

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>		BPA NO.	1. CONTRACT ID CODE	PAGE 1	OF PAGES 1
2. AMENDMENT/MODIFICATION NO. 001	3. EFFECTIVE DATE 09/14/2005	4. REQUISITION/PURCHASE REQ. NO. OIG-05-348	5. PROJECT NO. (If applicable)		
6. ISSUED BY U.S. Nuclear Regulatory Commission Division of Contracts Attn: Contract Management Branch 2 Mail Stop T-7-I-2 Washington, DC 20555		7. ADMINISTERED BY (If other than Item 6) U.S. Nuclear Regulatory Commission Division of Contracts Mail Stop T-7-I-2 Washington, DC 20555		3100	

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)	(X)	9A. AMENDMENT OF SOLICITATION NO.
SCIENTECH LLC		
200 S WOODRUFF AVE		9B. DATED (SEE ITEM 11)
IDAHO FALLS ID 834011433		
CODE 113395057	FACILITY CODE	10A. MODIFICATION OF CONTRACT/ORDER NO. NRC-36-05-348
		10B. DATED (SEE ITEM 13) 09-13-2005

### 11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended, ☐ is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing Items 8 and 15, and returning \_\_\_\_\_ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required) N/A

### 13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

(X)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
X	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: Mutual Agreement Between the Parties
	D. OTHER (Specify type of modification and authority)

**E. IMPORTANT:** Contractor ☐ is not, ☒ is required to sign this document and return two copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

The purpose of this modification is to modify the Statement of Work dated 9/12/05 to revise the completion date and the type of deliverable for Task 1, and to modify the completion date for optional Tasks 2 through 7. Accordingly, the Statement of Work dated September 12, 2005, is deleted entirely and replaced with the attached Statement of Work dated September 14, 2005. All other terms and conditions remain the same.

Except as provided herein, all terms and conditions of the document referenced in Item 8A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print) Joanne Quarstrom Contracts Mgr	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Stephen M. Pool Contracting Officer
15B. CONTRACTOR/OFFEROR <i>(Signature)</i> (Signature of person authorized to sign)	16B. UNITED STATES OF AMERICA BY <i>(Signature)</i> (Signature of Contracting Officer)
15C. DATE SIGNED 9-14-05	16C. DATE SIGNED 9/14/05

STANDARD FORM 30 (REV. 10-83)

TEMPLATE - ADM001

SISP REVIEW COMPLETE

ADM002

Modification No. 01 to NRC-36-05-348 modifies the Statement of Work (SOW) dated 9/12/05 to: (1) specify the completion date and the type of deliverable for Task 1, and (2) modify the completion date for optional Tasks 2 through 7. This SOW replaces the SOW dated 9/12/05 in its entirety.

**ATTACHMENT J.2**  
**STATEMENT OF WORK**  
**AUDIT OF NRC'S USE OF PROBABILISTIC RISK ASSESSMENT (PRA)**  
**IN REGULATING THE COMMERCIAL NUCLEAR POWER INDUSTRY**

**C.1. BACKGROUND**

The mission of the U.S. Nuclear Regulation Commission (NRC) is to regulate the Nation's civilian use of byproduct, source, and special nuclear materials to ensure adequate protection of public health and safety, and to promote the common defense and security, and to protect the environment. Within the NRC, the Office of the Inspector General (OIG) serves as an independent and objective unit to conduct and supervise audits, and conduct investigations relating to NRC's programs and operations. OIG's personnel, contracting, and budget authority are independent of that of the NRC. The purpose of OIG's audits and investigations is to prevent and detect fraud, waste, abuse, and mismanagement, and promote economy, efficiency, and effectiveness in NRC programs and operations. More specifically, the Audit component covers the management and financial operations, the economy or efficiency with which an organization, program, or function is managed, and the program results achieved. The overall objective of an audit is to identify ways to enhance Agency operations and promote greater economy and efficiency.

OIG's Audit component is initiating an audit of NRC's probabilistic risk assessment (PRA) program pertaining to commercial nuclear power reactors. NRC's PRA policy statement reflects a commitment to increasing the use of PRA technology in all regulatory matters to the extent supported by the "state-of-the-art" in PRA methods and data, and in a manner that complements the NRC's deterministic approach and supports the NRC's traditional defense-in-depth philosophy. Implementation of this policy statement is expected to improve regulation through the following three objectives: (1) incorporate PRA insights in regulatory decisions, (2) conserve agency resources, and (3) reduce unnecessary regulatory burden on licensees.

## **C.2. CONTRACT OBJECTIVES**

NRC is seeking Contractor services to fully assess NRC's PRA program for regulating commercial nuclear power plants. The objectives of this contract are to (1) define state-of-the-art PRA methods and data, (2) determine if NRC is using current state-of-the-art PRA methods and data, (3) determine if NRC is using PRA methods and data appropriately in its regulation of licensees, given the current state-of-the-art in the technology, and (4) determine if NRC is achieving the objectives of its PRA policy statement. The Contractor shall provide assessments of PRA work products, technology, and processes used by the NRC (the Agency) in the regulatory program for commercial nuclear power plant licensees. The Contractor shall identify problems that exist and make recommendations for corrective actions. To accomplish this, OIG requires the services of a Contractor with expertise in PRA methodology in all regulatory matters pertaining to commercial nuclear power reactors.

## **C.3. SCOPE OF WORK**

The overall scope of work is to perform an assessment of NRC's PRA program for regulating commercial nuclear power plants. All tasks in this statement of work shall be completed with respect to NRC identified programs.

Some of the information reviewed may be characterized by the NRC as sensitive but unclassified information. No national security systems will be included in this statement of work.

The Contractor shall conduct an assessment of NRC's regulatory program, policies, and practices that utilize PRA in the Agency's regulation of commercial nuclear power plants. This assessment shall include the following:

- preparing a Final Project Plan which shall reflect the approach/methodology to be employed and the processes to be undertaken by the Contractor in support of this assessment;
- performing an independent evaluation of NRC's regulatory program(s) and practices that utilize PRA information, which includes reviewing and assessing the PRA tools and methods used by the Agency to establish the current state-of-the-art in the technology, and provide recommendations regarding the efficacy of the methods used;
- evaluating the Agency's technical PRA program information to identify departures from currently accepted industry PRA technology and practices, and

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identify the impact of these anomalies on the Agency's regulatory actions that were based on this data;

- interviewing NRC staff and contractors during the audit and reporting in writing to OIG on significant technical issues and discoveries; and

-evaluating management controls related to NRC's PRA program.

Specifically, the work shall focus on evaluating the adequacy of the NRC's PRA based regulatory program(s) and practices for regulating the commercial nuclear utility industry.

### **C.3.1. Brainstorming/Scoping Meeting**

The Contractor shall meet with OIG managers/staff to discuss a plan for completion of all the tasks identified in this statement of work.

<b>Deliverable</b>	<b>Completion Date</b>
Draft Written report (3 copies) summarizing the options discussed and the decisions made during the brainstorming/scoping meeting. A final report will be due on the date established by the NRC Project Officer.	11 working days from award of contract, or no later than September 29, 2005.

***The following optional tasks will be ordered at the option of the Contracting Officer, based on the results of the previous task. If the Contracting Officer exercises the option, a modification to the contract will be issued.***

### **C.3.2 Draft Project Plan (Task 2)**

The Contractor shall prepare a draft project plan detailing the time-line and approach/methodology to be employed to assess NRC's PRA program as described in the Section C.2, Contract Objectives. The draft project plan shall include:

(1) the approach/methodology to be employed and the processes to be undertaken by the Contractor to assess the Agency programs and policies that utilize PRA for regulation of licensees;

(2) a schedule of milestones for completing each phase of the audit, to include the level

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of effort and delivery date for each phase;

(3) a listing of staff who will be assigned to the audit and their security clearance level (Note: If additional staff are required to work on this effort at a later date, those individuals will not be allowed to work on this project until the required NRC security requirements and approvals have been obtained.); and

(4) a schedule of budgeted hours by skill level for each section of the audit.

Deliverable	Completion Date
Draft Project Plan (3 copies)	10 working days from award of contract, or on the date established by the NRC Project Officer.

### C.3.3 Final Project Plan (Task 3)

Upon approval of the Draft Project Plan submitted in Task 2, the Contractor shall submit a final project plan.

Deliverable	Completion Date
Final Project Plan (3 copies)	15 working days from award of contract, or on the date established by the NRC Project Officer.

### C.3.4 Fieldwork (Task 4)

The Contractor shall perform an independent assessment of NRC's PRA program as described in Section C.2, Contract Objectives, based on the Final Project Plan provided under Task 3. Document all interviews, meetings, and reviews/analyses of documents. Provide such written supporting documentation to the NRC Project Officer within 7 working days from the date the interview, meeting, or review/analysis of a document.

Specifically, during fieldwork, the Contractor shall perform an independent evaluation of NRC's regulatory program(s) and practices that utilize PRA information and methodology, and provide recommendations regarding the efficacy of the methods used. This review shall also include assessments of PRA technical information (e.g., PRA codes, fault trees, event trees, plant data/documentation, human reliability analyses, external events analyses, model uncertainty, etc.) provided by licensees, or

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their agents (e.g., NEI, EPRI, etc.) in support of "risk informed" licensing applications, and provide recommendations regarding the adequacy of this information for its intended purpose, and the Agency's regulatory actions associated with these applications.

The work shall include the review and evaluation of the management controls associated with implementation of the Agency's use of PRA for regulating the industry. The management control review shall include the organization, policies, and procedures used to reasonably ensure that: (1) programs achieve their intended results; (2) resources are used consistent with Agency mission; (3) programs and resources are protected from waste, fraud, and mismanagement; (4) laws and regulations are followed; and (5) reliable and timely information is obtained, maintained, reported and used for decision making.

Additionally, the Contractor shall assess the Agency's PRA program technical basis and information, which includes reviewing and assessing PRA models, programs, and methodology used by the Agency to establish the current state-of-the-art in the technology, to identify departures from currently accepted industry PRA technology and practices, and identify the impact of these anomalies on the Agency's regulatory actions.

Deliverables	Completion Date
Written statement of interviews, meetings, and reviews/analyses of documents. (2 copies)	Provided at the next bi-weekly project status meeting following the interview, meeting, or document review/analysis. All field work deliverables due 80 working days from award of contract, or on the date established by the NRC Project Officer.  Note: Status meetings may be conducted by telephone and/or e-mail.

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### C.3.5 End of Fieldwork Conference (Task 5)

The Contractor shall present the findings as derived from the fieldwork conducted in Task 4.

Deliverables	Completion Date
Formal presentation to OIG managers/staff and written outline of the findings (3 copies)	85 working days from award of contract, or on the date established by the NRC Project Officer.

### C.3.6 Draft Report (Task 6)

The Contractor shall prepare a draft report based on the findings presented to OIG managers and staff under Task 5.

Note: OIG will provide a report format during the brainstorming/scoping meeting held in Task 1.

Deliverable	Completion Date
Written draft report, double spaced (3 copies)	95 working days from award of contract, or on the date established by the NRC Project Officer.

### C.3.7 Final Report (Task 7)

The Contractor shall prepare a final report based on OIG's comments and acceptance of the draft report presented to OIG managers and staff under Task 6.

Deliverable	Completion Date
Written final report (3 copies and electronic copy saved to disk)	115 working days from award of contract, or on the date established by the NRC Project Officer.

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#### **C.4. TRAVEL**

NRC estimates that approximately four trips (2 people for 1 day each trip) to NRC Headquarters, Rockville, Maryland, will be required by the Contractor during the period of this effort for performance of work under Tasks 1, 2, 5, and 6. Additional travel related to fieldwork (Task 4) is anticipated, including travel to NRC Headquarters in Rockville, Maryland, and NRC's four regional offices located in King of Prussia, Pennsylvania; Atlanta, Georgia; Lisle, Illinois; and Arlington, Texas. OIG may elect to have some meetings at the Contractor's facility.

#### **C.5. KEY PERSONNEL**

Key personnel shall have a thorough knowledge of engineering principals, theory, and practices with a thorough understanding of all important systems, design features, and operational characteristics of commercial nuclear power plant facilities. Key personnel shall be thoroughly knowledgeable in all nuclear industry standards applicable to PRA.

Key personnel must have extensive experience in all aspects of PRA modeling, PRA software codes, and risk assessment methodology currently used in the nuclear industry (minimum of 10 years experience for senior key personnel).