclear Engineering, (ii) management of the project, (iii) leadership in the graduate fellowship recipient recruitment process, (iv) participation in the graduate fellowship recipient selection process, (v) conduct of interactions with the NRC.

Departmental Graduate Affairs Committee (GAC) and Scholarship and Fellowship Committee (S&FC): The GAC will conduct the fellowship recipient screening and recommendation to the S&FC for final selection process. Both committees report to the Department Head and the faculty at large. Due to the heavy workload associated with graduate admission for such a large department, the S&FC takes over the selection process after first screening by the GAC and can devote more time in the ranking of the top candidates for final fellowship award.

4. Costs for Fellowship Recipients: The budget justification includes details of costs for fellowship recipients. These are summarized for the typical fellowship recipient for the 2013-2014 academic year: tuition and fees (\$8,544 and exempt of overhead charges); stipend (\$2,350/mo = \$28,200); Books and supplies (\$200); health insurance (\$2,905); travel to conference (\$1090). Including 8% overhead, the total is about \$44,000/student during year 1 (subsequent years are slightly higher due to tuition, fees, and salary escalation).

5. Service Requirements for Fellowship Recipients: Fellows will comply with eligibility requirements. They will sign a service agreement to serve six months in nuclear-related employment for each full or partial year of academic support.

6. Institutional Support for the Graduate Fellowship Program

The Graduate Fellowship Program complements the long-term goals of TAMU's Department of Nuclear Engineering. The department's graduate program was ranked fourth in 2008 among PhD-granting schools (behind University of Michigan, MIT and

University of Madison-Wisconsin) and strives to raise the level of competition with the higher-ranked schools. To attain greater national visibility and technical leadership, the tenured/tenure-track faculty is rapidly expanding. Since 2004, eight new faculty hires have added the areas of severe accidents, fuel cycles and fuel fabrication, materials under extreme conditions, space nuclear, multiphysics simulations, and radiation transport modeling to the department's research portfolio. With strength and depth in many areas, the department views this fellowship program as an ongoing opportunity to recruit *the best* graduate students who will take advantage of its vast and varied expertise in a manner that is best suited for student education. The following forms of institutional support will be provided to the program:

1. Recruiting staff (assistant to the graduate coordinator, communication specialist) within the department will assist in promoting the program to the student pool.
2. The Scholarship/Fellowship Committee will conduct the final recipient selection process, in close collaboration with the Graduate Affairs Committee.
3. Academic faculty will provide thesis and dissertation research advising and monitor student progress.
4. The chair of the Scholarship/Fellowship Committee will keep up-to-date records of service agreements, research publications from fellows, employment upon graduation, ...

7. Fellowships as an Integrated Element of a State Strategic Plan

These fellowships have also been integrated in the State of Texas strategic plan for providing the nuclear workforce in the state for the 21st century. As a coordinated effort in the State of Texas necessary to meet the anticipated workforce demands associated with the building of new nuclear stations, the Nuclear Power Institute (NPI) was established by the Board of Regents of the Texas A&M University System in December 2007. The NPI has brought together eleven institutions from across the State and three utilities with the objectives of producing the required 2-year and 4-year technologist degrees as well as those BS-degreed engineers required to operate and maintain these plants. The TAMU Department of Nuclear Engineering plays a key role in these activities, serving as a focus for a number of the tasks by coordinating the overall efforts, supplying educational materials to other institutions, serving as liaison between the institutions and the utilities, etc.

These careers include positions in the utilities operating these plants as well as in the regulatory bodies responsible for these plants. In recent years, a large percentage of our MSNE graduates and several PhD students have been finding employment among nuclear utilities and vendors outside of the state. The fellowship program would enable a focused recruiting effort for Texas residents who would be more likely to remain in the state after graduation. The Texas A&M University system includes Prairie View A&M University, an HBCU (Historically Black College and University) institution, and Kingsville A&M University, with a large Hispanic student population. Substantial financial support from the graduate fellowship program provides a strong motivation for the top students from these schools to matriculate at the College Station campus and become leaders in the nuclear workforce within their home state. One of the current recipients of the fellowship previously attended an HBCU institution.

8. Leveraged Funding

The participation of in-state nuclear organizations has been and will continue to be leveraged to extend educational opportunities under this project. The South Texas Project and Comanche Peak nuclear power stations have been granting requests for plant tours from TAMU nuclear engineering course instructors (typically during the graduate "design course" taken by all M.S. students). Our partner utilities cover costs for hosting tours of their reactor sites. One plant staff member is needed for every 5 visitors. The utilities have been providing numerous staff-days of manpower per plant tour for tours in which graduate students participate. Organizations bear the costs for staff travel to campus for guest lectures and other events. Summer internship costs are covered by the partners.

The TAMU Department of Nuclear Engineering will provide computers (desktop and access to departmental computational clusters), will supplement additional travel funds to ANS conferences, as needed, and will grant access to its vast research infrastructure (under appropriate supervision). These facilities include: two nuclear reactors (a 1 MW TRIGA reactor and an AGN-201 low-power reactor), thermal hydraulics and reactor safety laboratories, seven accelerators, fuel fabrication facilities, two laboratories studying multi-phase flow phenomena, and outstanding computing facilities.

Program B: Texas Nuclear Engineering Graduate Fellowship Program

Principal Investigator: Dr. Jean Ragus

PROGRAM DESCRIPTION

1. Overview of the Proposed Graduate Fellowship Program

The Department of Nuclear Engineering at Texas A&M University (TAMU) proposes to establish eight Texas A&M Nuclear Engineering Graduate Fellowships, 2 fellows per year for four year. This program will provide two fellowships per year for students pursuing Ph.D. or M.S. degrees in Nuclear Engineering within the Department of Nuclear Engineering at TAMU. The fellowships will cover tuition, fees, stipends, and some small amount for textbook supplies. The fellowship program has an integrated structure that promotes the fellowship recipients' academic and professional success from recruitment to employment in the nuclear sector. These fellowships will be competitive, automatically triggering in-state tuition waivers, which will increase the value of the NRC grant substantially for out-of-state applicants. In addition, the fellowships are contractually treated as F&A-exempt, hence ensuring most of the funding is directed to students.

2. Quality and Diversity of the Nuclear Engineering Department at Texas A&M University

The Department of Nuclear Engineering at TAMU is the largest in the country with 349 undergraduate students and 146 graduate students as of fall 2015. The Department offers the Master of Science, Master of Engineering, and Doctor of Philosophy degrees in Nuclear Engineering. At the master level, students can choose the standard Nuclear Engineering track or start a specialization in either Nuclear Materials or Nuclear Nonproliferation. The quality of the program is reflected in the quality of the students, the faculty and the opportunities that the department offers. The department currently has 15 tenured/tenure-track faculty, making it one of the largest and most diverse faculty in the nation among nuclear engineering departments. Statistics on diversity for fall 2015

reveal that 44% of the graduate students were of Black, Hispanic, Asian American, American Indian, International, and Other origins; the same data for our undergraduate population is 42%. Regarding race, the graduate student population in fall 2015 was 56% White, 2% Black, 14% Hispanic, 4% Asian, 19% international (race not declared), 0.67% American Indian, 2.67% multi-racial and 1.67% unknown. The fall 2015 M.S. and Ph.D. students included 24 female (and increase of 7 compared to the Fall 2012 data, when we last applied to this NRC FOA). The international percentage is smaller than in many other departments because American citizenship is often required for participation in the department's funded research. The faculty's research expertise covers accelerators, aerosols, computational transport, fission systems engineering, health physics, heat transfer and fluid flow (interphase transport phenomena; CFD; two-phase flow PIV experimental measurement), nuclear materials management, reactor physics, and reactor analysis. Research opportunities are varied with emphasis on nuclear fuels, solid/ion interactions, particle transport, multiphysics simulations, reactor safety, design of advanced nuclear reactors, thermal hydraulics, computational fluid dynamics, reactor kinetics and control, nuclear safeguards and nonproliferation, and most areas of health physics.

3. Graduate Fellowship: Program Elements and Evaluation Plan

The Graduate Fellowship Program will continue to have an integrated structure that promotes the fellowship recipients' academic and professional success from recruitment through employment in the nuclear sector. The following program elements and their metrics have been defined.

3.1. Recruitment program: The recruitment program will focus on attracting a high-quality, diverse body of students to nuclear engineering graduate studies at TAMU. The Fellowships are advertised via the departmental website, email, and networking. Potential graduate students who take advantage of paid campus visits (the "graduate invitational") through the existing recruitment program are informed of the fellowship opportunity. Over the past years, prospective students from UC Berkeley, Michigan, Penn State, U of Illinois, NC State, and other highly ranked schools have participated in our graduate invitational. Some of the invitees subsequently chose to attend TAMU under sponsorship of this fellowship program. The best students are frequently recruited out-of-state by other Nuclear Engineering schools with substantial financial support. The graduate fellowship program is a valuable opportunity for an intensive recruitment effort at the above-named schools. Due to the multi-year nature of the program, outreach can be made to undergraduate students before they are applying to graduate schools (e.g., during faculty seminars at these schools, during informal contacts with prospective students via e-mail or at ANS meetings). The research flexibility provided by the fellowship is another strong appeal to students who have a particular project in mind that is not currently funded through any faculty member. Fellowship support enables these students to commence their research upon arrival on campus and eliminate the first year of departmental service. In the past 4 years, the fellowship program fostered student creativity and allowed for student-initiated research ideas that were not connected to a currently funded project. For instance, the fellowship program enabled several prior recipients to perform novel research during their fellowship period and resulted in successful contributions to research publications, research proposals, and other fellowship applications.

Metrics for the recruitment program: number of fellowship applications, quality of applications, diversity of applicants, applicant's institution of origin.

3.2. Fellowship recipient selection process: The selection process will be conducted in a manner to ensure that recipients will be successful in their academic careers and contribute towards the goals of the fellowship program. The Graduate Affairs Committee (GAC) works with the Scholarship & Fellowship Committee (S&FC) to select the recipients of the Fellowship awards. The S&FC is led by the PI of this proposal, Dr. Ragusa, who is also in charge of the current programs that ends in Summer 2017. In the Department, the GAC maintains responsibility to review all applicants for admission to the graduate program and to decide their admission status and the level of funding to be offered to each accepted applicant. Normally, the GAC ranks the students based on this review and makes recommendations to the Department Head for admission and support. Thus, it is only natural that this experienced group of faculty members be used to provide advice to the PI and the S&FC on applicants worthy of a fellowship award. Upon further deliberations, the S&FC makes fellowships awards to the students. If declined by the students (typically because they decide to attend another graduate program), the fellowship is then offered to the next-highest ranked candidate (over the last 4 years, there has never been a shortage of highly motivated, academically outstanding applicants meeting the U.S. NRC requirements). To distinguish between the top-ranked candidates, consideration can be given to students (i) with prior work experience at a nuclear-related employer or a stated desire to work in the nuclear sector, (ii) with prior undergraduate research experience, (iii) with active participation in student chapters such as American Nuclear Society, Health Physics Societies, or Institute for Nuclear Materials Management. Note: under-represented students are encouraged to apply and actively recruited. For instance, one of the current recipients of the fellowship attended an HBCU institution for their undergraduate studies. However, ethnic origin and gender will not be among the selection criteria as this has raised claims of discrimination at other state universities.

Metrics for the fellowship recipient selection process: quality of fellowship recipients, number of fellowship offers made/accepted.

3.3. Retention program: The TAMU Department of Nuclear Engineering has the infrastructure to provide graduate fellowship recipients with a high-quality, motivating academic career. The recipients are assigned a mutually-agreed upon faculty advisor to provide academic and research advising. Technical research areas are a primary criterion for deciding the match. At the academic level, the advisor helps the student form a degree plan for coursework. The advisor serves as the research advisor to work with the student on pursuit of a graduate degree. The Graduate Fellowship Program PI will monitor the student's academic progress and post-graduation employment plans to confirm compliance with fellowship requirements. The PI will also provide professional mentoring complementary to that provided by the advisor.

At the professional level, depending on the project, the advisor may be able to have the student perform the research with or for professionals. Interaction on the research level frequently leads to future employment opportunities. Opportunities for travel to student and professional conferences will also be available.

Metrics for the retention program: percentage of fellowship recipients who successfully complete the NRC program, length of employment at first employer, length of career in the nuclear sector. Mechanisms used for evaluation: graduate student exit surveys, alumni surveys, presently conducted as part of accreditation processes, surveys of fellowship recipient employers, solicitation of employer input, such as from

the TAMU Department of Nuclear Engineering Advisory Board. If a student continues on to further graduate studies, the student will be tracked to ensure that the service requirement is satisfied after completion of graduate school.

3.4. Student preparation for, and employment in, nuclear careers: The coursework and research at TAMU provides students with a solid technical background for successful nuclear careers. The employers and alumni will be surveyed after graduation with regard to what part of the TAMU education could be improved to increase employee preparedness. With the varied sources of potential employers, this fellowship program broadly benefits the nuclear sector, including the power industry, regulation, homeland security, national laboratories, radiological health engineering, medicine and other areas. The Department of Nuclear Engineering has established strong ties with the national laboratories and regularly sends graduate students to the laboratories for summer internships. Many of these interns accept permanent employment offers from the laboratories. The graduate fellowship recipients have ample opportunities to interact with potential employers (interaction with the Department's Advisory Council twice a year, career fairs that attract large numbers of nuclear employers are held on campus each semester, faculty members frequently receive notices of available positions from alumni and colleagues, summer internships at national labs and industry, weekly outside speaker at departmental seminar).

Metrics for employment program: number of employment offers per fellowship recipient, employment sectors that students enter (industry, regulation, etc.), success of student in completing service requirement, employer and alumni feedback with regards to their perceived degree of preparation for employment.

3.5. Plans for sustainability: Students who receive a fellowship under this program are typically funded for one year, pending satisfactory academic and research performance. Beyond year 1, funding is continued either through research support that a faculty member obtains or through another fellowship avenue (as a safety net, it has been proposed that fellowship support can be pursued beyond year 1 under this program; however, such a situation is extremely unlikely and has not yet occurred with the ongoing program). We stress that this fellowship program will not be used to entice students to TAMU with only one year of support or to meet a particular faculty member's objectives, as the program would not be sustainable. Sponsors for sustained funding of the graduate fellowship program include typical research partners (industry, national laboratory, DOE, NRC, ...) and other fellowship programs. With the current program, fellowship support during the first year is typically used to promote new ideas and generated new results that yields a new avenue for subsequent funding.

3.6. Management and Administrative Structure: The management and administrative structure at TAMU is capable of administering the Graduate Fellowship Program in a fair manner with accountability to the students and the sponsor. Regular reporting to the NRC will ensure information exchange for evaluation of the Fellowship Program by the program sponsor.

Principal Investigator : The Principal Investigator (PI) will be Dr. Jean Ragusa, Associate Professor in the Department of Nuclear Engineering and Chair of the Scholarship and Fellowship Committee (S&FC). The PI is also the current administrator for the current fellowship program that ends in Summer 2017 and will continue to assume the following duties for the new program: (i) overall responsibility for the

administration of the institution's award within the Department of Nuclear Engineering, (ii) management of the project, (iii) leadership in the graduate fellowship recipient recruitment process, (iv) participation in the graduate fellowship recipient selection process, (v) conduct of interactions with the NRC.

Departmental Graduate Affairs Committee (GAC) and Scholarship and Fellowship Committee (S&FC): The GAC will conduct the fellowship recipient screening and recommendation to the S&FC for final selection process. Both committees report to the Department Head and the faculty at large. Due to the heavy workload associated with graduate admission for such a large department, the S&FC takes over the selection process after first screening by the GAC and can devote more time in the ranking of the top candidates for final fellowship award.

4. Costs for Fellowship Recipients: The budget justification includes details of costs for fellowship recipients. These are summarized for the typical fellowship recipient for the 2016-2017 academic year: tuition and fees (\$10,000); stipend (\$2,650/mo = \$31,800); Travel Allowance (\$2000); Books and supplies (\$200). The total is \$44,000/student/year. Note that the fellowships are contractually treated as exempt of indirect cost. Comparing with our regular teaching/research assistantships (\$30,200/yr), the proposed fellowships are more attractive by \$3,800 (= \$31,800 - \$30,200 + \$2,200).

5. Service Requirements for Fellowship Recipients: Fellows will comply with eligibility requirements. They will sign a service agreement to serve six months in nuclear-related employment for each full or partial year of academic support.

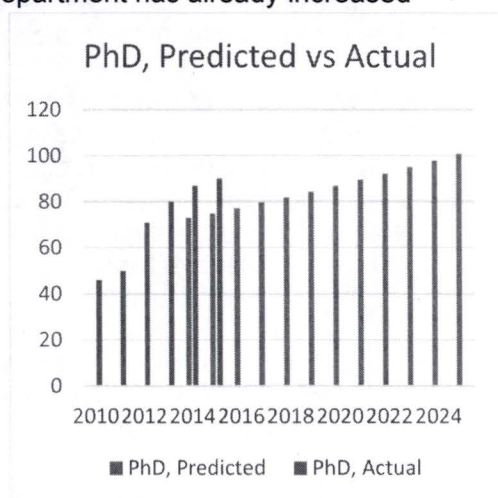
6. Institutional Support for the Graduate Fellowship Program

The Graduate Fellowship Program complements the long-term goals of TAMU's Department of Nuclear Engineering. The department's graduate program was ranked fourth in 2008 among PhD-granting schools (behind University of Michigan, MIT and University of Madison-Wisconsin) and strives to raise the level of competition with the higher-ranked schools. To attain greater national visibility and technical leadership, the tenured/tenure-track faculty is rapidly expanding. Since 2004, eight new faculty hires have added the areas of severe accidents, fuel cycles and fuel fabrication, materials under extreme conditions, space nuclear, multiphysics simulations, and radiation transport modeling to the department's research portfolio. With strength and depth in many areas, the department views this fellowship program as an ongoing opportunity to recruit *the best* graduate students who will take advantage of its vast and varied expertise in a manner that is best suited for student education. The following forms of institutional support will be provided to the program:

1. Recruiting staff (assistant to the graduate coordinator, communication specialist) within the department will assist in promoting the program to the student pool.
2. The Scholarship/Fellowship Committee will conduct the final recipient selection process, in close collaboration with the Graduate Affairs Committee.
3. Academic faculty will provide thesis and dissertation research advising and monitor student progress.
4. The chair of the Scholarship/Fellowship Committee will keep up-to-date records of service agreements, research publications from fellows, employment upon graduation, ...

7. Fellowships as an Integrated Element of a State Strategic Plan

These fellowships have also been integrated in the State of Texas strategic plan for providing the nuclear workforce in the state for the 21st century. In 2013, the 25-by-25 initiative was implemented in the TAMU's College of Engineering. It is transformational but controlled growth initiative to increase access for qualified students to pursue engineering education at TAMU to an enrollment of 25,000 students by 2025 (from 11,281 in 2012 - 8,397 undergraduate; 1,375 master's; 1,509 doctoral). As part of this ongoing transformation supported by the State legislature, the number of Ph.D. students in the nuclear engineering department will also increase, with a growth in faculty numbers and research endeavor. The chart below compares the actual and predicted number of Ph.D. students in nuclear engineering. Our department has already increased its doctoral student population beyond our original predictions. This is noteworthy, considering TAMU is the largest NUEN program in the U.S., and demonstrates the breath of its research enterprise. The proposed fellowship program will strengthen our recruiting effort to attract the most talented graduate students to TAMU. The recruiting effort will include Texas A&M University system campus: Prairie View A&M University, an HBCU (Historically Black College and University) institution and Kingsville A&M University, with a large Hispanic student population. On the main TAMU campus (in College Station), 23% of the students are Hispanic. The Minority-Serving-Institution threshold for Hispanic-serving institution is 25%. Our main campus will meet this figure in the coming years/decade.



8. Facilities, Equipment and Faculty Support

The TAMU Department of Nuclear Engineering will provide computers (desktop and access to departmental computational clusters), will supplement additional travel funds to ANS conferences, as needed, and will grant access to its vast research infrastructure (under appropriate supervision). These facilities include: two nuclear reactors (a 1 MW TRIGA reactor and an AGN-201 low-power reactor), thermal hydraulics and reactor safety laboratories, seven accelerators, fuel fabrication facilities, two laboratories studying multi-phase flow phenomena, and computing facilities.

In-state tuition waiver through competitive fellowship will increase the value of the fellowship, from \$44,000 to about \$54,000 for non-resident (US citizens and permanent residents, per the FOA requirements). Faculty will be available for advising the graduate fellows on their research.

Attachment C - Standard Terms and Conditions

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

Preface

This award is based on the application submitted to, and as approved by, the Nuclear Regulatory Commission (NRC) under the authorization 42 U.S.C. § 2051(b), pursuant to section 31b and 141b of the Atomic Energy Act of 1954, as amended, and is subject to

the terms and conditions incorporated either directly or by reference in the grant or cooperative agreement. The following also apply:

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

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

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

I. Mandatory General Requirements

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

1. Applicability of 2 CFR Part 200

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

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

2. Award Package

The Recipient is obligated to conduct project oversight as may be appropriate, to manage the funds with prudence, and to comply with the provisions outlined in 2 CFR Part 200. Within this framework, the Principal Investigator (PI) named on the award face page, is responsible for the scientific or technical direction of the project and for preparation of the project performance reports. This award is funded on a cost-reimbursement basis, not to exceed the amount awarded as indicated on the face page, and is subject to a refund of unexpended grant funds to the NRC.

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

the matter is primarily a Federal concern. Violations of law will be referred to the local, State, or Federal authority having proper jurisdiction. See 2 CFR § 200.318(k), General Procurement Standards.

Subawards

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

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

Nondiscrimination

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

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

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

Generally, Title VII of the Civil Rights Act of 1964, 42 U.S.C. § 2000e et seq, provides that it shall be an unlawful employment practice for an employer to discharge any individual or otherwise to discriminate against an individual with respect to

compensation, terms, conditions, or privileges of employment because of such individual's race, color, religion, sex, or national origin. However, Title VII, 42 U.S.C. § 2000e-1(a), expressly exempts from the prohibition against discrimination on the basis of religion, a religious corporation, association, educational institution, or society with respect to the employment of individuals of a particular religion to perform work connected with the carrying on by such corporation, association, educational institution, or society of its activities.

Modifications/Prior Approval

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

Lobbying Restrictions

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

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

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

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

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

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

- (1) Are presently excluded or disqualified from covered transactions by any Federal department or agency;
- (2) Have been convicted within the preceding three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, receiving stolen property, making false claims, or obstruction of justice; commission of any other offense indicating a lack of business integrity or business honesty that seriously and directly affects the recipient's present responsibility;
- (3) Are presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (1)(b); or
- (4) Have had one or more public transactions (Federal, State, or local) terminated for cause or default within the preceding three years.
- (5) The Recipient agrees that, unless authorized by the Grants Officer, it will not knowingly enter into any subaward or contracts under this grant/cooperative agreement with a person or entity that is not included on the System for Award Management (SAM) (<https://www.sam.gov>).

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

Debarment, Suspension, Ineligibility, and Voluntary Exclusion

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

Drug-Free Workplace

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

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

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

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

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

Procurement Standards - 2 CFR §§ 200.318-200.326

Sections 200.318 - 200.326 set forth standards for use by Recipients in establishing procedures for the procurement of supplies and other expendable property, equipment, real property and other services with Federal funds. These standards are furnished to ensure that such materials and services are obtained in an effective manner and in compliance with the provisions of applicable Federal statutes and executive orders. No additional procurement standards or requirements will be imposed by the Federal awarding agencies upon Recipients, unless specifically required by Federal statute, executive order, or approved by OMB.

Travel and Transportation

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

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

Domestic Travel:

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

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

International Travel:

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

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

Property Standards

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

Intangible Property

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

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

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

Data, Databases, and Software - The rights to any work produced or purchased under a NRC federal financial assistance award, such as data, databases or software are determined by Subpart D of 2 CFR Part 200. The Recipient owns any work produced or purchased under a NRC federal financial assistance award subject to NRC's right to obtain, reproduce, publish or otherwise use the work or authorize others to receive, reproduce, publish or otherwise use the data for Government purposes.

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

Record Retention and Access

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

Conflict Of Interest

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

Dispute Review Procedures

a. Any request for review of a notice of termination or other adverse decision should be addressed to the Grants Officer. It must be postmarked or transmitted electronically

no later than 30 days after the postmarked date of such termination or adverse decision from the Grants Officer.

b. The request for review must contain a full statement of the Recipient's position and the pertinent facts and reasons in support of such position.

c. The Grants Officer will promptly acknowledge receipt of the request for review and shall forward it to the Director, Office of Acquisition Management Division, unless otherwise delegated, who shall appoint an intra-agency Appeal Board to review a recipient appeal of an agency action, if required, which will consist of the program office director, the Deputy Director of Office of Administration, and the Office of General Counsel.

d. Pending resolution of the request for review, the NRC may withhold or defer payments under the award during the review proceedings.

e. The review committee will request the Grants Officer who issued the notice of termination or adverse action to provide copies of all relevant background materials and documents. The committee may, at its discretion, invite representatives of the Recipient and the NRC program office to discuss pertinent issues and to submit such additional information as it deems appropriate. The chairman of the review committee will insure that all review activities or proceedings are adequately documented.

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

Remedies for Noncompliance

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

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

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

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

request prior written approval from the Project Officer and the Grants Officer.

- The Recipient is not authorized to re-budget between direct costs and indirect costs without written prior approval of the Grants Officer.
 - The Recipient is authorized to transfer funds among direct cost categories up to a cumulative 10 percent of the total approved budget. The Recipient is not allowed to transfer funds if the transfer would cause any Federal appropriation to be used for purposes other than those consistent with the original intent of the appropriation.
 - Allowable Costs – 2 CFR §§ 200.403
- See section 2 CFR §§ 200.330-332 for Subrecipient Monitoring and Management.

FEDERAL FINANCIAL REPORTS

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

PERFORMANCE PROGRESS REPORTS

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

Scholarship and Fellowship Programs

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

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

Period of Performance – 2 CFR § 200.309

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

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

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

Automated Standard Application For Payments (ASAP) Procedures

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

II. Audit Requirements

Audits

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

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

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

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

III. Programmatic Requirements

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

Grant Performance Metrics

The Office of Management and Budget requires all Federal Agencies providing funding for educational scholarships and fellowships as well as other educational related funding to report on specific metrics. These metrics are part of the Academic Competitiveness Council's (ACC) 2007 report and specifically relates to Science, Technology, Engineering, and Mathematics (STEM) curricula.

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

Fellowship Metrics:

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

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

1. Student Name

2. Years of Support
3. Cumulative Support in Dollars
4. Estimated Graduation Date
5. Status
6. Up to date student contact information (mailing address, telephone/cell phone, email address) for students no longer participating in the program, i.e. transferred programs, graduated, withdrew, etc.
7. Up to date student contract information, for all students at time of grant expiration, i.e. Final PPR.

Examples of status could be:

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

Unsatisfactory Performance

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

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

Other Federal Awards With Similar Programmatic Activities

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

Prohibition Against Assignment By The Recipient

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

Site Visits

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

IV. Additional Requirements

Criminal and Prohibited Activities

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

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

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

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

American-Made Equipment and Products

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

Increasing Seat Belt Use in the United States

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

Federal Leadership of Reducing Text Messaging While Driving

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

Federal Employee Expenses

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

Minority Serving Institutions (MSIs) Initiative

Pursuant to E.O.s 13230 and 13270, amended by E.O. 13316 and 13385, 13532, 13592, 13555, 13515, and 13621, NRC is strongly committed to broadening the participation of MSIs in its financial assistance program. NRC's goals include achieving full participation of MSIs in order to advance the development of human potential, strengthen the Nation's capacity to provide high-quality education, and increase

opportunities for MSIs to participate in and benefit from Federal financial assistance programs. NRC encourages all applicants and Recipients to include meaningful participations of MSIs. Institutions eligible to be considered MSIs are listed on the Department of Education website: <http://www.ed.gov/about/offices/list/ocr/edlite-minorityinst.html>

Research Misconduct

Scientific or research misconduct refers to the fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results. It does not include honest errors or differences of opinions. The Recipient organization has the primary responsibility to investigate allegations and provide reports to the Federal Government. Funds expended on an activity that is determined to be invalid or unreliable because of scientific misconduct may result in a disallowance of costs for which the institution may be liable for repayment to the awarding agency. The Office of Science and Technology Policy at the White House published in the Federal Register on December 6, 2000, a final policy that addressed research misconduct. The policy was developed by the National Science and Technology Council (65 FR 76260). The NRC requires that any allegation be submitted to the Grants Officer, who will also notify the OIG of such allegation. Generally, the Recipient organization shall investigate the allegation and submit its findings to the Grants Officer. The NRC may accept the Recipient's findings or proceed with its own investigation. The Grants Officer shall inform the Recipient of the NRC's final determination.

Publications, Videos, and Acknowledgment of Sponsorship

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

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

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

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

"...any grant, contract, or cooperative agreement provided or entered into by a Federal department or agency under which funds are to be provided to a private entity, in whole or in part, shall include a condition that authorizes the department or agency to terminate the grant, contract, or cooperative agreement, without penalty, if the recipient or any subrecipient, or the contractor or any subcontractor

(i) engages in severe forms of trafficking in persons or has procured a commercial sex act during the period of time that the grant, contract, or cooperative agreement is in effect, or (ii) uses forced labor in the performance of the grant, contract, or cooperative agreement." (See 22 U.S.C. §7104(g).)

EXECUTIVE COMPENSATION REPORTING

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

Reporting Subawards and Executive Compensation.

a. Reporting of first-tier subawards.

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

2. Where and when to report.

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

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

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

b. Reporting Total Compensation of Recipient Executives.

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

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

ii. in the preceding fiscal year, you received—

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

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

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

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

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

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

c. Reporting of Total Compensation of Subrecipient Executives.

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

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

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

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

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

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

i. To the recipient.

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

d. Exemptions

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

i. Subawards,

and

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

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

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

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

ii. A foreign public entity;

iii. A domestic or foreign nonprofit organization;

iv. A domestic or foreign for-profit organization;

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

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

3. *Subaward:*

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

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

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

4. *Subrecipient* means an entity that:

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

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

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

i. *Salary and bonus.*

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

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

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

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

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