INTERAGENCY AGREEMENT	1. IAA NO: NRC-HQ-60-16-I-0003	PAGE 1 OF 2
2. ORDER NO	3. REQUISITION NO: RES-16-0086	4. SOLICITATION NO
5. EFFECTIVE DATE: 06/10/2016	6. AWARD DATE: 06/10/2016	7. PERIOD OF PERFORMANCE: 09/01/2016 TO 04/30/2020

8. SERVICING AGENCY
NATIONAL INSTITUTE OF STANDARDS TECHNOLOGY
ALC: 13960001
DUNS: 929956050 +4:
NATIONAL INSTITUTE OF STANDARDS TECHNOLOGY
US DEPARTMENT OF COMMERCE
100 BUREAU DRIVE
GAITHERSBURG MD 20899-0001

POC: SHARON RINEHART
TELEPHONE NO.: 301-975-5876

9. DELIVER TO
US NUCLEAR REGULATORY COMMISSION
11555 ROCKVILLE PIKE
ATTN SHIVANI MEHTA
MAIL STOP T-10A12
ROCKVILLE MD 20852-2738

10. REQUESTING AGENCY
ACQUISITION MANAGEMENT DIVISION
ALC: 31000001
DUNS: 040535809 +4:
US NUCLEAR REGULATORY COMMISSION
ONE WHITE FLINT NORTH
11555 ROCKVILLE PIKE
ROCKVILLE MD 20852-2738

POC: MICHAEL TURNER
TELEPHONE NO.: 301-415-6712

11. INVOICE OFFICE
US NUCLEAR REGULATORY COMMISSION
ONE WHITE FLINT NORTH
11555 ROCKVILLE PIKE
MAILSTOP O3-E17A
ROCKVILLE MD 20852-2738

12. ISSUING OFFICE
US NRC - HQ
ACQUISITION MANAGEMENT DIVISION
MAIL STOP TWFN-5E03
WASHINGTON DC 20555-0001

13. LEGISLATIVE AUTHORITY
Energy Reorganization Act of 1974

14. PROJECT ID

15. PROJECT TITLE
EVALUATION OF FIRE-INDUCED EFFECTS WITHIN ELECTRI

16. ACCOUNTING DATA
2016-X0200-FEEBASED-60-60.0002-11-6-213-1013-253A

17. ITEM NO.	18. SUPPLIES/SERVICES	19. QUANTITY	20. UNIT	21. UNIT PRICE	22. AMOUNT
	Agreement Number: NRC-HQ-60-16-I-0003 The Nuclear Regulatory Commission and the National Institute of Standards and Technology hereby enter into this Agreement for the project entitled "Evaluation of Fire-Induced Effects Within Electrical Enclosures." Authorized Cost Ceiling Continued ...				$872,690.00

23. PAYMENT PROVISIONS

24. TOTAL AMOUNT
$872,690.00

25a. SIGNATURE OF GOVERNMENT REPRESENTATIVE (SERVICING) 14 Jul 2016

25b. NAME AND TITLE
Nelson Bryner, Acting Div Chief

25c. DATE
7/14/2016

26a. SIGNATURE OF GOVERNMENT REPRESENTATIVE (REQUESTING)

26b. CONTRACTING OFFICER
MICHAEL A. TURNER

26c. DATE
6/10/2016

TEMPLATE - ADM001

SUNSI REVIEW COMPLETE SEP 16 2016

ADM002

The apportionment of funds obligated in the amount of $872,690.00 shall be used to fund Tasks 1-9. This increment includes:
-funding for Task 1 in the amount of $50,000
-funding for Task 2 in the amount of $80,000
-funding for Task 3 in the amount of $100,000
-funding for Task 4 in the amount of $40,000
-funding for Task 5 in the amount of $50,000
-funding for Task 6 in the amount of $202,690
-funding for Task 7 in the amount of $225,000
-funding for Task 8 in the amount of $75,000
-funding for Task 9 in the amount of $50,000

Notwithstanding the agreement effective dates and period of performance start dates stated elsewhere in the agreement, the effective date of the agreement and start date of the period of performance are the last date of signature by the parties.

The following documents are hereby made part of this Agreement:

Attachment No. 1: Statement of Work
Attachment No. 2: NRC/NIST Standard Terms and Conditions

ADVANCE PAYMENT IS AUTHORIZED

NRC REQUIRES MONTHLY FINANCIAL STATUS REPORTS

NIST PI: Thomas Cleary
NRC COR: Shivani Mehta

The total amount of award: $872,690.00. The obligation for this award is shown in box 24.

Attachment 1

STATEMENT OF WORK

Evaluation of Fire-Induced Effects Within Electrical Enclosures

1.0 BACKGROUND

Fires in nuclear power plants can pose a potential risk to the safety and control of reactor systems and ultimately public safety. Since the 1975 Browns Ferry Fire, numerous efforts have been undertaken both by the regulator and the utilities to reduce the occurrence and consequences of fire effects to plant safe operation. In addition, much research has been conducted to better understand the performance of various fire protection features and the fire effect on components. Today, there are two distinct but different approaches for achieving regulatory compliance; namely deterministic and performance-based. Both approaches required a fundamental understanding of the fire threat to adequately protect from its effects. Recently, the Nuclear Regulatory Commission (NRC) in cooperation with the Electric Power Research Institute (EPRI) conducted a joint expert panel exercise to better understand fire-induced electrical circuit failure as a result of fire damage to cables. This effort is documented in NUREG/CR-7150, Volume 1, "Joint Assessment of Cable Damage and Quantification of Effects from Fire (JACQUE-FIRE)." In this report, a Phenomena Identification and Ranking Table (PIRT) exercised was conducted. This effort involved a group of experts identifying and ranking a list of phenomena that can affect the circuit failure modes from fire-induced cable damage. The PIRT panel identified and developed circuit configurations that would be vulnerable to hot short circuit failure modes of concern that can cause certain end devices to operate spuriously. Although the emphasis was on control circuits, the panel also ranked panel wiring (wiring used within an electrical cabinet) as having a high impact on an on the likelihood of hot short-induced spurious operation and the duration of a spurious operation. This ranking was specifically assigned because there is a lack of applicable test data and the potential risk importance. The report concluded with recommendations which identified panel wiring as an area for further research.

Overall, the PIRT panel believed that shorting of conductors in panel wiring conductor bundles could behave similarly to either intra-cable or inter-cable shorting depending upon the proximity of the conductors and the tightness of their bundles. The PIRT panel believes that the probability of inter-conductor shorting within a bundle lies somewhere between the probabilities of an intra-cable and an intercable hot short. This probability is most likely affected by the configuration and tightness of the conductor bundles. The lack of test data for panels clearly is problematic when determining the true behavior of conductors or components in a panel. Hence, it is important to determine bounding characteristics for panel configuration.
Panel wiring is ubiquitous in NPPs and unique compared to the cables used in general field-routing applications. Field-routing is dominated by multi-conductor cables. In contrast, panel wiring is comprised of both multi-conductor cables, and single conductor cables. In a typical configuration, multi-conductor field routing cables enter/exit the cabinet, usually through either its top or bottom, and each conductor (possibly excepting spare conductors) is terminated either directly onto a specific end device, to ground, or, quite commonly, to a terminal strip mounted within the cabinet. For the conductor termination, a section of the multi-conductor cable jacket will be removed (stripped). Single insulated, non-jacketed conductors are commonly used within a cabinet to connect the field routed cable conductors to their end devices, and for inter-device connections within the cabinet. The configurations used in single conductor-panel wiring

are expected to be wide ranging and may include individual conductors routed somewhat loosely through a panel, conductor bundles routed in metal or plastic wire-ways (e.g., Panduit®), bundles of conductors secured with nylon wire ties (zip-ties), and bundles secured with rigid metal- or plastic-retaining loop clamps.

This project will focus on developing data and information related to panel wiring for determining the types and likelihood of failure modes occurring for numerous panel wiring configurations. The results of this research will be used to advance the methods used to quantify fire risk in fire PRAs and to update regulatory guides and other regulatory documents (as needed) to ensure that NPPs are adequately designed to protect the public's health and safety from the effects of fire.

2.0 OBJECTIVE

The objective of the research is to develop data on the failure modes of panel wiring under a severe fire environment. This includes working with experts and technicians to prepare and/ or procure test samples, procure equipment to support testing, conduct tests, and document results, the National Institute of Standards and Technology (NIST) will provide technical assistance to support an evaluation of the fire-induced effect to electrical equipment within an NPP.

3.0 SCOPE OF WORK/TASKS

NIST will provide all resources necessary to accomplish the tasks and deliverables described below. In general, specific tasks here include developing test plans, procuring tests samples, performing fire tests, and providing data. As specified below, NUREG/CR reports, documenting these efforts, will be prepared following NRC publication requirements. The specific tasks are explained below.

- NIST will provide knowledgeable individuals within the NIST when developing test plans
- The project is expected to have several planning and on-going periodic meetings and NIST is expected to support these meetings,
- If the NRC decides to involve external parties in the test program (such as EPRI), NIST will support to the extent possible and partible their involvement with the project (e.g., site visits). The NRC COR shall be the POC for all external parties.

4.0 SPECIFIC TASKS

NIST will perform the following tasks:

TASK 1. Assist in test plan development (small scale)
Under this Task, NIST will assist NRC in developing a test plan for small scale experiments for approval. The Test Plan will provide a detailed description of how the testing will be conducted, including:

- what facilities will be used,
- what panel configurations will be tested,
- how the thermal environment will be monitored and observed,

- how electrical failure modes will be monitored and observed,
- what fire size and ventilation conditions the individual tests are designed to evaluate,
- data acquisition, and
- any aspect of the test that NIST determines to be important in characterizing the test and/or possible effect on results.

Estimated Completion Dates:	Provide draft test plan	6 months after award
	Provide final test plan	1 month after receiving NRC comments
Dollar Amount:	$50,000	

TASK 2. Procure Materials and Perform Pre-test Preparation Work (small scale)
Under this Task, NIST will prepare for testing in accordance with the approved test plan. NIST will procure and prepare test samples (e.g., cabinets, internal wireways, etc. In the case that samples must be prepared from individual components, NIST will procure the necessary items, including any equipment required for assembly. NIST will procure equipment (e.g., instrumentation, DAQ, etc.) to complete testing.

Estimated Completion Dates:	Procure Materials	4 months after Test Plan Complete
	Perform Pre-Test Work	6 months after Test Plan Final Complete
Dollar Amount:	$80,000	

TASK 3. Conduct testing (small scale)
Upon notice from the NRC COR, NIST will perform the testing in accordance with the approved test plan. Experiments will be conducted in the laboratory space in building 224 on the NIST Gaithersburg campus. Any deviations from the test plan shall be communicated to the NRC COR, agreed to and documented in an email or other acceptable form.

Estimated Completion Dates:	Complete Small Scale Testing	8 months after Task 2 Complete
Dollar Amount:	$100,000	

TASK 4. Provide data and photographs and videos from small scale tests (Task 3)
Under this task, NIST will deliver a data report, including photos and videos. The report shall include:

- Any environmental conditions (temperature, pressure, etc.) measured during the tests,
- Any data recorded by the data acquisition systems, and
- Any algorithms required to decipher the data.

The data shall be provided in electronic format, compatible with Microsoft® Excel®. All photos and videos will be delivered in electronic format in the standard format for the devices used.

Estimated Completion Date:	Provide raw test results	Ongoing; Every six (6) weeks during testing in Task 3
	Provide complete set of results and images	2 months from end Task 3
Dollar Amount:	$40,000	

TASK 5. Assist in test plan development (large scale)
Under this Task, NIST will develop a test plan for large scale experiments for approval. The NRC will provide comments to on the draft plan within four (4) months of receipt. The Test Plan will provide a detailed description of how the testing will be conducted, including:

- what facilities will be used,
- what panel configurations will be tested,
- how the thermal environment will be monitored and observed,
- how electrical failure modes will be monitored and observed,
- what fire size and ventilation conditions the individual tests are designed to evaluate,
- data acquisition, and
- any aspect of the test that NIST determines to be important in characterizing the test and/or possible effect on results.

Estimated Completion Dates:	Provide draft test plan	2 months after Task 4 complete
	Provide final test plan	1 month after receiving NRC comments
Dollar Amount:	$50,000	

TASK 6. Procure Materials and Perform Pre-test Preparation Work (large scale)
Under this Task, NIST will prepare for testing in accordance with the approved test plan. NIST shall procure and prepare test samples (e.g., cabinets, internal wireways, etc. In the case that samples must be prepared from individual components, NIST shall procure the necessary items, including any equipment required for assembly. NIST shall procure equipment (e.g., instrumentation, DAQ, etc.) to complete testing.

Estimated Completion Dates:	Procure Materials	4 months after Task 5 Complete
	Perform Pre-Test Work	6 months after Task 5 Complete
Dollar Amount:	$202,690	

TASK 7. Conduct testing (large scale)
Upon notice from the NRC COR, NIST shall perform the testing in accordance with the approved test plan. Experiments will be conducted in the National Fire Research Laboratory, building 205 on the NIST Gaithersburg campus. Any deviations from the test plan shall be communicated to the NRC COR, agreed to and documented in an email or other acceptable form.

Estimated Completion Date:	Complete Large Scale Testing	7 months after Task 6 Complete
Dollar Amount:	$225,000	

TASK 8. Provide data and photographs and videos from large scale tests (Task 7)
Under this task, NIST will deliver a data report, including photos and videos from the Large Scale tests. The report shall include:

- Any environmental conditions (temperature, pressure, etc.) measured during the tests,
- Any data recorded by the data acquisition systems, and
- Any algorithms required to decipher the data.

The data shall be provided in electronic format, compatible with Microsoft® Excel®. All photos and videos will be delivered in electronic format in the standard format for the devices used.

Estimated Completion Date:	Provide raw test results Provide complete set of results and images	Ongoing; Every six (6) weeks during testing in Task 7 2 months from end Task 7
Dollar Amount:	$75,000	

TASK 9. Documentation of Program Results
Under this Task, NIST shall assist NRC to document the results of the project in a technical report. NIST shall review the NRC use of data prior to publication to ensure that the data is used properly. The report format shall be a NUREG/CR – NISTIR unless otherwise agreed upon by the NRC COR.

Estimated Completion Date:	Provide comments on NRC report	3 months from receiving draft from NRC
Dollar Amount:	$50,000	

5.0 LIST OF DELIVERABLES

Task Number	**Deliverable/Milestone Description** (include NRC acceptance criteria if applicable)	Due Date (if any)
1a	Draft Test Plan (Small Scale)	6 months from award
1b	Final Test Plan (Small Scale)	1 months from NRC comments received
2a	Procure Materials (Small Scale)	4 months from approval of Task 1
2b	Perform Pre-Test Work for Small Scale Tests	6 months from approval of Task 1
3	Conduct Testing (Small Scale)	8 months from the completion of Task 2
4	Small Scale Data Report	2 months from the completion of Task 3
5a	Draft Test Plan (Large Scale)	2 months from Task 4 complete
5b	Final Test Plan (Large Scale)	1 months from NRC comments received
6a	Procure Materials (Large Scale)	4 months from approval of Task 5
6b	Perform Pre-Test Work for Large Scale Tests	6 months from approval of Task 5
7	Conduct Testing (Large scale)	7 months from the completion of Task 6
8	Large Scale Data Report	2 months from completion of Task 7
9	Documentation of Program Results	3 months from receiving draft from NRC

6.0 TECHNICAL AND OTHER SPECIAL QUALIFICATIONS REQUIRED

This work requires personnel highly experienced with planning and conducting large scale fire experiments, analyzing results from these experiments, and development of mathematical models of the associated phenomena.

The work requires staff with experience in the area of fire testing, cable design, electrical circuit failure modes and effects, and electrical instrumentation. Specific qualifications for this effort include an electrical engineer with field testing experience. That engineer should be familiar with the work conducted by SNL as documented in NUREG/CR-6776, NUREG/CR-6931, NUREG/CR-7100 and NUREG/CR-7150. That engineer should also be familiar with nuclear power plant main control board internal wiring configurations.

7.0 CONTRACTING OFFICER REPRESENTATIVE (COR)

The NRC Contracting Officer's Representative (COR), as named below is responsible for ensuring that the services required under this project are delivered in accordance with the terms of the SOW. All technical direction instructions to the Servicing agency must be issued through the COR.

Technical direction includes interpreting technical specifications, providing needed details, and suggesting possible lines of inquiry. Technical direction must not constitute new work or affect overall project cost or period of performance. Technical direction must be confirmed in writing to the servicing agency with a copy provided to the cognizant NRC Contracting Officer (CO).

Contracting Officer's Representative
Name: Shivani Mehta
Agency: U.S. Nuclear Regulatory Commission
Office: T-10A24
Mail Stop: T-10A12
Washington, DC 20555-0001
E-Mail: Shivani.Mehta@nrc.gov
Phone: 301.415.0860

Alternate Contracting Officer's Representative
Name: Gabriel Taylor
Agency: U.S. Nuclear Regulatory Commission
Office: T-10A17
Mail Stop:T-10A12
Washington, DC 20555-0001
E-Mail: Gabriel.Taylor@nrc.gov
Phone: 301.415.0781

8.0 KEY PERSONNEL

Mr. Thomas G. Cleary
Mr. Scott Bareham

9.0 MEETINGS AND TRAVEL

No domestic or foreign travel is anticipated for completion of this work.

10.0 REQUIRED MATERIALS, FACILITIES, HARDWARE/SOFTWARE

Specific test materials will be identified, approved, and procured as part of Tasks 2 and 6 in this proposal.

11.0 NRC-FURNISHED PROPERTY/MATERIALS

NRC-Furnished Property/Material	Quantity	Date provided to Servicing Agency
Surrogate Circuit Diagnostic Units (SCDUs) developed by SNL for NRC	1	Provided when necessary
Insulation Resistance Measurement System (IRMS) developed by SNL for NRC	1	Provided when necessary

12.0 REPORTING REQUIREMENTS AND SCHEDULE

The servicing agency is responsible for structuring the deliverable to follow agency standards. The current agency standard is Microsoft Office Suite 2010. The current agency Portable Document Format (PDF) standard is Adobe Acrobat 9 Professional. Deliverables must be submitted free of spelling and grammatical errors and conform to requirements stated in this section. In addition to the reports described under, "Deliverables/Schedules and/or Milestones', NIST shall comply with the following reporting requirements.

12.1 Monthly Letter Status Report

A Monthly Letter Status Report (MLSR) is to be submitted to the NRC COR by the 20th of the month following the month to be reported with copies provided to the following:

Gabriel Taylor	Gabriel.Taylor@nrc.gov
Acquisition Management Division	ContractsPOT.Resource@nrc.gov
RESDRAMLSR	RESDRAMLSR.Resource@nrc.gov

The MLSR will identify the title of the project, the Agreement Number, the Principal Investigator, the period of performance, the reporting period, summarize each month's technical progress, list monthly spending, total spending to date, and the remaining funds and will contain information as directed in NRC Management Directive 11.8, Exhibit 5 (dated March 2, 2007). Any administrative or technical difficulties which may affect the schedule or costs of the project shall be immediately brought to the attention of the NRC COR.

13.0 PERIOD OF PERFORMANCE

[LEFT BLANK INTENTIONALLY]

NRC/NIST STANDARD TERMS AND CONDITIONS

RESEARCH QUALITY

The quality of NRC research programs are assessed each year by the Advisory Committee on Reactor Safeguards. Within the context of their reviews of RES programs, the definition of quality research is based upon several major characteristics:

Results meet the objectives (75% of overall score)
- Justification of major assumptions (12%)
- Soundness of technical approach and results (52%)
- Uncertainties and sensitivities addressed (11%)

Documentation of research results and methods is adequate (25% of overall score)
- Clarity of presentation (16%)
- Identification of major assumptions (9%)

It is the responsibility of NIST to ensure that these quality criteria are adequately addressed throughout the course of the research that is performed. The NRC Contracting Officer's Representative (COR) will review all research products with these criteria in mind.

NEW STANDARDS FOR CONTRACTORS WHO PREPARE NUREG-SERIES MANUSCRIPTS

The U.S. Nuclear Regulatory Commission (NRC) began to capture most of its official records electronically on January 1, 2000. The NRC will capture each final NUREG-series publication in its native application. Therefore, please submit your final manuscript that has been approved by your NRC COR in both electronic and camera-ready copy.

The final manuscript shall be of archival quality and comply with the requirements of NRC Management Directive 3.7 "NUREG-Series Publications." The document shall be technically edited consistent with NUREG–1379, Rev. 2 (May 2009) "NRC Editorial Style Guide." The goals of the "NRC Editorial Style Guide" are readability and consistency for all agency documents.

All format guidance, as specified in NUREG-0650, Revision 2, will remain the same with one exception. You will no longer be required to include the NUREG-series designator on the bottom of each page of the manuscript. The NRC will assign this designator when we send the camera-ready copy to the printer and will place the designator on the cover, title page, and spine. The designator for each report will no longer be assigned when the decision to prepare a publication is made. The NRC's Publishing Services Branch will inform the NRC COR for the publication of the assigned designator when the final manuscript is sent to the printer.

For the electronic manuscript, the Contractor shall prepare the text in Microsoft Word, and use any of the following file types for charts, spreadsheets, and the like.

File Types to be Used for NUREG-Series Publications	
File Type	File Extension
Microsoft®Word®	.doc
Microsoft® PowerPoint®	.ppt
Microsoft®Excel	.xls
Microsoft®Access	.mdb
Portable Document Format	.pdf

This list is subject to change if new software packages come into common use at NRC or by our licensees or other stakeholders that participate in the electronic submission process. If a portion of your manuscript is from another source and you cannot obtain an acceptable electronic file type for this portion (e.g., an appendix from an old publication), the NRC can, if necessary, create a tagged image file format (file extension.tif) for that portion of your report. Note that you should continue to submit original photographs, which will be scanned, since digitized photographs do not print well.

If you choose to publish a compact disk (CD) of your publication, place on the CD copies of the manuscript in both (1) a portable document format (PDF); (2) a Microsoft Word file format, and (3) an Adobe Acrobat Reader, or, alternatively, print instructions for obtaining a free copy of Adobe Acrobat Reader on the back cover insert of the jewel box.

DISSEMINATION OF PROJECT INFORMATION/PUBLICATION REQUIREMENTS

Prior to any dissemination, display, publication, presentation, or release of papers, articles, reports, summaries, or abstracts developed under the NRC/NIST Agreement, NIST/NIST Laboratory shall submit them to the NRC for review and comment. NRC shall have a review and comment period of at least [60] days, after which both an NRC and NIST/NIST Laboratory representative at the lowest management level, shall attempt to resolve any differing viewpoints or statements which are the subject of NRC objection. If the matter cannot be resolved at that level, the issue shall be brought up to the next management level in both organizations until an agreement can be reached or it reaches the Office Director level. In the event resolution cannot be achieved, the NIST/NIST Laboratory will not publish the work as a NUREG/CR, but publish as a NIST/ NIST Laboratory report without reference to NRC, the NRC office name or COR's name on the report.

ACQUIRED MATERIAL, EQUIPMENT, OR SOFTWARE (PROPERTY)

In accordance with Management Directive 11.8, Part V, Section F, the Servicing Agency's proposal must include a description of the property required for project performance that has an estimated acquisition cost of $500 or more. The proposal must also identify the potential development of NRC-funded software with a useful life of 2 years or more and a development

cost of $500 or more during the project. NRC-funded software is software specifically developed for NRC by the laboratory and is generally the deliverable for the project.

After the NRC reviews the list of property and NRC-funded software included in the Servicing Agency's proposal, any questions regarding the acquisition of property or the development of NRC funded software will be addressed with the laboratory during negotiations. After negotiating project terms and conditions, NRC shall issue an "Interagency Agreement," authorizing the work and approving acquisition of property or development of NRC-funded software.

The Servicing Agency shall submit a written request to the NRC COR for approval to develop additional NRC-funded software or purchase additional property with an estimated acquisition cost of $500 or more after work initiation. The NRC COR shall approve or disapprove the acquisition or development of any additional items in writing.

The Servicing Agency shall report property, including software, with an acquisition cost of $500 or more in the monthly letter status report in the month the property or software was acquired. The Servicing Agency shall provide a copy of all monthly letter status reports to the regular distribution. The Servicing Agency shall provide the information listed in Management Directive 11.8, Part V, Section C, for each item reported as appropriate, in the monthly letter status report.

ORGANIZATIONAL CONFLICT OF INTEREST REPRESENTATION AND DISCLOSURE

NIST recognizes that Section 170A of the Atomic Energy Act of 1954, as amended, requires that NRC be provided with disclosures on potential conflicts when NRC obtains technical, consulting, research and other support services. NIST further recognizes that the assignment of NRC work to another Agency must satisfy NRC's conflicts standards. In accordance with 42 U.S.C.§ 2210a, NIST has disclosed present and currently planned agreements and arrangements with others (meaning, persons and Government agencies as defined in 42 U.S.C. § 2014 including NRC licensees, vendors, industry groups or research institutes that represent or are substantially comprised of nuclear utilities) and represents that NIST is presently not involved in situations or relationships with others in the same/similar technical area as the NRC project scope of work identified in this interagency agreement that would either (a) preclude NIST from being able to provide impartial, technically sound, or objective advice or assistance in light of other activities or relationships with others, or (2) give NIST an unfair competitive advantage with respect to present and currently planned agreements and arrangements with others.

NIST further recognizes that the performance of NRC work by NIST must satisfy NRC's conflicts standards and that the obligation to conform to the NRC's conflicts standards continues throughout the duration of this interagency agreement. Accordingly, during the life of this agreement, NIST shall review and promptly disclose its current work and planned work for others (meaning, persons and Government agencies as defined in 42 U.S.C. § 2014 including NRC licensees, vendors, industry groups or research institutes that represent or are substantially comprised of nuclear utilities) in the same/similar technical area as the NRC project scope of work identified in this interagency agreement.

NIST agrees to include provisions effecting the disclosure of any such potential conflicts of interest to NIST in any contracts or other agreements into which NIST enters for assistance in providing the service to NRC. NIST will disclose to NRC any potential conflicts of which it is made aware under the terms of those contracts or other agreements.

Disclosures for current or planned work for NIST or others in the same or similar technical area as the proposed work, are to include the following information: (1) the name of organization; (2) dollar value; (3) period of performance of the work identified; and (4) statements of work for the projects. Within 30 days of NIST disclosure, NRC shall then determine whether a conflict would result and, if one does, determine, after consultation with NIST, the appropriate action NRC or NIST should take to avoid the conflict, or when appropriate under the NRC procedures, waive the conflict. If NIST determines there is no applicable work in the same or similar technical area, it should be stated in its proposal.

TERMINATING THE AGREEMENT

Any party may terminate this agreement by providing 30 days written notice to the other party. If NRC terminates the agreement, NIST is authorized to collect costs incurred prior to cancellation of the order plus any termination costs, up to the total value of the agreement.

COST RECOVERY

NIST will be reimbursed for all costs incurred.

ACCOUNTING INFORMATION

	NIST	*NRC*
Agency Location Code (ALC)	13 06 0001	3100001
Funding Expiration Date (requesting agency)		No –Year Funds
Business Event Type Code (BETC)	COLL	DISB
Business Partner Network Number (BPN)	929956050	040535809
Additional Accounting Classification /Information (Optional)	Funding Agency Code: 1341	Funding Agency Code: 3100

Treasury Account Symbol (TAS) in Central Accounting System (CARS) format:

Component TAS	SP	ATA	AID	BPOA	EPOA	A	Main	Sub
NIST			013			X	4650	000
NRC			031			X	0200	000

AUTHORITIES

The NRC is acting pursuant to authority conferred in the Energy Reorganization Act of 1974, 42, U.S.C. 5801 et seq. (42 U.S.C. Section 5845 (b), (c), and (e)). Section 205(c) of the Energy Reorganization Act of 1974 (42 U.S.C. 5845(c)(2)) authorizes the NRC to request form other Federal agencies that they furnish, on a reimbursable basis, such research services as the NRC deems necessary for the conduct of its functions.

NIST's programmatic authority for undertaking this work is (Need to cite correct NIST programmatic authority depending on the type of work) 15 U.S.C. 278f.

DISPUTES RESOLUTION

Should disagreements arise on the interpretation of the provisions of this agreement or amendments and/or revisions thereto, that cannot be resolved at the operating level, the areas(s) of disagreement shall be stated in writing by each party and presented to the other party for consideration. If agreement or interpretation is not reached within 30 days, the parties shall forward the written presentation of the disagreement to respective higher officials for appropriate resolution. If a dispute related to funding remains unresolved for more than 30 calendar days after the parties have engaged in an escalation of the dispute, the dispute shall be resolved in accordance with instructions provided in the Treasury Financial Manual (TFM) Volume 1, Part 2, Chapter 4700, Appendix 10, available at http://www.fms.treas.gov/tfm/index.html.

NIST CONTRACTS, GRANTS, AND FELLOWSHIPS

(a.) No NIST contractors will perform work under this agreement.

(b.) No students or U.S. citizens working under a NIST financial assistance award made under the authority of 15 U.S.C. § 278g-1 will perform work under this agreement.

(c) No employees or agents of recipients working under a NIST financial assistance award will perform work under this agreement.