



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

VIA Electronic Mail
[REDACTED]

[REDACTED]
The Research Foundation CUNY
The City College
2 Fairchild Hall
Manhattan, KS 66506

SUBJECT: GRANT NO: NRC-HQ-60-17-G-0030

Dear [REDACTED]:

Pursuant to the authority contained in the Federal Grant and Cooperative Grantee Act of 1977 and the Atomic Energy Act of 1954, the Nuclear Regulatory Commission (NRC) hereby awards to The Research Foundation CUNY The City College (hereinafter referred to as the "Grantee" or "Recipient"), the sum of \$399,982.00 to provide support for "The City College of New York Research Fellowship Program" entitled "Program Description."

This award is effective as of the date of this letter and shall apply to expenditures made by the Grantee furtherance of program objectives during the period beginning with the effective date of June 30, 2017 and ending June 29, 2021.

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

Please ensure individuals selected as beneficiaries of support under this grant meet the legal requirements consistent with recent 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 Mr. Daniel App by email at Daniel.App@nrc.gov

Sincerely yours,

Mlita Carr
Grants Officer
Research & Grants Team
Acquisition Management Division

Attachments:

Attachment A – Schedule

Attachment B – Program Description

Attachment C – Standard Terms and Conditions

Attachment A - Schedule

A.1 PURPOSE OF GRANT

The purpose of this Grant is to provide support to the "CCNY Nuclear Research Fellowship Program" as described in Attachment B entitled "Program Description."

A.2 PERIOD OF GRANT

1. The effective date of this Grant is June 30, 2017. The estimated completion date of this Grant is June 29, 2021.
2. Funds obligated hereunder are available for program expenditures for the estimated period: June 30, 2017– June 29, 2021.

A.3 GENERAL

- | | |
|--------------------------------|--|
| 1. Total Estimated NRC Amount: | \$399,982.00 |
| 2. Total Obligated Amount: | ██████████ |
| 3. Cost-Sharing Amount: | \$0.00 |
| 4. Activity Title: | CCNY Nuclear Research Fellowship Program |
| 5. NRC Project Officer: | Nancy Hebron-Isreal |
| 6. DUNS No.: | 603503991 |

A.4 AMOUNT OF AWARD AND PAYMENT PROCEDURES

1. The total estimated amount of this Award is \$399,982.00 for the four year period.
2. NRC hereby obligates the amount of ██████████ for program expenditures during the period set forth above and in support of the Budget above. NRC is not obligated to reimburse the Grantee for the expenditure of amounts in excess of the total obligated amount.
3. Payment shall be made to the Recipient in accordance with procedures set forth in the Automated Standard Application for Payments (ASAP) Procedures set forth below.

A.5 BUDGET

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

	Year 1	Year 2	Year 3	Year 4	Total
Personnel	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Fringe Benefits	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Travel	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Supplies	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Other	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Total Direct Charges	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Indirect Charges	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Totals	\$100,552.00	\$122,798.00	\$131,490.00	\$45,142.00	\$399,982.00

ATTACHMENT B - PROJECT DESCRIPTION

I. INTRODUCTION

Financial support is requested through the NRC Scholarship and Fellowship Education Grant program for the “**CCNY Nuclear Research Fellowship Program**” in the CUNY Energy Institute at the City College of New York (CCNY). The CUNY Energy Institute focuses on advanced electricity generation and storage technologies, including advanced nuclear reactors which will be constructed in the US over the next twenty to thirty years. As CCNY is a Minority and Hispanic Serving Institution, the proposed Fellowship program will be able to provide minority students with the knowledge, experience and skills needed to pursue professional careers in the nuclear industry, National Laboratories and government agencies.

A total funding of \$399,982 over four years is requested to provide graduate fellowships worth [REDACTED]/year in stipend to three Ph.D. students and [REDACTED]/year stipends to two Master of Engineering (M.Eng.) students. The PI of this proposal is [REDACTED] who has been leading the nuclear engineering effort by establishing and running a highly successful nuclear engineering education and research program at CCNY. The Fellowship students will conduct research in the Nuclear Thermal-hydraulics and Safety Research Laboratory at the CUNY Energy Institute, advised by nuclear engineering experts of the Grove School of Engineering including the PI and [REDACTED].

The fellowship recipients will be American citizens or permanent residents, and selected based on their past academic performance, interests in nuclear engineering, and motivation to pursue professional careers in the nuclear industry. The fellowship holders will be expected to conduct numerical and experimental investigations of thermal-hydraulics problems relevant to advanced reactor design, operation and safety. They will also be able to study nuclear engineering subjects including Reactor Physics, Reactor Thermal-hydraulics, and Reactor Design, Operation and Safety, in order to prepare for a professional career in the nuclear field.

The City University of New York, the largest urban university in the US with 220,000 full time students and 230,000 continuing education students, has selected the energy field as one of its major research and education thrust areas by establishing the Energy Institute at its flagship

campus, the City College of New York, in 2008. Since 2009, CCNY has received several grants from NRC including a Nuclear Engineering Education Grant to start the Nuclear Engineering Concentration program for undergraduate students, a Graduate Fellowship Grant, MSI Graduate Fellowship Grant, two Undergraduate Scholarship Grants, and Nuclear Engineering Faculty Development Grants. CUNY has also contributed over \$1 million to renovate the existing laboratory space for the Nuclear Thermal-Hydraulics Laboratory in Steinman Hall at CCNY, where nuclear research projects have been conducted with grants from the Department of Energy's Nuclear Engineering University Program (NEUP) and ARPA-E.

The fellowship students will have opportunities to interact with researchers from several National Laboratories including Argonne, Brookhaven, Idaho, and Oak Ridge conducting nuclear-related research. The Energy Institute has developed collaborative relationships with National Laboratories through its participation in DOE's Nuclear HUB project CASL (Consortium for Advanced Simulation of Light Water reactors), and three DOE NEUP-funded research projects. These relationships have led to new project proposals, and internship and permanent job opportunities for our PhD and M.Eng. students.

3. OBJECTIVES

The **CCNY Nuclear Research Fellowship Program** will be used to recruit and train three outstanding Ph.D. and two Master of Engineering students from minority groups at the City College of New York in the area of nuclear reactor thermal-hydraulics and safety research. The students will be supervised by experienced researchers of the CUNY Energy Institute utilizing the existing facilities in the Nuclear Thermal-hydraulics and Safety Research Laboratory, and CUNY's High Performance Computer Center. The Thermal-hydraulics Laboratory is equipped with advanced research equipment for experimental research with the funds previously provided by CCNY, CUNY, NRC, DOE and ARPA-E. The fellowship recipients will be trained to acquire skills needed in the design, regulation, construction and operation of advanced nuclear power plants in the US in the future.

3. INVOLVEMENT OF MINORITY STUDENTS

The City College of New York is the oldest public university in the US, predating the land grant colleges by two decades, and has for 160 years been the primary route to advancement for generations of native and newly immigrated New Yorkers. CCNY is first in NY State and 10th nationally in graduating minority engineers, 5th nationally in conferring graduate degrees on minority students and a top producer of African-American engineering PhDs. City College is 9th in the US in the number of its graduates that have gone onto earn PhD degrees; 10 of its alumni have received the Nobel Prize.

CCNY located in the Harlem area of the New York City is the premier minority institution in the U.S. and has a vast experience in educating women and minority students. The Grove School of Engineering enrolls the largest number of minority students amongst New York State's public engineering schools. Thus, the PI and Co-PIs of this proposal will be able to attract and recruit outstanding graduate students from a large pool of minority students and train them for successful careers in the nuclear industry. Under the current NRC Graduate Fellowship Grant which would end in March, 2017, five Ph.D. students have been supported, including one female, one Hispanic and two Asian American students. Three of them have completed their PhD programs successfully and obtained permanent jobs, and the other two are in the final year of their PhD programs.

4. PROPOSED FELLOWSHIP PROGRAM

Three PhD students will receive a Nuclear Research Fellowship for doctoral thesis research with an annual stipend of [REDACTED]. CCNY will cover the student health insurance. Two Master of Engineering students will receive a fellowship of [REDACTED] per year and partial tuition support. The fellowship holders will conduct experimental and/or numerical investigations in the nuclear field supervised by the faculty members of the Grove School of Engineering and CUNY Energy Institute. The research projects to be undertaken will be selected from among the experimental and numerical investigations of thermal-hydraulics phenomena of interest to Light Water Reactors and Generation-IV reactors. In order to ensure the research work is relevant to the nuclear industry, the details of the research work will be decided through contacts with reactor vendors

[REDACTED]

4.1 Nuclear Thermal-Hydraulics and Safety Research Facilities

The City University of New York has invested in excess of [REDACTED] into the establishment of the Nuclear Thermal-hydraulics and Safety Laboratory in the Grove School of Engineering. The Laboratory is located on the second floor of the Engineering Building (Steinman Hall at Convent Avenue and 140th Street in New York). Several adiabatic gas-liquid and boiling flow loops have been constructed that allow different test sections to be connected and used to investigate thermal-hydraulics problems of interest to the nuclear industry, involving both gas-liquid two-phase flow and phase change heat transfer (boiling and condensation).

In addition to the basic flow loops and individual test sections, advanced instrumentation are also available including a high-speed imaging system capable of recording up to 50,000 frames per second for flow visualization, Particle Image Velocimetry (PIV) hardware and software for velocity field measurements, a gamma densitometer with a 5 mCi Cs-137 source and NaI scintillation detector, an X-ray imaging system, a liquid film thickness sensor with a 0.01 micron resolution, and a Wire Mesh Sensor and Electric Resistance Tomography system for void fraction distribution measurements. Additionally, an infrared imager that can record the surface temperature distributions, a nanosensor that can profile surfaces with a nanometer resolution, and a Mach-Zehnder interferometer for two-dimensional temperature profile measurements are available. This well-equipped research laboratory will enable fellowship students to acquire advanced skills in conducting thermal-hydraulics experiments, and knowledge in the design and use of advanced instrumentation.

A computational facility available from the Energy Institute includes a 200-node computer cluster. Also, the CUNY High Performance Computing Center provides the computational resources required by CUNY faculty, students, researchers and their collaborators. These computational facilities will be made available to the Fellowship students in the Nuclear Thermal-hydraulics and Safety Laboratory, so that advanced simulation models based on our own source codes

[REDACTED]

4.2 Student Education and Research

Fellowship winners will have an opportunity to study nuclear engineering subjects by taking courses offered by the Grove School of Engineering.

- **Reactor Physics and Engineering:** This course covers the basic principles of nuclear reactor theory including fission reaction, neutron diffusion theory, reactor criticality, reactivity effects, reactor types, and nuclear fuels.
- **Reactor Thermal Hydraulics:** This course describes the thermal-hydraulics aspects of nuclear power plants including heat generation and thermal analysis of fuel elements, single-phase and two-phase flows in reactor components, two-phase flow and boiling heat transfer. In addition, heat transport loops of different reactor types are analyzed.
- **Nuclear Reactor Design, Operation and Safety:** This course integrates the principles of reactor physics, thermal-hydraulics, reactor safety, instrumentation, materials, and licensing aspects. Topics include material and thermal design issues, fuel depletion and reactivity control, accident analysis, and regulatory aspects such as the licensing process, the concept of defence in depth, general design criteria, and probabilistic risk assessment.

The research projects of interest to the Fellowship recipients include experimental and computational investigations of flow boiling heat transfer, CHF on Accident Tolerant Fuels, reflooding with oscillatory coolant injection, forced convection heat transfer and natural circulation in a high temperature coolant in Very High Temperature Reactors, two-phase flow in rod bundles, among others. The PI and Co-PIs are experts in nuclear reactor thermal-hydraulics and have over 100 years of combined experience in conducting research in this field.

5. RECRUITMENT ACTIVITIES AND MARKETING STRATEGIES

An announcement of the CCNY Nuclear Engineering Research Fellowships will be made as soon as the grant is awarded, in the Spring semester of 2017. All graduating senior students interested in entering a Master's program and Master's students interested in a Ph.D. program in the Fall semester of 2017 will be informed of the fellowship opportunity and application process. In particular, students from minority groups, women and persons with disabilities will be strongly encouraged to apply. The fellowship opportunities will also be advertised through the websites of the Energy Institute and Mechanical and Chemical Engineering Departments, by sending information flyers to Nuclear, Chemical and Mechanical Engineering Departments at other universities, and distributing flyers at ANS, AIChE and ASME meetings.

To attract the interests of a wide spectrum of students at City College, information sessions and seminars will be held in the Grove School of Engineering to present research opportunities in the fellowship program and job opportunities in the nuclear industry. Speakers from the nuclear reactor vendors, local nuclear utilities (e.g., Entergy, Exelon and PSEG) which operate nuclear reactors in NY and NJ, component manufacturers, National Laboratories (e.g., Brookhaven, Argonne, Idaho and Oak Ridge) and government agencies such as NRC and DOE will be invited to give a talk and meet with our students. Guest speakers from some of the above organizations have been invited to give talks at CCNY previously.

6. STUDENT SELECTION

In order to select the most-qualified graduate students for the Nuclear Research Fellowship Program, the following application and selection process will be used. As soon as we are informed of the grant award, an announcement will be made to Senior and Master's program students in the Grove School of Engineering with an application deadline two to three months after the announcement. The students will be asked to submit an application form and describe their interests in pursuing a Ph.D. program and a career in the nuclear engineering field. To be eligible for the fellowship, the applicant needs to meet the admission requirements for an M.Eng. or Ph.D. program and have a minimum GPA of 3.3 out of 4.0 in the major field of study. Applicants to the

Ph.D. program from other colleges and universities who submit their applications will also be considered for the Nuclear Research Fellowship.

A Selection Committee consisting of the PI and Co-PIs as well as one faculty member from each of the Mechanical and Chemical Engineering Departments will evaluate the applications for up to three PhD and two M.Eng. fellowships. Interviews with each candidate on a short list will be conducted by the Selection Committee. The fellowship winners will be announced through the Grove School of Engineering Newsletter and Departmental and the Energy Institute websites. As long as the Fellowship holder maintains a GPA higher than 3.3 and makes satisfactory progress in research by passing qualifying exams as required, the student will be eligible to receive this fellowship for a minimum of two years and up to four years. However, the PhD fellowship holder's research advisor will be expected to obtain other sources of financial support for the third and later years of the PhD program so that more than three PhD students could be supported over the four year grant period.

7. DEVELOPMENT STRATEGIES

Special seminars will be organized for the Nuclear Research Fellowship students and other students in our nuclear engineering program. The speakers will be invited from National Laboratories, nuclear industry, and government agencies to enable the students to learn about the career and research opportunities in the nuclear field. We have strong collaborating relationships with Argonne, Brookhaven, Idaho and Oak Ridge National Laboratories for potential internship positions in nuclear-related research. In addition, efforts will be made to build useful research relationships with nuclear reactor vendors such as Westinghouse/Toshiba, GE/Hitachi, Areva, Mitsubishi Nuclear, General Atomics, and Terrapower to enhance the relevance of the Fellowship students' research projects to the nuclear industry and to seek internship and permanent job opportunities. The local utilities which operate nuclear power plants (e.g., Entergy with Indian Point and Exelon with Nine Mile Point in New York, and PSEG with Hopewell and Salem in New Jersey), or are planning to construct new nuclear power plants (e.g., PSEG in New Jersey), will also be approached to provide internship and job opportunities.

The Nuclear Research Fellowship students will also be encouraged to attend various Workshops and present their work at ANS, ASME, NURETH, ICONE and other international conferences as often as possible. They will be able to meet with other researchers from around the world and gain an international perspective in the nuclear field. Opportunities will also be created for the Fellowship students to visit National Laboratories to discuss their work with the researchers conducting similar work.

8. MANAGEMENT STRUCTURE

The Nuclear Research Fellowship Program at CCNY will be directed by the PI of this proposal and administered by a Steering Committee composed of the Co-PIs and faculty members from the Mechanical and Chemical Engineering Departments of CCNY. The Steering Committee will be fully responsible for reviewing the fellowship applications, selecting the fellowship winners, subsequently advising the fellowship holders and monitoring the success of the Fellowship Program. The Steering Committee will regularly monitor the progress of the fellowship winners by examining their academic performance and progress in research. The Fellowship students will be required to present their progress in research to the Committee at least once a year. The Committee members will in turn provide the students with constructive advice on the current and future directions of their research. The fellowship holders will also be encouraged to approach the

Steering Committee members for guidance related to their study, research and future careers as needed.

9. EVALUATION OF PROGRAM EFFECTIVENESS AND SUCCESS

The effectiveness and success of the Nuclear Research Fellowship Program at CCNY will be evaluated by a specialist in student program evaluations using the following criteria.

- a) If more than three high-caliber students with GPA > 3.3 who are passionate about studying and conducting research in the nuclear field apply to this Fellowship, it would be considered to indicate an attractive Fellowship program.
- b) This Fellowship program will be considered to be successful if at least three Ph.D. students and two M.Eng. students are supported and are able to complete their respective degree programs. With additional sources of financial support secured by research advisors, the Fellowship program would be deemed overwhelmingly successful if more than three PhD and two M.Eng. students supported by this Fellowship program are able to complete their degree programs.
- c) Every PhD Fellowship student will be expected to write at least two papers based on their doctoral research and publish them in well-known journals or refereed Conference proceedings. Every M.Eng. student will be expected to publish at least one paper in a Conference Proceedings or journal. Thus, if more than six papers are published by all the PhD students, and two papers by M.Eng. students, this program is deemed to have successfully met this criterion.
- d) All PhD students will be expected to spend at least one summer as an intern at a National Laboratory such as Argonne, Brookhaven, Oak Ridge and Idaho National Lab or in nuclear industry or government agencies, and present a paper at ANS or international meetings such as NURETH and ICONE during their study. If every student satisfies this criterion, the Fellowship program is judged to have been fully successful in enabling the students to have useful interactions with other experts in the nuclear field.

10. INSTITUTIONAL SUPPORT

CCNY will provide all PhD students supported by research grants with health insurance coverage worth ██████ per year. Every year, the Grove School of Engineering also provides five PhD tuition waivers each to Mechanical and Chemical Engineering Departments. Each waiver is good for up to five years for each Fellowship recipient. We expect at least two out of three PhD Fellowship students will be able to receive this tuition waiver. Travel support for some of the invited seminar speakers will also be provided by the Mechanical and Chemical Engineering Departments and the Energy Institute. In addition, the CUNY Energy Institute will provide secretarial assistance for the Fellowship Program activities as needed.

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*.

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 issues/concerns discussed with your Authorized Representative during the review. Within 60 days of the effective award date, SBCR will conduct a periodic review to ensure compliance with applicable Civil Rights statutes. SBCR will notify, within the 60 days, the institution's Authorized Representative as to the results of the review and requirements, if any, for compliance. The institution's cooperation with SBCR is essential. The continued eligibility for Federal financial assistance is conditioned upon compliance with anti-discrimination regulations.

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](#).

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.)

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 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 (not a bibliography), for this reporting period and cumulative to the grant.

As part of the PPR, include the following information for each student supported 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 contact 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.

Grant and Cooperative Agreement

CHOOSE ONE:
 COOPERATIVE AGREEMENT
 GRANT

CHOOSE ONE: EDUCATION FACILITIES RESEARCH SDCR TRAINING

1. GRANT/COOPERATIVE AGREEMENT NUMBER NRC-HQ-60-17-G-0030	2. SUPPLEMENT NUMBER	3. EFFECTIVE DATE 06/30/2017	4. COMPLETION DATE 06/29/2021
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5. ISSUED TO NAME/ADDRESS OF RECIPIENT (No., Street, City/County, State, Zip) RFCUNY - CITY COLLEGE CONVENT AVE & 138TH ST NEW YORK NY 10031	6. ISSUED BY U.S. NRC - HQ Mailing Address: Acquisition Management Division Mail Stop: TWFN-5E03 Washington DC 20555-0001
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7. TAXPAYER IDENTIFICATION NO. (TIN)	9. PRINCIPAL INVESTIGATOR/ORGANIZATION'S PROJECT OR PROGRAM MGR. (Name & Phone) [REDACTED]
8. COMMERCIAL & GOVERNMENT ENTITY (CAGE) NO.	

10. RESEARCH, PROJECT OR PROGRAM TITLE
CCNY Nuclear Research Fellowship Program

11. PURPOSE
See Schedule

12. PERIOD OF PERFORMANCE (Approximately)
06/30/2017 through 06/29/2021

13A.	AWARD HISTORY	13B.	FUNDING HISTORY
PREVIOUS	\$0.00	PREVIOUS	\$0.00
THIS ACTION	\$399,982.00	THIS ACTION	[REDACTED]
CASH SHARE	\$0.00	TOTAL	[REDACTED]
NON-CASH SHARE	\$0.00		
RECIPIENT SHARE	\$0.00		
TOTAL	\$399,982.00		

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

PURCHASE REQUEST NO.	JOB ORDER NO.	AMOUNT	STATUS
RES-17-0168			

15. POINTS OF CONTACT

	NAME	MAIL STOP	TELEPHONE	E-MAIL ADDRESS
TECHNICAL OFFICER	NANCY V. HEBRON-ISREAL	TWFN/10B37	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>CFDA Number: 77.008</p> <p>2017 IUP Fellowship - City University of New York (CUNY)</p> <p>Delivery: 06/29/2021</p> <p>Delivery Location Code: NRCHQ</p> <p>NUCLEAR REGULATORY COMMISSION</p> <p>NUCLEAR REGULATORY COMMISSION</p> <p>WASHINGTON DC 20555-0001 USA</p> <p>Payment:</p> <p style="padding-left: 40px;">ASAP GRANT FUNDS REIMBURSEMENT SYS</p> <p style="padding-left: 40px;">US TREASURY</p> <p>Period of Performance: 06/30/2017 to 06/29/2021</p> <p>Payment will be made through the Automated Standard Application for Payment (ASAP.gov) unless the recipient has failed to comply with the program objectives, award conditions, Federal reporting requirements or other conditions specified in 2 CFR 200.</p>				