

Grant and Cooperative Agreement

CHOOSE ONE:
 COOPERATIVE AGREEMENT
 GRANT

CHOOSE ONE: EDUCATION FACILITIES RESEARCH SDCR TRAINING

1. GRANT/COOPERATIVE AGREEMENT NUMBER NRC-HQ-84-15-G-0014	2. SUPPLEMENT NUMBER M0001	3. EFFECTIVE DATE 06/30/2017	4. COMPLETION DATE
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5. ISSUED TO NAME/ADDRESS OF RECIPIENT (No., Street, City/County, State, Zip) OREGON STATE UNIVERSITY 308 KERR ADMINISTRATION BUILDING CORVALLIS OR 973318517	6. ISSUED BY U.S. NRC - HQ Mailing Address: Acquisition Management Division Mail Stop: TWFN-8E06M Washington DC 20555-0001
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7. TAXPAYER IDENTIFICATION NO. (TIN)	9. PRINCIPAL INVESTIGATOR/ORGANIZATION'S PROJECT OR PROGRAM MGR. (Name & Phone) SEE SCHEDULE
8. COMMERCIAL & GOVERNMENT ENTITY (CAGE) NO.	

10. RESEARCH, PROJECT OR PROGRAM TITLE
SEE SCHEDULE

11. PURPOSE
SEE SCHEDULE

12. PERIOD OF PERFORMANCE (Approximately)
09/30/2015 through 06/29/2020

13A.	AWARD HISTORY	13B.	FUNDING HISTORY
PREVIOUS	\$443,277.00	PREVIOUS	\$443,277.00
THIS ACTION	\$449,970.00	THIS ACTION	\$449,970.00
CASH SHARE	\$0.00	TOTAL	\$893,247.00
NON-CASH SHARE	\$0.00		
RECIPIENT SHARE	\$299,952.00		
TOTAL	\$893,247.00		

14. ACCOUNTING AND APPROPRIATION DATA
2017-X0200-IUPNSE-60-60D099-52-S-164-1148-4110

PURCHASE REQUEST NO.	JOB ORDER NO.	AMOUNT	STATUS
RES-17-0185			

15. POINTS OF CONTACT

	NAME	MAIL STOP	TELEPHONE	E-MAIL ADDRESS
TECHNICAL OFFICER	NANCY V. HEBRON-ISREAL	TWFN10B56	301-415-6996	Nancy.Hebron-Isreal@nrc.gov
NEGOTIATOR				
ADMINISTRATOR	M'LITA R. CARR		301-415-6869	MLita.Carr@nrc.gov
PAYMENTS				

16. THIS AWARD IS MADE UNDER THE AUTHORITY OF:
PURSUANT TO SECTION 31B AND 141B OF THE ATOMIC 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
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UNITED STATES OF AMERICA	COOPERATIVE AGREEMENT RECIPIENT
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CONTRACTING/GRANT OFFICER M'LITA R. CARR	DATE 06/29/2017	AUTHORIZED REPRESENTATIVE	DATE
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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>3. Attachments A, B, & C, delete in its entirety and replace with the following, see attached beginning on page 4.</p> <p>Please see attached for detailed information.</p> <p>LIST OF CHANGES: Period Of Performance End Date changed from 2018-09-29 00:00:00 to 2020-06-29 00:00:00 Total Amount for this Modification: \$449,970.00 New Total Amount for this Version: \$449,970.00 New Total Amount for this Award: \$893,247.00</p> <p>Payment: ASAP GRANT FUNDS REIMBURSEMENT SYS US TREASURY</p> <p>Period of Performance: 09/30/2015 to 06/29/2020</p>				

Attachment A - Schedule

A.1 PURPOSE OF GRANT

The purpose of this Grant is to provide support to two distinct programs with Oregon State University, as described in Attachment B entitled "Program Description."

1. **Program A:** Nuclear Engineering Faculty Development Program at Oregon State University
2. **Program B:** Sustained Impactful Growth of Nuclear Academic Leaders (SIGNAL): A Faculty Development Program in Nuclear Science and Engineering at Oregon State University

A.2 PERIOD OF GRANT

The effective date of this Grant is:

Program A: Nuclear Engineering Faculty Development Program at Oregon State University – The effective date of this grant is September 30, 2015. The estimated completion date of this Grant is September 29, 2018. Funds obligated hereunder are available for program expenditures for the estimated period: September 30, 2015 – September 29, 2018.

Program B: Sustained Impactful Growth of Nuclear Academic Leaders (SIGNAL): A Faculty Development Program in Nuclear Science and Engineering at Oregon State University – The effective date of this grant is June 30, 2017. The estimated completion date of this Grant is June 29, 2020. Funds obligated hereunder are available for program expenditures for the estimated period: June 30, 2017 – June 29, 2020.

A.3 AMOUNT OF AWARD AND PAYMENT PROCEDURES

1. **Program A:** The total estimated amount of this program is \$593,277.00 for the three year period inclusive of \$150,000.00 in cost share. NRC hereby obligates the amount of \$443,277.00 for program expenditures during the period set forth above and in support of the Budget above. NRC is not obligated to reimburse the Grantee for the expenditure of amounts in excess of the total obligated amount.

2. **Program B:** The total estimated amount of this program is \$599,922.00 for the three year period; inclusive of \$149,952.00 in cost share. NRC hereby obligates the amount of \$449,970.00 for program expenditures during the period set forth above and in support of the Budget above. NRC is not obligated to reimburse the Grantee for the expenditure of amounts in excess of the total obligated amount.

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

A.4 BUDGET

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

Program A

- 1. Total Estimated NRC Amount: \$443,277.00
- 2. Total Obligated Amount: \$443,277.00
- 3. Cost-Sharing Amount: \$150,000.00
- 4. Activity Title: Nuclear Engineering Faculty Development Program at Oregon State University
- 5. NRC Project Officer: Nancy Hebron-Isreal
- 6. DUNS No.: 053599908

	Year 1	Year 2	Year 3
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Total Cost	\$ 150,000.00	\$ 150,000.00	\$ 143,277.00

Program B

- 1. Total Estimated NRC Amount: \$449,970.00
- 2. Total Obligated Amount: \$449,970.00
- 3. Cost-Sharing Amount: \$149,952.00
- 4. Activity Title: Sustained Impactful Growth of Nuclear Academic Leaders (SIGNAL): A Faculty Development Program in Nuclear Science and Engineering at Oregon State University
- 5. NRC Project Officer: Nancy Hebron-Isreal
- 6. DUNS No.: 053599908

SECTION B - BUDGET CATEGORIES

6. Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY				Total (5)
	(1)	(2)	(3)	(4)	
	NRC-HQ-60-17-FOA -0001				
a. Personnel	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]
b. Fringe Benefits	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
c. Travel					
d. Equipment					
e. Supplies					
f. Contractual					
g. Construction					
h. Other					
i. Total Direct Charges (sum of 6a-6h)	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]
j. Indirect Charges	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
k. TOTALS (sum of 6i and 6j)	\$ 181,417.00	\$ 188,139.00	\$ 80,414.00	\$ 449,970.00	\$ 449,970.00
7. Program Income	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00

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Standard Form 424A (Rev. 7-97)
Prescribed by OMB (Circular A -102) Page 1A

ATTACHMENT B - PROJECT DESCRIPTION

Program A: Nuclear Engineering Faculty Development Program at Oregon State University

Principal Investigator: [REDACTED]

I. Nuclear Engineering Faculty Development Program at Oregon State University

The NEFDP at OSU proposes to use this grant to support a newly hired faculty member's efforts in the following three major areas during his development and retention process: 1) developing new courses, 2) developing competitive research proposals, and 3) preparing scientific papers for journal publication. This NRC grant will also allow NEFDP to provide him with fund to purchase equipment, support for participation in professional society meetings, and additional travel needed for him to become established in his areas of expertise. We have already selected the new NERHP faculty member that the NEFDP will support with this grant, [REDACTED] [REDACTED] joined the department as an Assistant Professor in September 2013.

- Developing new courses

The following courses that [REDACTED] has taught or is scheduled to teach are in need of revision and NEFDP support will be used in this effort: Nuclear and Radiation Physics I (NE 234), Nuclear Radiation Detection and Instrumentation (NE 236), and the graduate Advanced Radiation Detection and Measurement (NE 536). Furthermore, [REDACTED] will be developing new courses with support from this grant, including Monte Carlo Simulation for Radiation Measurement (NE 500 level), and Detection, Location and Characterization of Special Nuclear Materials (NE 500 level). These new courses effectively address the gaps in our current curricula and work nicely in line with our newly established nuclear forensics graduate track. Support in this area will help [REDACTED] to master fundamentals in higher education and develop his teaching skills. More importantly, the opportunities to revise existing courses and create new ones will allow [REDACTED] to incorporate his own knowledge and experience in his teaching. The addition of modern, cutting-edge research components into our curricula is important to attract, retain and train the next generation of nuclear engineers and health physicists.

- Developing competitive research proposals

Success in obtaining external funding is an essential part of the retention of probationary, tenure-track faculty members at any university. At the beginning of their careers, junior faculty members are expected to take advantage of any funding opportunity that is applicable to their areas of research. Support in this area will provide a better environment for [REDACTED] to develop competitive research proposals, by reducing the added pressure and stress to secure 100% external funding. It will also allow him to perform preliminary study on topics of both his and funding agencies' interest. In the last year, [REDACTED] was able to continue research in his traditional areas of interest with external funding, e.g. non-destructive assay techniques. However, his abilities to develop new research ideas are greatly limited by lack of sufficient financial aid. With this award, NEFDP at OSU hopes to support his efforts in creating new research directions, such as remote sensing of special nuclear materials, laser-induced breakdown spectroscopy for enrichment measurements, and nanotechnology in radiation detection. The requested funding will allow [REDACTED] to purchase equipment needed to start new research projects, and provide him with student support and salary support in the process of doing so. In addition, our department will increase the new faculty member's likelihood to

succeed in this area by providing internal review of research grant proposals, as appropriate. The College of Engineering contributes through service of preparation and internal review of all proposals by the Associate Dean's office.

- Preparing scientific papers for journal publication

During the promotion and tenure process, it is expected for the candidate to show a well established research track record as demonstrated by journal publications. As part of the NEFDP, our department will contribute to [REDACTED] success in this area by providing him with internal review of his paper manuscripts when needed. Furthermore, the fund requested under this grant will allow [REDACTED] to equip his lab with necessary equipment and perform cuttingedge research in his areas of interest, which will in turn generate valuable data worth publishing in reputable journals.

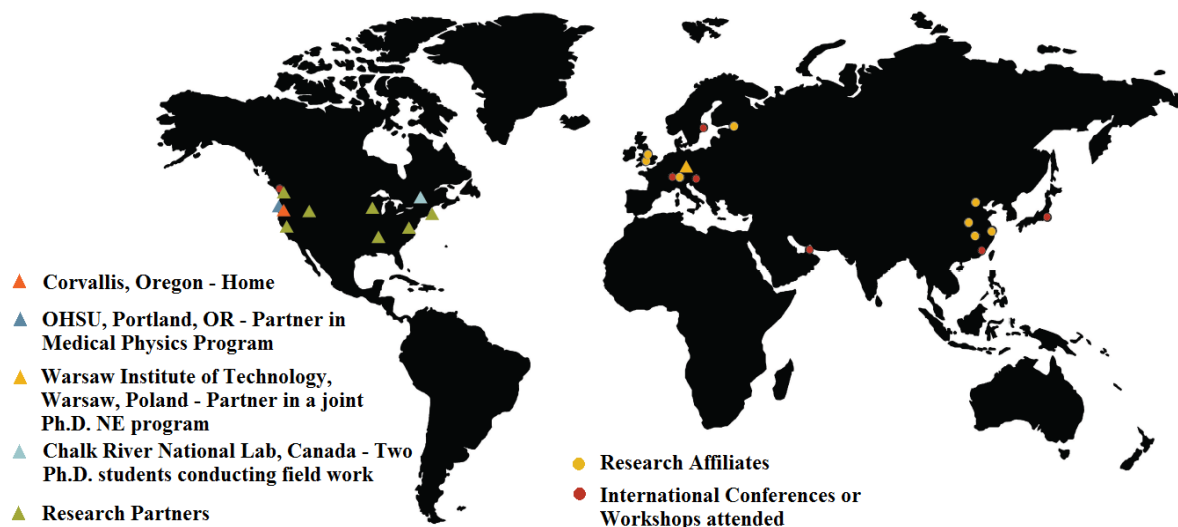
Finally, the NEFDP will provide for [REDACTED] to travel to attend professional conferences and make important connections with program managers in government, industry, and academia, as he deems appropriate. This kind of travel support is essential in order to enable him to become established in his areas of expertise. Recognition by others in the field will largely contribute to his success of being retained by the university at the time of tenure evaluation. It is quite challenging for a new faculty member to become established in both teaching and research at the university level without strong financial aid. We expect the support from NEFDP with this NRC grant will help create a foundation for our new hire to build his career upon by alleviating the pressure of having to obtain 100% externally funded support at the beginning of his development and retention process.

II. Capability to attract highly-qualified faculty and faculty selection process

Founded in 1959, the Oregon State University Department of Nuclear Engineering and Radiation Health Physics is today one of the top programs in the nation. Our more than 1,000 alumni live and work in 12 countries, driving the future of nuclear science through engineering, health physics, and medical physics. In addition to our students and alumni, we boast world class faculty holding patents in 5 international jurisdictions covering inventions as diversified as skin contamination dosimeters to nuclear reactor startup systems. At NERHP, 11 tenured and tenure-track faculty members are supplemented by one instructor, two faculty research assistants and six staff members. In Fiscal Year 2014, the department received \$10.9M in new awards. The departmental research expenditures were \$3.3M in FY14 and \$6M in FY13, leading all units of the College of Engineering in dollar amount per faculty. Currently, NERHP has 336 enrolled students, 110 of which are graduate students. Last year, we awarded 84 degrees in nuclear engineering and radiation health physics, including 34 master's degrees and 7 doctoral degrees. Current areas of research interest are oriented toward advanced power reactor development, thermal hydraulics, numerical methods and analysis and neutron scattering, and radiation detection and measurement techniques. Our faculty members have built global partnerships on the path to new, collaborative ideas that will define the future. Our impact is global – from our research partners and research affiliates throughout the world, as shown in the picture below.

NERHP at OSU attracts highly-qualified applicants to our department for a lot of good reasons. Firstly, our department has a long history and holds an excellent academic reputation. We have seen a steady yet dramatic growth over the past five years. NERHP has regularly been

recognized as one of the top programs in the nation. We hold both a proud place in the past and a large stake in future. Secondly, our physical location is attractive, especially to junior faculty members. OSU is positioned very close to several national laboratories where a large amount of the nation's nuclear expertise is located, including Pacific Northwest National Laboratory, Idaho National Laboratory, and several labs in northern California. This provides our junior faculty members with the opportunity to work with some of our nation's brightest stars in the field. Our beloved hometown, Corvallis, is ranked as one of the top college towns in the country. It is a naturalist's paradise, and is known for high life-expectancy, tons of parks, and a high quality of living. Last but not least, candidates are often impressed by the cooperative, positive and supportive environment in our department. We put a lot of thoughts into our hiring process. The entire faculty works as a collective body to help our junior faculty members succeed in their development and retention process. The salary that we offer is also very competitive compared with what offered by other NE departments.



At the end of the 2012-2013 academic year, we launched a campaign to recruit a new faculty member in nuclear engineering into our ranks. For this position, we required a Ph.D. degree in nuclear engineering. The applicants were expected to be competent to teach basic nuclear engineering courses at the undergraduate level, and to teach two or more graduate specialty courses. The successful candidate was asked to demonstrate the ability to direct graduate student research, and to provide general service assignments to the department, college and university. He/She was also required to possess significant potential for excellent teaching, leading and collaborating in innovative research, and attracting the necessary funding to sustain a vigorous research program. Good verbal and written communication skills were also a prerequisite. Over 40 high-quality applications were received during this selection process. Applicants were first evaluated based on their written application and the recommendations of experts in their fields. The top candidates were then evaluated through phone interviews. Finally, the best couple of candidates were interviewed in person, on campus against the above criteria. This robust selection process ensured that the candidates with the highest quality deemed by the department and the college are selected for the position. The campaign completed successfully with the hiring of [REDACTED] as an Assistant Professor.

NEFDP will be largely the same as those used in the tenure and promotion process at OSU. Detailed guidelines for this process are available on OSU's website and thus not included here due to page limit.

V. Institutional capability, support and plans for sustainability

OSU was among the first in the nation to offer a bachelor's degree in nuclear engineering, awarding our first degree in 1968. Today we remain one of the top nuclear engineering schools in the country, offering degrees at the bachelor's, master's and doctoral level in nuclear engineering and radiation health physics. In the past few decades, many nuclear departments dwindled or closed completely. The NERHP continued to expand and strive due to our commitment to excellence in both teaching and innovative research.

The NERHP prides itself as a top rated nuclear science and health physics program. It has been recognized as a highly-rated program on a reoccurring annual basis for several decades. These accomplishments are, in no small part, a result of significant fiscal support from federal agencies such as the Nuclear Regulatory Commission (NRC). The OSU NERHP is internationally recognized as a world class research and educational organization in areas of reactor safety and thermal-hydraulics related topics. These key components of research and education within the nuclear energy sector have directed the industry to its current state. A few specific topics supported within the OSU NERHP include design certification testing and confirmatory testing of the Westinghouse Advanced Plant -600 and -1000, along with design certification testing of the NuScale Power Reactor which is currently underway.

OSU supports the expected sustainable growth of the NERHP. The College of Engineering has provided the space and other required support so that the current high quality of teaching and research can be sustained. The OSU Radiation Center is the home to the NERHP. The Radiation Center is an approximately 47,000 sq. ft facility. The experimental facilities include the 1.1 MW Oregon State TRIGA Reactor (OSTR), state-of-the-art thermal hydraulic test facilities, and a wide array of equipment that permit NERHP faculty members to use ionizing radiation in their research. Furthermore, the College has recently welcomed program growth by adding one new faculty position in nuclear engineering, which allowed us to recruit [REDACTED], who will be served by this grant.

VI. Faculty retention

Faculty retention at NERHP has been excellent. The search committee and the entire faculty always put a lot of thoughts into the hiring process. Faculty members are only selected if it is determined that the probability for them to succeed at OSU is very high. After hiring, senior faculty members in the department selflessly devote their time and effort into mentoring the junior faculty members, to make sure they are on the right track to achieve excellence in academia. Furthermore, successful faculty members choose to stay for the very exact same reasons that brought them to the department. Just to name a few here:

- An excellent academic reputation since the department's establishment in 1959;
- Close ties with surrounding national laboratories that provide faculty members numerous
- research opportunities;
- A constructive and positive working environment;

- Competitive salaries to all faculty members;
- Enjoy living in one of the best college towns in America.

With this grant, we hope to keep our good traditions and strength our faculty development program. Being able to attract, develop and retain highly-qualified faculty members is the only way to achieve the overarching goal of this program: to better educate the next generation of nuclear engineers and health physicists to meet the nation's need.

VII. Non-federal Support

The OSU NERHP will provide non-federal support of \$50k annually over a three year period to match a portion of the requested funding. Particularly, funds will be provided by our department [REDACTED]. This funding will ensure that the newly hired faculty member has sufficient funds to further develop his independent research program and new courses with funded graduate students.

Program B: Sustained Impactful Growth of Nuclear Academic Leaders (SIGNAL): A Faculty Development Program in Nuclear Science and Engineering at Oregon State University

Principal Investigator: [REDACTED]

Background

For 60 years, Oregon State University has been offering advanced degrees in nuclear science and engineering. In its current incarnation, the School of Nuclear Science and Engineering (NSE) has 10 tenured/tenure-track faculty members, several research faculty and instructors, and offers BS, Masters (MS and MHP/MEng), and PhD degrees in Nuclear Engineering and Radiation Health Physics. As of Fall 2016, our student population consists of 200+ undergraduate students, 90+ on-campus graduate students, and 40+ RHP graduate students seeking distance education Master of Health Physics degrees. Our program has recently been ranked as high as 9th in the U.S. News and World Report rankings, but our faculty numbers have remained at (or have slightly decreased) over the last 10 years, while programs at our peer institutions have been growing.

Our faculty currently consists of 6 tenured Professors, 3 tenured Associate Professors and 1 tenure-track Assistant Professor. By most objective measures, our faculty is significantly top-heavy -- new junior faculty hires are essential at this time to prepare for future retirements. This demographic issue, a projected increase in global demand for nuclear scientists and engineers and a domestic STEM education and research agenda focused on economic competitiveness are all drivers for the OSU School of NSE to grow. NSE programs at other leading institutions have 15-25 tenured/tenure-track faculty. To garner support for this growth from the OSU College of Engineering (COE), and to address a real need in science and engineering, faculty members must be hired in a manner consistent with the first goal of the COE Strategic plan:

“The College has committed to becoming recognized as a national model of inclusivity and collaboration as evidenced by, among other things, a community of faculty, students, and staff that is increasingly more inclusive, collaborative, diverse, and centered on student success.”

OSU NSE is currently searching for a tenure-track Assistant or Associate Professor with research interests that fall broadly in the category of nuclear engineering. Our intention is to fill this position with a start date no later than September 2017. We have secured the support of the COE Dean to add a second tenure track faculty member to our ranks during this academic year, should we receive the NRC Faculty Development Award.

This proposal describes a formal faculty development program designed to support these two new hires, and all new hires into NSE in the future. It is aligned with the COE Strategic Plan, the mission of NSE, and the needs of the nuclear science and engineering field.

Description of the Faculty Development Program

In the past 22 years, every tenure-track faculty member hired in the School of NSE (formerly the Department of Nuclear Engineering and Radiation Health Physics) at Oregon State that has sought indefinite tenure has received it. This is a significant record of accomplishment and speaks both to the quality of the individuals hired by NSE and of the internal process used to mentor and support new hires after they join our School. In an effort to codify and strengthen this activity, and to align our internal processes with a recently-established initiative within the OSU COE, we are formally creating the Sustained Impactful Growth of Nuclear Academic Leaders (SIGNAL) program. The mission of the SIGNAL program is:

“To establish Oregon State University's School of Nuclear Science and Engineering as a premier institution for the development of future academic leaders”

SIGNAL's goals are to:

1. Support talented, academically-minded individuals from traditionally underrepresented groups in their pursuit of tenured faculty positions in nuclear science and engineering
2. Foster an inclusive and collaborative community across engineering and science disciplines and between technical and non-technical fields
3. Promote technical excellence in nuclear science and engineering research
4. Create exemplary mentors of graduate and undergraduate students and post-doctoral scholars

SIGNAL employs aspects of the successful legacy mentoring program within NSE and incorporates new cross-College practices developed by the new COE Associate Dean of Faculty Advancement.

- During the first academic term on campus, the new hires will participate in a COE faculty development session entitled Faculty Advancement. This session describes the OSU Promotion and Tenure process, introduces the elements of an academic C.V. and dossier, and provides a panel discussion of the COE Strategic Plan. This discussion also covers the ways in which COE is supporting its implementation of the Strategic Plan in relation to its goals for increased diversity, inclusion and equity, particularly with respect to the faculty ranks.
- During the first academic term on campus, the new hires will participate in a COE faculty development session entitled Faculty Development Bootcamp. This workshop will

feature interactive sessions with participants that engage them in drafting a 1-year plan in relation to their longer-term plans, with a view toward reviewing and revising the plan every year through the annual review process, and representing that plan in their candidate's statements for promotion and tenure evaluation.

- Assignment of a NSE tenured faculty member to serve as a peer mentor. Mentoring provides new faculty with an explicit connection to more senior faculty members to provide guidance, advice, and socialization to the new department and institution. Mentors will encourage new faculty to connect with existing resources, such as: teaching and assessment information through the OSU Center for Teaching and Learning; time management, work-life balance, and networking strategies through the LifeBalance program; COE Faculty Development Workshops and OSU Library Faculty Workshops; support with personal/professional issues through the Employee Assistance Program. It is expected that the new faculty members will meet with their mentors monthly, at a minimum.
- A reduced teaching load in the first year of the tenure-track to allow new faculty hires to initiate research activities.
- Summer salary support for up to three months during the first two years. While not formally a part of the cost share supporting this award, the School of NSE will make available to each new hire up to three months of summer salary (and fringe benefits) from its budget to be used in the first two years after the hiring date.
- Allocation of departmental graduate teaching assistant resources to help with recruiting of graduate students into research programs for the new faculty hires. This is particularly important as the recruiting of new graduate students occurs well before the new faculty members will begin their positions.
- Access to webinars and presentations through OSU's institutional membership in the National Center for Faculty Diversity and Development. These resources address: everything you need to know about grant writing; how to prepare for stress free teaching; how to seek and get foundation funding; aligning your time with your priorities; developing a regular writing practice; mastering time management; saying `NO'; cultivating your network of mentors and sponsors; and dealing with stress and rejection.
- Quarterly meetings with the NSE Associate Head to track progress on the 1-year work plan, discuss challenges and successes, develop modifications to the 1-year plan, and gather data for reporting to SIGNAL sponsors and to the NSE School Head.

Funds from the NRC (\$449,970) will be used [REDACTED]

[REDACTED] COE will also provide \$149,952 in startup funds for this new faculty member, which is the source of the cost share for this award.

Description of the Selection Process

A faculty search is currently underway within NSE for a hire in the nuclear engineering area at the Assistant or Associate Professor rank. The traditional search process within the OSU College of Engineering is conducted by a search committee composed of a subset of the NSE faculty and a Search Advocate. [OSU's Search Advocacy program, initiated in 2007, was recently profiled in the Chronicle of Higher Education: <http://www.chronicle.com/article/How-to-Do-a-Better-Job-of/237750/>.]

COE has newly revised faculty search practices to include advocacy of the search process itself and reflect best practices, including:

- All search chairs complete Search Advocate training
- All search committees include a Search Advocate from outside the hiring unit
- Screening criteria are clearly linked to required and preferred qualifications
- Selection of candidates (for phone and on-site interviews) is clearly linked to screening criteria
- Screening criteria are kept as inclusive as possible, recognizing there may be multiple ways to meet a qualification

The selection process for the NRC-funded faculty position will evolve in one of three ways:

1. Selection by the COE Dean of a second hire from the pool of candidates deemed acceptable as an outcome of the current search. The existing search limited its scope to applicants with interests in nuclear engineering, and the NSE faculty may decide that this pool contains enough strong candidates that contribute to the COE Strategic Plan to recommend that two hires be made. Initiation of an expedited search process for a targeted hire in a specific technical area. The disciplines of nuclear engineering, health physics and radiochemistry are relatively underpopulated, and our faculty may wish to generate a list of names of highly-qualified individuals for targeted recruiting.
2. With the approval of the COE Dean and concurrence of the Office of Search Advocacy, a waiver of search may be requested and a specific person could be hired, if properly justified.
3. A second, traditional faculty search could be used. This is a slower process, and can take a full year to complete a search, but would allow the NSE faculty the opportunity to reassess the needs of the School and craft a position description and advertisement specifically for this additional faculty member.

While a C.V. for a specific individual is not provided with this proposal, we do commit to providing the C.V. for the selected individual as soon as possible after the hire is made. We also recognize that by not specifically naming an individual in our application, the evaluation score of this proposal may suffer. It is our hope that the strong commitment to a tenure-track faculty hire made by the OSU College of Engineering is evident in our proposal.

Management Structure/Program Administration

The responsibility for the management of the SIGNAL program will reside with the Associate Head of the School of Nuclear Science and Engineering. New faculty hires will have formal

meetings with the Associate Head quarterly to track progress toward the goals of SIGNAL. The SIGNAL program will benefit through input from the Head of the School of NSE, the COE Associate Dean for Faculty Advancement, the NSE representative to the COE Faculty Status (Promotion and Tenure) Committee, and the NSE faculty as a whole. Data on new hire performance will be gathered by the SIGNAL program with assistance from faculty participants and the NSE Office Manager. Required reporting to NRC will also be the responsibility of the NSE Associate Head.

It is our intention to utilize the SIGNAL program for all new hires in the School of NSE going forward. We hope that, as SIGNAL meets its goals, the OSU College of Engineering will reward us with additional faculty hires to achieve a new minimal NSE faculty size of 15.

Evaluation Plan

The success of the SIGNAL program is ultimately measured by the degree to which tenure-track faculty hires are successful in being promoted and tenured in the School of NSE. With the small numbers of faculty participants in the SIGNAL program, it will be impossible to perform quantitative analyses on the efficacy of the program. Qualitative studies that gather important data for each participant in SIGNAL will instead be employed. Data typically included in the promotion and tenure dossier includes:

- Research funding and research expenditures
- Technology transfer activities (startups, patents led, etc.)
- Brief descriptors for examples of collaborative activities within COE, across OSU and with
- other entities
- Activities that demonstrate a commitment to a diverse and inclusive NSE, COE and OSU
- Student and peer teaching evaluations
- Peer-reviewed publications in journals and conference proceedings
- Books and/or book chapters published
- Curriculum development
- Conference presentations
- Number of graduate student advisees/number of MS, MEng and PhD students graduated
- Departmental, college and university service activities (committees, etc.)
- Professional service activities (journal reviewership, professional society involvement, etc.)
- Community service activities
- Honors and awards (university and external)

Cost Sharing/Matching Participants

The OSU College of Engineering is providing \$149,952 in matching funds [REDACTED] [REDACTED] for the NRC-funded new faculty hire. [A commitment letter signed by Jim Lundy, Executive Associate Dean of COE is included in the proposal documents.] Startup packages are common support mechanisms for helping new faculty fund equipment procurements, graduate students, travel, summer salary, etc.

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.

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

Modifications/Prior Approval

NRC's prior written approval may be required before a Recipient makes certain budget modifications or undertakes particular activities. If NRC approval is required for changes in the grant or cooperative agreement, it must be requested and obtained from the NRC Grants Officer in advance of the change or obligation of funds. All requests for NRC prior approval, including requests for extensions to the period of performance, 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, at the time of application, a completed "Certification Regarding Lobbying" form, regardless of dollar value.

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

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

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

(1) Are presently excluded or disqualified from covered transactions by any Federal department or agency;

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

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

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

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

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

Debarment, Suspension, Ineligibility, and Voluntary Exclusion

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

Drug-Free Workplace

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

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

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

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

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

Procurement Standards - 2 CFR §§ 200.318-200.326

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

Travel and Transportation

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

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

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

Federal funds may not be used to travel to countries identified as “Foreign Policy Restricted Countries”, as identified by the U.S. Department of State or the U.S. Agency for International Development.

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, or their designees.
- d. Pending resolution of the request for review, the NRC may withhold or defer payments under the award during the review proceedings.
- e. The review committee will request the Grants Officer who issued the notice of termination or adverse action to provide copies of all relevant background materials and documents. The committee may, at its discretion, invite representatives of the Recipient and the NRC program office to discuss pertinent issues and to submit such additional information as it deems appropriate. The chairman of the review committee will insure that all review activities or proceedings are adequately documented.
- f. Based on its review, the committee will prepare its recommendation to the Director, Office of Administration, who will advise the parties concerned of his/her decision.

Remedies for Noncompliance

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

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

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

- Payment – [2 CFR § 200.305](#)
- Cost Share or Matching – [2 CFR § 200.306](#)
 - Recipients are to be careful with providing excessive cost share or match since at the end of the grant, if the identified match has not been provided, then a portion of the federal share may be required to be returned to the Government.

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

FEDERAL FINANCIAL REPORTS

Federal Financial Reports (SF-425) are semi-annually, for the periods ending March 31 and September 30. 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](#).

Faculty Development

Performance reports must be submitted semi-annually, for the periods ending March 31 and September 30, or any portion thereof, regardless of the award date. Reports are due within 30 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.)

For grant awards that are modified to add additional Program Descriptions, the recipient is required to address the applicable grant performance metrics associated with all programs. Further, these metrics should be broken out by individual program (e.g. Program A and Program B). This can be done utilizing Block 10, Performance Narrative, of the SF-PPR form. If this block does not have sufficient space, additional pages will be accepted. Sf-PPR-B and SF-PPR-E should be used to address both programs as well.

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 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:

Faculty Development Metrics:

1. How many Faculty have been sponsored by NRC funding?
 - a. Response is the number of faculty sponsored, for this reporting period and cumulative to the grant.
2. How many items have the sponsored faculty produced, for example, Professional Journal articles, publications, patents, or conference reports?
 - a. Response is the type and number of items (not a bibliography), for this reporting period and cumulative to the grant.

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.