

ATTACHMENT A - SCHEDULE

A.1 PURPOSE OF GRANT

The purpose of this Grant is to provide support to the "Miami Dade College's proposed Nuclear Career Academic Bridge (N-CAB Program" as described in Attachment B entitled "Program Description."

A.2 PERIOD OF GRANT

1. The effective date of this Grant is September 30, 2010. The estimated completion date of this Grant is September 30, 2011.

2. Funds obligated hereunder are available for program expenditures for the estimated period: September 30, 2010 – September 30, 2011.

A. GENERAL

1. Total Estimated NRC Amount:	\$89,893.00
2. Total Obligated Amount:	\$50,000.00
3. Cost-Sharing Amount:	\$0.00
4. Activity Title:	Miami Dade College Wolfson Campus Nuclear Career Academic Bridge (N-CAB) Program
5. NRC Project Officer:	Tuwanda Smith, Esq.
6. DUNS No.:	125220728

B. SPECIFIC

RFPA No.:	SDB-27-10-1114
FFS:	SBC10323
Job Code:	N7316
BOC:	4110
B&R Number:	07P-15-5C1-161
Appropriation #:	31X0200
Amount Obligated:	\$50,000.00

A.3 BUDGET

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

	Year 1
Direct Participant Cost	\$89,893.00
Indirect Cost	\$ 0.00
Total	\$89,893.00

All travel must be in accordance with the Miami Dade College Travel Regulations or the US Government Travel Policy absent Grantee's travel regulation.

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A.4 AMOUNT OF AWARD AND PAYMENT PROCEDURES

1. The total estimated amount of this Award is \$89,893.00 for a one year period.
2. NRC hereby obligates the amount of \$89,893.00 for program expenditures during the period set forth above and in support of the Budget above. The Grantee will be given written notice by the Contracting Officer when additional funds will be added. NRC is not obligated to reimburse the Grantee for the expenditure of amounts in excess of the total obligated amount.
3. Payment shall be made to the Grantee in accordance with procedures set forth in the Automated Standard Application for Payments (ASAP) Procedures set forth below.

Attachment B – Program Description

1. Soundness of the Proposed N-CAB Project and Activity

As noted recently in *The New York Times*, the enthusiasm for nuclear power means that the nation's veteran fleet of 104 plants is not headed for retirement anytime soon. Most of them are expected to get their licenses renewed for an additional 20 years, requiring an investment in equipment and in the training of nuclear workers, including full-time utility staff of technicians, operators and engineers, ranging from 400 to 700 a plant. These jobs can last a working life. **Miami Dade College (MDC)** continues to train students for the **nuclear industry**. "In this nuclear renaissance, there is going to be a competition nationwide for workers," explains *The Times* as it recognizes MDC program's ability "to shore up our **pipeline of skilled people**."¹

This is not the first time that the MDC program has received national attention. Christine Todd Whitman, the former New Jersey governor and **Environmental Protection Agency administrator**, visited MDC's Homestead Campus last spring. She discussed the benefits of nuclear energy, its impact on air quality and the economy and noted the **MDC nuclear training program** was leading the way in preparing skilled workers for the nuclear energy industry with its **trailblazing apprenticeship** program. The benefit of MDC's nuclear program was also extolled by Ali Velshi and panelists in a discussion of economic issues affecting Americans on "CNN Money Summit: Money & Main St." The panel describes how MDC, "one of the best community college systems," is "**training people in energy jobs** and they're graduating people with two-year degrees with starting salaries of \$45,000 or more."²

Finding jobs for students who are fighting their way toward a better future is an important mission of minority serving institutions. This past week *Inside Higher Education* noted the importance of **minority-serving colleges** in preparing the nation's students and work force. This work will be important to all of higher education as the number of minority students continues to increase, the article explained, and "Institutions that serve mostly minority students **are better at understanding the challenges** of those groups and can tailor programs to fulfill those needs." Suggestions **included Facilitatoring** and advising programs that work with individuals or small groups to keep students on track.³

¹ Business of Green, The New Jobs in Atomic Energy, *The New York Times*, April 21, 2010.

² Anderson Cooper, Ali Velshi and the CNN Money Team, "CNN Money Summit: Money & Main St." June 18, 2009.

³ Eric Kelderman, White House Adviser Urges Historically Black Colleges to Change How They are Seen, *Inside Higher Education*, April 22, 2010.

Miami Dade College is the largest minority-serving college in the country, serving 170,000 students annually. MDC, an open-access, public, state-controlled institution of higher education, is the only community college serving Miami-Dade County, Florida. Thirty-five percent of students live below the federal poverty level, and another 55% are classified as low-income.

The MDC **Homestead Campus (MDC-HC)**, site of the proposed project, serves the southern section of the county where the median household income is \$15,157 and about **34%** of the population lives below the **poverty level**, compared to 17.2% in Florida and 18.5% nationally. About 40% of area residents have failed to earn a high school diploma. The Educational Needs Index, a Lumina Foundation-funded study, ranks **Homestead area among the neediest 6% of U.S. communities** in terms of educational stress factors. The Florida Department of Education gave performance grades of "D" or "F" to three of MDC-HC's four feeder high schools; and nearly **80% of students come to MDC-HC academically unprepared**. Among MDC-HC degree-seeking students, **61% are low income** and **59% are first-generation in college**. Moreover, **41% live below the poverty level**. Eighty-four percent of MDC-HC students are members of ethnic minorities, and 41% speak a native language other than English. With a **mean age of almost 26 years**, MDC-HC's largely nontraditional students juggle the demands of work, family, and education. Ninety-six percent work while attending college, 77% care for dependents. Faced with these challenges, the students often encounter a range of non-academic problems that may hinder their academic achievement.

MDC-HC is the home of The **Electrical Power Technology (EPT) Program Associate in Science** degree offered by the MDC School of Computer and Engineering Technologies in partnership with the local power generation industry. The program began in January of 2006 and includes three specialties: electrical, mechanical, and instrumentation and control. The Instrumentation and Control option prepares students to service power plant control devices. The Electrical Maintenance option prepares students to service, repair, and maintain power plant electrical equipment and the Mechanical Maintenance option prepares students to service, repair, and maintain power plant mechanical equipment. The two-year program provides valuable hands-on experience for students and it includes a summer internship program. Since its inception, the MDC **Electrical Power Technology Program** has served 116 of which **87% have been minority students** (80 Hispanics, 10 African Americans, 11 females).

This skilled worker pipeline program was created to address the nationwide power generation workforce shortage and its aging nuclear workforce. The MDC program stresses an understanding of power plant operations and technologies, equipment and systems maintenance, and health, safety, and environmental issues. The program seeks to cultivate local workers who fulfill area employment needs. Historically, due to the nationwide shortage of nuclear workers, Florida Power and Light (FPL) would recruit and train workers from outside of the area, only to have these employees hired away by another company once their initial contract expired. The MDC and FPL partnership addresses this issue as the MDC program trains local workers whose community and family ties keep them in South Florida. **The MDC program draws on a local, ethnically diverse population to fill jobs previously filled by out-of-state, mostly Caucasian workers.** The Memorandum of Understanding signed by the President of Miami Dade College and the President and Chief Executive Officer of FPL guarantees an internship for 30 MDC students every summer, and guarantees **employment for at least 20 graduates annually**. This puts graduates directly to work and demonstrates the effectiveness of minority serving institutions in preparing a pipeline of skilled nuclear workers. If funded, the proposed program would also strengthen the new electrical power technology program for non-licensed nuclear operators that is currently being developed.

2. N-CAB Approach, Aims and Objectives, Methodology, Plan, and Timetable

Approach

MDC proposes the **Nuclear-Career Academic Bridge (N-CAB)** Program to include two components: 1) equipment and 2) facilitator for integrating equipment in the Electrical Power Technology courses.

N-CAB Facilitator and Student Stipends. The goal of the Facilitator and stipend program is to provide the support to overcome barriers to program success as noted in Table 1.

Potential Barrier	Percentage of Students
Academic preparedness (in reading, writing, and/or mathematics)	Underprepared in one area: 76.3% Underprepared in all three areas: 24%
Income level	Low income: 61%. Below poverty level: 41%
Ethnic minority	Hispanic: 59%; Black non-Hispanic: 21%; Other: 4%
Non-native English speakers	41%
Attendance status	Part-time: 65%; Full-time: 35%
Mean age	26 years
Employment while attending college	Full-time: 23%; Part-time: 73%
Responsibility to care for dependents	Some time each week: 77%; Over 30 hours/week: 25%
Commuting time to and from college	6 hours/week or more: 35%

N-CAB Equipment and Materials. The requested equipment and instrumentation fills current gaps in the infrastructure and complements programs goals. The purpose of the EPT program is to prepare students to service, repair, and maintain nuclear power plant equipments. This program not only provides students with knowledge-base to work in the nuclear power plant field, but also trains students with experience that allow them to start working immediately after graduation. Due to the lack of training equipment, students are now gaining hands-on experience mainly from the summer internship at the FPL Turkey Point nuclear power plant. With the purchase of the proposed simulator and software, MDC could extend the hands-on training from the current three-month training internship to the whole two years of study at MDC. Students would be better prepared as the next generation of nuclear workers. The Electrical Power Technology Program faces multiple challenges including the need for instructional materials to supplement the existing and new curriculum as well the equipment and instrumentation to educate and train the next generation of energy workers, to meet the growth of Florida's energy sector and the state's overall economic growth.

Funding will be directed for the **needed equipment**, including a **flow loop simulator and its corresponding simulator software**. The flow loop simulator is a self-contained, fully integrated teaching apparatus that allows process control experiments in flow, level, pressure and temperature; simulator software and other equipment and hardware, needed for the mechanical, electrical and instrumentation and control laboratories. This equipment will be used to train students for roles as process engineers at nuclear facilities. The students will be prepared to perform responsibilities in design which will include: reading and modification of piping and instrument diagrams, electrical schematics, and final construction packages. Additionally, the students will be able to perform operations and optimization activities involved with the process via standard proportional integral derivative control. These concepts will be taught and established via both software process control simulation as well as actual hardware that contain instrumentation, transducers, and process subsystems.

Aims and Objectives

N-CAB Facilitator. The N-CAB Facilitator will be charged with making sure the equipment purchased is set up properly and ensure that all faculty are properly trained in the use of the equipment, including the flow loop simulator and software. They will additionally be responsible for facilitating the integration of the equipment in the Electrical Power Technology programs.

N-CAB Equipment and Materials. The new simulator, software, and other equipment will enhance training at MDC in the following areas:

- 1.) Provide the ability to illustrate the thermodynamic theories taught in the classroom.
- 2.) Provide the ability to analyze transients, including initial and final parameters and the reasons for their changes.
- 3.) Provide opportunities to demonstrate and practice safety and maintenance procedures and skills.
- 4.) Provide the ability to inject anomalies to support developing student troubleshooting skills.
- 5.) Allow the transition from learning about component functions and characteristics to integrated plant functions and characteristics.
- 6.) Allow hands-on training to encourage student interest and learning. This has been effectively demonstrated with the individual components currently utilized in shop/lab areas.

Methodology and Plan

N-CAB Facilitator and Student Scholarships. The N-CAB Facilitator will have an office at MDC, Homestead Campus. The program has a very committed adjunct professor who is willing to serve as the N-CAB Facilitator, Ms. Vivian Hofmeister, an adjunct professor for the Department of Engineering. She has been working with the program for the past year and is eager to continue to provide vital service as an N-CAB Facilitator.

N-CAB Equipment and Materials. The equipment purchase will further student training; they will be prepared to perform design responsibilities, operations responsibilities, and verification, qualification, and validation responsibilities for processes that are being put on line or in a start up phase. Student usage is at the center of the proposed request and the following Table 2 describes how the equipment will be utilized on a course by course basis. Students will use the equipment for class requirements to meet the N-CAB objectives stated above in Aims and Objectives. Requested equipment will be utilized in regular classroom activities.

Table 2. List of MDC Courses Aligned to N-CAB Equipment and Supplies Request										
Requested equipment to support nuclear energy training for Miami Dade College students enrolled in the courses as listed below the Table 1.	ET12425C	ET12416C	ET12408C	ET12417C	EST2520C	EST2530C	EET2205C	EET2515C	EET2527C	EET2547C
#207 Vertical Coupling/Shaft Alignment Trainer	x	x	x	x						
#209 Kingsbury Bearing Model	x	x	x	x						
#225 Flange Bolt Torquing Demonstrator	x	x	x	x						
#226 Flange Bolt Torquing Fixture Set	x	x	x	x						
#279 Positive Displacement Cutaway	x	x	x	x						
Fluke-744 120, Documenting Process Calibrator - HART					x	x	x			
CE117 PROCESS TRAINER					x	x	x			
PCUSIM50n/u Process Control, PID, Simulation					x	x	x			

Software. Fifty User Network License												
#210 Electromechanical Bench Package										X	X	X
#410 Split-Phase, Capacitor Start, AC Motor										X	X	X
#419 Motor Loading Device										X	X	X
#429E AC Variable Speed Drive Trainer, Extended (Power Flex 40)										X	X	X

Course Legend and descriptions:

ETI2425C- Metallurgical Properties and Dynamics: This course provides students who are preparing for occupations in industrial maintenance with a foundation in the principles of the metallurgy of steel. Students learn about the thermal, physical and chemical properties of steel.

ETI2416C- Power Plant Machines and Components 1: This course is designed for students who are preparing for careers in industrial and/or power plant mechanical maintenance. Students learn the principles, concepts, and applications of various mechanical systems encountered in industrial applications, how to identify basic systems and components encountered in power plants, how to troubleshoot equipment problems, and basic procedures involved in maintaining and replacing component parts.

ETI2408C- Welding Processes: Course is designed for students who require basic welding process skills to prepare for entry-level maintenance technician positions. The student learns principles of welding safety, fundamental practices of shielded arc welding, arc welding with consumable and non-consumable electrodes, brazing, soldering, and plasma cutting.

ETI2417C- Power Plant Machines and Components 2: The course continues the study of industrial machines begun in ETI2416C for students preparing for careers in industrial and/or power plant mechanical maintenance. Students learn the principles, concepts, and applications of various mechanical systems encountered in industrial applications, how to identify basic systems and components encountered in power plants, how to troubleshoot equipment problems, and basic procedures involved in maintaining and replacing component parts.

EST2520C- Process Measurement Fundamentals: This course is designed for students who will be supporting industrial equipment processes. Students learn how to perform the typical measurements made in industrial measurement and control loops. Topics include the basic physics involved in the pressure, temperature, flow, level, and analytical measurement theory.

EST2530C- Process Control Technology: The course is designed for students studying systems and electronic circuits encountered in electric machinery and industrial controls. Students analyze systems and devices and perform calculations to determine parameters to accurately predict operation. Students examine the concepts and principles of open and closed loop systems, transducers, transformers, Transmission and distribution systems.

EET2205C- Fluid/Pneumatic Instrumentation: This course is designed for students specializing in industrial equipment maintenance. Students learn and apply the basic principles and operation of hydraulic and pneumatic instrumentation and testing equipment to repair equipment. Laboratory experiments are performed with extensive hands-on application.

EET2515C- Motors and Generators: This course is designed for students specializing in industrial equipment maintenance. Students learn to analyze, troubleshoot, and repair rotating electric machinery with emphasis on industrial applications. Students learn terminology specific to motors, generators, and transformers; electromechanical device theory; circuits connecting electromechanical devices to voltage sources and loads; and how to apply mathematical analysis to determine quantitative circuit functioning in terms of voltage, current, and power.

EET2527C- Motor Starters, Controllers, and Breakers: The course is for students specializing in industrial equipment maintenance in AC and DC power distribution in the plant. Students learn operating principles, troubleshooting, repair, maintenance of switch gear, motor control centers, breaker panel power, control, instrument cable, raceways, protective devices and grounding related to the generating station, including hands-on, laboratory exercises.

EET2547C- Transformers and Power Distribution: This course is designed for students specializing in industrial equipment maintenance. Students acquire an understanding of the components and devices used to distribute power, and how to protect major elements involved in power distribution. Students learn about the uses and maintenance of fuses, circuit breakers, reclosures, and relay coordination; how to protect against lightning and other abnormal conditions; and the protection of transformers, motors, and generators.

N-CAB Timetable

Table 3 below details the timeline for N-CAB program components.

Table 3: N-CAB Work Plan – Timeline for Implementation				
Component	Activities/ Process	Time-line	Responsible	Bench mark/Deliverables
Announce award	Award announced by School of Computer and Engineering Technologies (SCET).	Sept 2010	Miami Dade College SCET	Release media/ Department meeting.
Equipment bidding process and purchase	Begin bidding process through MDC purchasing department and select vendors. Implement purchase requests.	Sept/ Oct 2010	Miami Dade College SCET	Implement bidding/select vendors/ submit purchase orders.
Creation and hiring of N-CAB Facilitator position	Process paperwork for creation and hiring of N-CAB Facilitator position.	Sept/ Oct 2010	Miami Dade College SCET	Hire N-CAB Facilitator position. Set up office.
Implement N-CAB Program	N-CAB Facilitator begins formal documentation for annual planning.	Oct 2010	N-CAB Facilitator	Develop annual plan with deadlines for incorporation of equipment. Meeting with Faculty and instructors.
Receive and install equipment	Receive and complete installation of equipment.	Oct/ Nov 2010	Miami Dade College School SCET and Department Campus Technology Services	Equipment received and installed in lab areas.
Ongoing monthly monitoring for equipment	Monthly planning meetings focus on the needs of the group as it incorporates equipment	Nov/ Dec 2010 to end	Miami Dade College SCET, faculty, FPL, SMEs and adjuncts	Teaching plans or modules developed and tested for

and N-CAB Facilitator	into individual classes.			equipment.
Disseminate materials for equipment and N-CAB Facilitator activities	Monthly planning meetings provide venue to disseminate planning materials, documents.	Nov/ Dec 2010 to end	Miami Dade College SCET, faculty, FPL SMEs and adjuncts	Shared reports and electronic SharePoint.
Final Report, Wrap-up for equipment and N-CAB Facilitator .	Report assessment/ Evaluation administered; includes continuous plans to improve utilization teaching plans.	Jan- July 2011	Miami Dade College SCET, faculty, FPL SMEs and adjuncts	Monthly reports and updates. Final reports.

Attachment C – Standard Terms and Conditions

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

Preface

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

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

To assist with finding additional guidance for selected items of cost as required in 2 CFR 220, 2 CFR 225, and 2 CFR 230 these URLs to the Office of Management and Budget Cost Circulars are included for reference:

A-21 (now 2CFR 220): <http://www.whitehouse.gov/omb/circulars/a021/print/a021.html>
A-87 (now 2CFR 225): <http://www.whitehouse.gov/omb/circulars/a087/print/a087-all.html>
A-122 (now 2 CFR 230): <http://www.whitehouse.gov/omb/circulars/a122/print/a122.html>
A-102, SF 424: <http://www.whitehouse.gov/omb/circulars/a102/print/a102.html>
Form 990: <http://www.irs.gov/pub/irs-pdf/i990-ez.pdf>

Any inconsistency or conflict in terms and conditions specified in the award will be resolved according to the following order of precedence: public laws, regulations, applicable notices published in the Federal Register, Executive Orders (EOs), Office of Management and Budget

(OMB) Circulars, the Nuclear Regulatory Commission's (NRC) Mandatory Standard Provisions, special award conditions, and standard award conditions.

By drawing funds from the Automated Standard Application for Payment system (ASAP), the recipient agrees to the terms and conditions of an award.

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

I. Mandatory General Requirements

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

1. Applicability of 2 CFR Part 215

a. All provisions of 2 CFR Part 215 and all Standard Provisions attached to this grant/cooperative agreement are applicable to the Grantee and to sub-recipients which meet the definition of "Grantee" in Part 215, unless a section specifically excludes a sub-recipient from coverage. The Grantee and any sub-recipients must, in addition to the assurances made as part of the application, comply and require each of its sub-awardees employed in the completion of the project to comply with Subpart C of 2 CFR 215 Part 180 and include this term in lower-tier (subaward) covered transactions.

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

http://www.whitehouse.gov/omb/circulars/a133_compliance/08/08toc.aspx >

2. Award Package

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.

§ 215.41 Grantee responsibilities.

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

The standards contained in this section do not relieve the Grantee of the contractual responsibilities arising under its contract(s). The Grantee is the responsible authority, without recourse to the NRC, regarding the settlement and satisfaction of all contractual and

administrative issues arising out of procurements entered into in support of an award or other agreement. This includes disputes, claims, protests of award, source evaluation or other matters of a contractual nature. Matters concerning violation of statute are to be referred to such Federal, State or local authority as may have proper jurisdiction.

Subgrants

Appendix A to Part 215—Contract Provisions

Sub-recipients, sub-awardees, and contractors have no relationship with NRC under the terms of this grant/cooperative agreement. All required NRC approvals must be directed through the Grantee to NRC. See 2 CFR 215.180 and 215.41.

Nondiscrimination

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

No U.S. citizen or legal resident shall be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity funded by this award on the basis of race, color, national origin, age, religion, handicap, or sex. The Grantee agrees to comply with the non-discrimination requirements below:

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

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

Modifications/Prior Approval

NRC prior written approval may be required before a Grantee makes certain budget modifications or undertakes particular activities. If NRC approval is required for changes in the grant or cooperative agreement, it must be requested of, and obtained from, the NRC Grants Officer in advance of the change or obligation of funds. All requests for NRC prior approval must be made, in writing (which includes submission by e-mail), to the designated Grants Specialist and Program Office no later than 30 days before the proposed change. The request must be signed by both the PI and the authorized organizational official. Failure to obtain prior approval, when required, from the NRC Grants Officer may result in the disallowance of costs, termination of the award, or other enforcement action within NRC's authority.

Lobbying Restrictions

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

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

The Grantee receiving in excess of \$100,000 in Federal funding shall submit a completed Standard Form (SF) LLL, "Disclosure of Lobbying Activities," regarding the use of non-Federal funds for lobbying within 30 days following the end of the calendar quarter in which there occurs any event that requires disclosure or that materially affects the accuracy of the information contained in any disclosure form previously filed. The Grantee must submit the SF-LLL, including those received from sub-recipients, contractors, and subcontractors, to the Grants Officer.

§ 215.13 Debarment And Suspension.

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

- (1) Are presently excluded or disqualified from covered transactions by any Federal department or agency;
- (2) Have been convicted within the preceding three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, receiving stolen property, making false claims, or obstruction of justice; commission of any other offense indicating a lack of business integrity or business honesty that seriously and directly affects your present responsibility;
- (3) Are presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (1)(b); and
- (4) Have had one or more public transactions (Federal, State, or local) terminated for cause or default within the preceding three years.

b. The Grantee agrees that, unless authorized by the Grants Officer, it will not knowingly enter into any subgrant or contracts under this grant/cooperative agreement with a person or entity that is included on the Excluded Parties List System (<http://epls.arnet.gov>).

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

'Debarment, Suspension, Ineligibility, and Voluntary Exclusion

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

Drug-Free Workplace

The Grantee must be in compliance with The Federal Drug Free Workplace Act of 1988. The policies and procedures applicable to violations of these requirements are set forth in 41 USC 702.

Implementation of E.O. 13224 -- Executive Order On Terrorist Financing

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

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

Procurement Standards. § 215.40

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

Travel

Travel is an appropriate charge to this award and prior authorization for specific trips are not required, as long as the trip is identified in the Grantee's original program description and original budget. All other travel, domestic or international, must not increase the total estimated award amount. Trips that have not been identified in the approved budget require the written prior approval of the Grants Officer.

Travel will be in accordance with the US Government Travel Regulations at: www.gsa.gov/federaltravelregulation and the per diem rates set forth at: www.gsa.gov/perdiem.

Travel costs to the grant must be consistent with provisions as established in Appendix A to 2 CFR 220 (J.53)

Property Management Standards

Property standards of this award shall follow provisions as established in 2 CFR 215.30.

Equipment procedures shall follow provision established in 2 CFR 215.34.

Procurement Standards

Procurement standards of this award shall follow provisions as established in 2 CFR 215.40.

Intangible and Intellectual Property

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

Inventions Report - The Bayh-Dole Act (P.L. 96-517) affords Grantees the right to elect title and retain ownership to inventions they develop with funding under an NRC grant award ("subject inventions"). In accepting an award, the Grantee agrees to comply with applicable NRC policies, the Bayh-Dole Act, and its Government-wide implementing regulations found at Title 37, Code of Federal Regulations (CFR) Part 401. A significant part of the regulations require that the Grantee report all subject inventions to the awarding agency (NRC) as well as include an acknowledgement of federal support in any patents. NRC participates in the trans-government Interagency Edison system (<http://www.iedison.gov>) and expects NRC funding Grantees to use this system to comply with Bayh-Dole and related intellectual property reporting requirements. The system allows for Grantees to submit reports electronically via the Internet. In addition, the invention must be reported in continuation applications (competing or non-competing).

Patent Notification Procedures- Pursuant to EO 12889, NRC is required to notify the owner of any valid patent covering technology whenever the NRC or its financial assistance Grantees, without making a patent search, knows (or has demonstrable reasonable grounds to know) that technology covered by a valid United States patent has been or will be used without a license from the owner. To ensure proper notification, if the Grantee uses or has used patented technology under this award without license or permission from the owner, the Grantee must notify the Grants Officer. This notice does not necessarily mean that the Government authorizes and consents to any copyright or patent infringement occurring under the financial assistance.

Data, Databases, and Software - The rights to any work produced or purchased under a NRC federal financial assistance award are determined by 2 CFR 215.36. Such works may include data, databases or software. The Grantee owns any work produced or purchased under a NRC federal financial assistance award subject to NRC's right to obtain, reproduce, publish or otherwise use the work or authorize others to receive, reproduce, publish or otherwise use the data for Government purposes.

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

Records retention and access requirements for records of the Grantee shall follow established provisions in 2 CFR 215.53.

Organizational Prior Approval System

In order to carry out its responsibilities for monitoring project performance and for adhering to award terms and conditions, each Grantee organization shall have a system to ensure that appropriate authorized officials provide necessary organizational reviews and approvals in

advance of any action that would result in either the performance or modification of an NRC supported activity where prior approvals are required, including the obligation or expenditure of funds where the governing cost principles either prescribe conditions or require approvals.

The Grantee shall designate an appropriate official or officials to review and approve the actions requiring NRC prior approval. Preferably, the authorized official(s) should be the same official(s) who sign(s) or countersign(s) those types of requests that require prior approval by NRC. The authorized organization official(s) shall not be the principal investigator or any official having direct responsibility for the actual conduct of the project, or a subordinate of such individual.

Conflict Of Interest Standards of this award shall follow provisions as established in 2 CFR 215.42 Codes of Conduct.

Dispute Review Procedures

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

Termination and Enforcement. Termination of this award by default or by mutual consent shall follow provisions as established in 2 CFR 215.60.

Monitoring and Reporting § 215.51

- a. Grantee Financial Management systems must comply with the established provisions in 2 CFR 215.21
 - Payment – 2 CFR 215.22
 - Cost Share – 2 CFR 215.23
 - Program Income – 2 CFR 215.24

- Earned program income, if any, shall be added to funds committed to the project by the NRC and Grantee and used to further eligible project or program objectives.
- Budget Revision – 2 CFR 215.25
 - In accordance with 2 CFR 215.25(e), the NRC waives the prior approval requirement for items identified in sub-part (e)(1-4).
 - The Grantee is not authorized to rebudget between direct costs and indirect costs without written approval of the Grants Officer.
 - Allowable Costs – 2 CFR 215.27

b. Federal Financial Reports

Effective October 1, 2008, NRC transitioned from the SF-269, SF-269A, SF-272, and SF-272A to the Federal Financial Report (SF-425) as required by OMB:

http://www.whitehouse.gov/omb/fedreg/2008/081308_ffr.pdf

http://www.whitehouse.gov/omb/grants/standard_forms/ffr.pdf

http://www.whitehouse.gov/omb/grants/standard_forms/ffr_instructions.pdf

The Grantee shall submit a “Federal Financial Report” (SF-425) on a quarterly basis for the periods ending 3/31, 6/30, 9/30, and 12/31 or any portion thereof, unless otherwise specified in a special award condition. Reports are due no later than 30 days following the end of each reporting period. A final SF-425 shall be submitted within 90 days after expiration of the award.

Period of Availability of Funds 2 CFR § 215.28

a. Where a funding period is specified, a Grantee may charge to the grant only allowable costs resulting from obligations incurred during the funding period and any pre-award costs authorized by the NRC.

b. Unless otherwise authorized in 2 CFR 215.25(e)(2) or a special award condition, any extension of the award period can only be authorized by the Grants Officer in writing. Verbal or written assurances of funding from other than the Grants Officer shall not constitute authority to obligate funds for programmatic activities beyond the expiration date.

c. The NRC has no obligation to provide any additional prospective or incremental funding. Any modification of the award to increase funding and to extend the period of performance is at the sole discretion of the NRC.

d. Requests for extensions to the period of performance shall be sent to the Grants Officer at least 30 days prior to the grant/cooperative agreement expiration date. Any request for extension after the expiration date shall not be honored.

Automated Standard Application For Payments (ASAP) Procedures

Unless otherwise provided for in the award document, payments under this award will be made using the Department of Treasury’s Automated Standard Application for Payment (ASAP) system < <http://www.fms.treas.gov/asap/> >. Under the ASAP system, payments are made through preauthorized electronic funds transfers, in accordance with the requirements of the Debt Collection Improvement Act of 1996. In order to receive payments under ASAP, Grantees are required to enroll with the Department of Treasury, Financial Management Service, and Regional Financial Centers, which allows them to use the on-line method of withdrawing funds from their ASAP established accounts. The following information will be required to make

withdrawals under ASAP: (1) ASAP account number – the award number found on the cover sheet of the award; (2) Agency Location Code (ALC) – 31000001; and Region Code. Grantees enrolled in the ASAP system do not need to submit a “Request for Advance or Reimbursement” (SF-270), for payments relating to their award.

Audit Requirements

Organization-wide or program-specific audits shall be performed in accordance with the Single Audit Act Amendments of 1996, as implemented by OMB Circular A-133, “Audits of States, Local Governments, and Non-Profit Organizations.”

<http://www.whitehouse.gov/omb/circulars/a133/a133.html> Grantees are subject to the provisions of OMB Circular A-133 if they expend \$500,000 or more in a year in Federal awards.

The Form SF-SAC and the Single Audit Reporting packages for fiscal periods ending on or after January 1, 2008 must be submitted online.

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

Organizations expending less than \$500,000 a year are not required to have an annual audit for that year but must make their grant-related records available to NRC or other designated officials for review or audit.

III. Programmatic Requirements

Performance (Technical) Reports

a. The Grantee shall submit performance (technical) reports electronically to the NRC Project Officer and Grants Officer as specified in the special award conditions in the same frequency as the Federal Financial Report unless otherwise authorized by the Grants Officer.

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

c. The submission for the six month period ending March 31st is due by April 30th. The submission for the six month period ending September 30th is due by October 31st.

Unsatisfactory Performance

Failure to perform the work in accordance with the terms of the award and maintain at least a satisfactory performance rating or equivalent evaluation may result in designation of the Grantee as high risk and assignment of special award conditions or other further action as specified in the standard term and condition entitled “Termination”.

Failure to comply with any or all of the provisions of the award may have a negative impact on future funding by NRC and may be considered grounds for any or all of the following actions: establishment of an accounts receivable, withholding of payments under any NRC award, changing the method of payment from advance to reimbursement only, or the imposition of

other special award conditions, suspension of any NRC active awards, and termination of any NRC award.

Other Federal Awards With Similar Programmatic Activities

The Grantee shall immediately provide written notification to the NRC Project Officer and the Grants Officer in the event that, subsequent to receipt of the NRC award, other financial assistance is received to support or fund any portion of the program description incorporated into the NRC award. NRC will not pay for costs that are funded by other sources.

Prohibition Against Assignment By The Grantee

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

Site Visits

The NRC, through authorized representatives, has the right, at all reasonable times, to make site visits to review project accomplishments and management control systems and to provide such technical assistance as may be required. If any site visit is made by the NRC on the premises of the Grantee or contractor under an award, the Grantee shall provide and shall require his/her contractors to provide all reasonable facilities and assistance for the safety and convenience of the Government representative in the performance of their duties. All site visits and evaluations shall be performed in such a manner as will not unduly delay the work.

IV. Miscellaneous Requirements

Criminal and Prohibited Activities

- a. The Program Fraud Civil Remedies Act (31 USC §§ 3801-3812), provides for the imposition of civil penalties against persons who make false, fictitious, or fraudulent claims to the Federal government for money (including money representing grant/cooperative agreements, loans, or other benefits.)
- b. False statements (18 USC § 287), provides that whoever makes or presents any false, fictitious, or fraudulent statements, representations, or claims against the United States shall be subject to imprisonment of not more than five years and shall be subject to a fine in the amount provided by 18 USC § 287.
- c. False Claims Act (31 USC 3729 et seq), provides that suits under this Act can be brought by the government, or a person on behalf of the government, for false claims under federal assistance programs.
- d. Copeland "Anti-Kickback" Act (18 USC § 874), prohibits a person or organization engaged in a federally supported project from enticing an employee working on the project from giving up a part of his compensation under an employment contract.

American-Made Equipment And Products

Grantees are hereby notified that they are encouraged, to the greatest extent practicable, to purchase American-made equipment and products with funding provided under this award.

Increasing Seat Belt Use in the United States

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

Federal Employee Expenses

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

Minority Serving Institutions (MSIs) Initiative

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

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

Research Misconduct

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

Publications, Videos, and Acknowledgment of Sponsorship

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

"This [report/video] was prepared by [Grantee name] under award [number] from [name of operating unit], Nuclear Regulatory Commission. The statements, findings, conclusions,

and recommendations are those of the author(s) and do not necessarily reflect the view of the [name of operating unit] or the US Nuclear Regulatory Commission.”

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