AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

BPA NO.	1. CONTRACT ID CODE	PAGE	OF PAGES
		1	3

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO.(If applicable)
M010	See Block 16c.	03-06-028T004 NRR-06-028	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
3100			3100
U.S. Nuclear Regulatory Commission Div. of Contracts Attn: Jeffrey R. Mitchell, 301-492-3619 Mail Stop: TWB 01 B10M Washington, DC 20555		U.S. Nuclear Regulatory Commission Div. of Contracts Mail Stop: TWB-01-B10M Washington, DC 20555	

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)	(X)	9A. AMENDMENT OF SOLICITATION NO.
WASHINGTON SAFETY MANAGEMENT SOLUTIONS LLC WSMS		9B. DATED (SEE ITEM 11)
2131 S CENTENNIAL AVE AIKEN SC 298037680		10A. MODIFICATION OF CONTRACT/ORDER NO. GS23F0146R DR-03-06-028
CODE FACILITY CODE	X	10B. DATED (SEE ITEM 13) 07-24-2006

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) No Funds Obligated

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: Bilateral Mutual Agreement of the Parties
	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☐ is not, ☒ is required to sign this document and return 2 copies to the issuing office.

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

.....REFER TO ATTACHED PAGE TWO FOR A DESCRIPTION OF MODIFICATION NO. TEN.....

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
William D. O'Grady Sr. Contract Manager	Jeffrey R. Mitchell Contracting Officer
15B. CONTRACTOR/OFFEROR: William D. O'Grady (Signature of person authorized to sign)	15C. DATE SIGNED: 10/23/08
16B. UNITED STATES OF AMERICA BY: Jeffrey R. Mitchell (Signature of Contracting Officer)	16C. DATE SIGNED: 10/21/2008

NSN 7540-01-152-8070
PREVIOUS EDITION NOT USABLE

STANDARD FORM 30 (REV. 10-83)
Prescribed by GSA - FAR (48 CFR) 53.243

TEMPLATE - ADM001

SUNSI REVIEW COMPLETE NOV 18 2008

ADM002

The purpose of this modification is to (1) Issue Work Order No. 4, entitled "Review of the Application for License Renewal for the University of California – Irvine Nuclear Reactor" (2) Reduce the ceiling for Work Order No. 2 by ($50,000.00) from $326,442.00 to $276,442.00 (3) Extend the Period of Performance under the Delivery Order from July 25, 2009 to September 30, 2010 and to (4) Provide an updated chart which outlines the task order ceiling vs. total contract ceiling. Accordingly the contract is modified as follows:

(1) In accordance with the Terms and Conditions, PLACEMENT OF WORK ORDERS, of the subject contract, Work Order No. 4 is definitized. The effort shall be performed in accordance with the attached Statement of Work.

(2) Refer to Work Order No. 2 Ceiling Amount is hereby revised as follows:

> "The total estimated cost to the Government for full performance under Work Order No. 2 is $276,442.00."

(3) Refer to the Period of Performance under the Delivery Order DR-03-06-028 is hereby revised as follows:

> "The period of performance shall commence on July 26, 2006 and expire on September 30, 2010."

(4) Updated Period of Performance & Ceiling Chart

Work Order No.	Work Order Ceiling	Period of Performance	Available Ceiling
Delivery Order		07/26/06 – 09/30/10	$959,250.00
1	$283,953.00	07/26/06 – 07/25/09	$675,297.00
2	$276,442.00	10/02/07 – 07/25/09	$398,855.00
3	$228,956.00	09/27/07 – 03/26/09	$169,899.00
4	$150,586.00	Award – 09/30/10	$19,313.00

A summary of obligations for this contract, from the date of award through the date of this action, is given below:

Total FY2006 Obligations:	$250,000.00
Total FY2007 Obligations:	$266,800.00
Total FY2008 Obligations:	$175,000.00
Cumulative Total of NRC Obligations:	$691,800.00

The action does not obligate funds.

All other terms and conditions remain unchanged including the contract ceiling of $959,250.00.

Statement of Work for Task Order 4 under
Contract No. DR-03-06-028(JCN J-3250)

Title: Review of the Application for License Renewal for the University of California – Irvine Nuclear Reactor

Technical Monitor: Daniel Hughes, Daniel.Hughes@nrc.gov, (301)-415-1631

Technical Assignment Control (TAC) No. MA6998

BACKGROUND

The Nuclear Regulatory Commission (NRC) has the authority and responsibility to review and evaluate requests for licensing actions made by its licensees. The University of California, Irvine (the licensee) submitted an application for license renewal of its University of California, Irvine Nuclear Reactor Facility (UCINRF). Issuance of a renewed license would authorize operation of the UCINRF for a period of 20 years. During its licensing renewal review process, the NRC evaluates the licensee's Safety Analysis Report (SAR) and Technical Specifications (TS) using the guidance contained in NUREG-1537, "Guidance for Preparing and Reviewing Applications for the Licensing of Non-Power Reactors," Part 2, Standard Review Plan and Acceptance Criteria, to ensure that those portions of the application satisfy the requirements of Title 10 of *The Code of Federal Regulations*. The licensee renewal process may include meetings with upper NRC Management and others. It may also include a public hearing with the Atomic Safety Licensing Board or the Commission.

OBJECTIVE

The objective of this task order is to obtain the technical expertise of Washington Safety Management Solutions (WSMS) to assist the staff in determining the technical adequacy of the SAR and TS submitted as part of the licensee's application for license renewal, and to obtain safety evaluation input (SEI) that formalizes the safety conclusions made by WSMS and to obtain support for any of the types of meetings mentioned above, as appropriate.

TECHNICAL AND OTHER SPECIAL QUALIFICATIONS REQUIRED

WSMS shall provide personnel who have knowledge and/or practical experience with research and test reactor technology and SAR analyses on intermittent, part-time bases. These personnel should have knowledge and experience in the areas listed in the general statement of work of this contract, as appropriate for conducting a thorough review of the application. WSMS shall provide a Program Manager to oversee the efforts of its team and to ensure the timely submittal of quality deliverables such that all information is accurate and complete.

WORK REQUIREMENTS AND SCHEDULE

WSMS shall perform the following tasks in accordance with the completion schedule:

1. Develop and submit a review plan. Includes meeting at the UCINRF site for familiarization and general discussion of application.

   Completion Schedule: Draft Plan – Two weeks after site visit
   Final Plan – One week after receipt of NRC comments

2. Review the UCINRF license renewal application. Based on the requirements of 10 CFR Parts 20, 50 and 100, as appropriate, and the guidance contained in NUREG-1537, Part 2, determine the applicant's conformance to the regulatory requirements and NRC guidance. Independently verify safety-related statements and provide the Draft SEI. Provide any Draft Request for Additional Information (RAIs) for the licensee, as needed. Based on NRC staff written comments, revise the Draft SEI and RAIs

   Completion Schedule: Draft SEI and RAIs - Six weeks after completion of Task 1
   Revised Draft SEI and RAIs – Two weeks after receipt of NRC comments

3. Prepare for, travel to, and participate in a meeting with UCI Reactor staff and NRC staff at the UCI site to discuss Draft RAIs and observe the facility considering the Revised Draft RAIs. This meeting may also be conducted by conference call, as determined by the NRC TM. Following the meeting, incorporate NRC staff written comments on the revised RAIs and provide Final RAIs.

   Completion Schedule: One week after receipt of NRC comments

4. Review and evaluate the licensee's responses to the Final RAIs to determine adequacy and acceptability for supporting safety conclusions based on the guidance in NUREG-1537, Part 2. Provide a 2nd revision of the Draft SEI incorporate information from the final RAI responses and add any additional safety conclusions.

   Completion Schedule: Four weeks after receipt of RAI responses from NRC staff

5. Incorporating NRC staff written comments and provide Final RAIs.

   Completion Schedule: Three weeks after receipt of NRC comments

6. Provide support to the NRC staff following delivery of the Final SEI, if needed. This support, may for example, consist of responding to questions on the final deliverables, attending meetings with NRC management and others, or any hearings, to discuss the results of the work specified in the SOW, and assist staff in resolution of outstanding issues from the meetings.

PERIOD OF PERFORMANCE

The period of performance is task order award through September 30, 2010.

DELIVERABLES

Technical Reporting Requirements

NOTE: All reports are to be submitted to the Technical Monitor electronically with a copy provided to the Project Manager. These reports will be prepared in Microsoft Office Word format, and in Adobe Acrobat file (pdf). The transmittal letter and cover page shall contain the job code number (JCN), the task order number and title and NRC technical assignment control (TAC) number(s).

1. At the completion of Task 1, submit a Draft and Final Review Plan, that includes at a minimum the scope of the review, milestones to be completed, expected dates of each milestone and a staffing plan.

2. At the completion of Task 2, submit the Draft SEI and Draft RAIs. The Draft SEI formalizes the safety conclusions made by WSMS. The format and content should follow previously provided documents (see Assumptions and Understandings section of this document and Attachment 1.)

3. At the completion of Task 3, submit the Final RAIs

4. At the completion of Task 4, submit the 2nd Revision of the Draft SEI

5. At the completion of Task 5, submit the Final SEI.

Monthly Business Reporting Requirements

A budget is to be developed for each Task based on the agreed upon allocation of the level of effort among the Tasks. Separate expenditures for each Task will be reported in the MBLR against the budget using the following format:

Authorized Cost Ceiling: $_____ Funds Obligated to date: $_____

Tasks	Estimated Expenditure	Actual Expenditure	Delta	Cumulative Delta
1.	$	$	$	$
2.	$	$	$	$
3.	$	$	$	$
4.	$	$	$	$
5.	$	$	$	$
6.	$	$	$	$
7.	$	$	$	$
8.	$	$	$	$
9.	$	$	$	$
10.	$	$	$	$
Total $	$	$	$	$

Approve Budget	Expenditures for Period	Cumulative Expenditures	Percent vs. Approved Budget

A monthly expense variance greater than 10 percent must be explained in the "Problem/Resolution" section.

NOTE: Once a variance reaches 15 percent, prior approval is required in writing from the NRC Project Officer, or a Modification is to be processed.

MEETINGS AND TRAVEL

For the purpose of preparing a proposal, WSMS should assume the following meetings and travel:

One, 3-person, 3-day trip (1-day meeting and travel) to the UCINRF site for familiarization, and general discussion of application

One, 3-person, 3-day trip (1-day meeting and travel) to the UCINRF site for discussion of RAIs

One, 2-person, 3-day trip (1-day meeting and travel) to NRC Headquarters in Rockville, Maryland to support the NRC staff in a meeting of the type specified in the above description of Task 6.

NRC-FURNISHED MATERIALS

The following documents will be mailed to the WSMS Project Manager, Bill Watkins, after task order award:

UCINRF Safety Analysis Report (SAR)
UCINRF License Renewal Application

WSMS has been and will be furnished with any subsequent documents required for completion of the work.

OTHER APPLICABLE INFORMATION

License Fee Recovery

The work specified in this SOW is not license fee recoverable.

Assumptions and Understandings

It is understood that documents previously provided for the purpose of providing an example of the format and content of an SER and RAIs for license renewal and are not to be evaluated by WSMS. Similarly, it is understood that NRC guidance documents, such as NUREG-1537 and NUREG-1572, that were previously provided, are for the

purpose of providing guidance for the review of a renewal application and writing of the associated SEI, respectively, and are not to be evaluated by WSMS.

The estimated level of effort for this Task Order is significantly lower then previous Task Orders for this contract. The reasons for it are as follows: (1) the power level of UCINRF is significantly less than the previous similar type of RTR reviewed by WSMS, (2) the NRC's initial review of the UCI's license renewal application and only one round of RAI is expected, (3) contractor's efficiency and knowledge gained from previously reviewed reactor of the similar type, and (4) discussions between the NRC and WSMS will be conducted via conference calls

The requested period of response from UCINRF for the Final RAIs will be between 45 and 60 days.

Outline, Content and Format for Providing Input to the Safety Evaluation Report

Note: The numbering of chapters and sections is not always sequential because some specialized areas of review specified in NUREG-1537, Part 2 are not included in the Safety Evaluation Input. Each chapter should have a list of references used to conduct the technical review. Not every section included in the outline will necessarily be relevant to the particular application under review.

1 THE FACILITY

1.1 Introduction
1.2 Summary and Conclusions on Principal Safety Considerations
1.3 General Description
1.4 Shared Facilities and Equipment
1.5 Comparison with Similar Facilities
1.6 Summary of Operations
1.7 Compliance with the Nuclear Waste Policy Act of 1982
1.8 Facility Modifications and History

2 SITE CHARACTERISTICS

2.1 Geography and Demography
2.2 Nearby Industrial, Transportation, and Military Facilities
2.3 Meteorology
2.4 Hydrology
2.5 Geology, Seismology, and Geotechnical Engineering

3 DESIGN OF STRUCTURES, SYSTEMS, AND COMPONENTS

3.1 Design Criteria
3.2 Meteorological Damage
3.3 Water Damage
3.4 Seismic Damage
3.5 Systems and Components

4 REACTOR DESCRIPTION

4.1 Summary Description
4.2 Reactor Core
4.2.1 Reactor Fuel
4.2.2 Control Rods
4.2.3 Neutron Moderator and Reflector
4.2.4 Neutron Startup Source
4.2.5 Core Support Structure
4.3 Reactor Tank or Pool
4.4 Biological Shield
4.5 Nuclear Design
4.5.1 Normal Operating Conditions
4.5.2 Reactor Core Physics Parameters

4.5.3 Operating Limits
4.6 Thermal-Hydraulic Design

5 REACTOR COOLANT SYSTEMS

5.1 Summary Description
5.2 Primary Coolant System
5.3 Secondary Coolant System
5.4 Primary Coolant Cleanup System
5.5 Primary Coolant Makeup Water System
5.6 Nitrogen-16 Control System
5.7 Auxiliary Systems Using Primary Coolant

6 ENGINEERED SAFETY FEATURES

6.1 Summary Description
6.2 Detailed Descriptions
6.2.1 Confinement
6.2.2 Containment
6.2.3 Emergency Core Cooling System

7 INSTRUMENTATION AND CONTROL

7.1 Summary Description
7.2 Design of Instrumentation and Control Systems
7.3 Reactor Control System
7.4 Reactor Protection System
7.5 Engineered Safety Features Actuation Systems
7.6 Control Console and Display Instruments
7.7 Radiation Monitoring Systems

8 ELECTRICAL POWER SYSTEMS

8.1 Normal Electrical Power Systems
8.2 Emergency Electrical Power Systems

9 AUXILIARY SYSTEMS

9.1 Heating, Ventilation, and Air Conditioning Systems
9.2 Handling and Storage of Reactor Fuel
9.3 Fire Protection Systems and Programs
9.4 Communication Systems
9.5 Possession and Use of Byproduct, Source, and Special Nuclear Material
9.6 Cover Gas Control in Closed Primary Coolant Systems
9.7 Other Auxiliary Systems

10 EXPERIMENTAL FACILITIES AND UTILIZATION

10.1 Summary Description

10.2 Experimental Facilities
10.3 Experiment Review

11 RADIATION PROTECTION PROGRAM AND WASTE MANAGEMENT

11.1 Radiation Protection
11.1.1 Radiation Sources
11.1.2 Radiation Protection Program
11.1.3 ALARA Program
11.1.4 Radiation Monitoring and Surveying
11.1.5 Radiation Exposure Control and Dosimetry
11.1.6 Contamination Control
11.1.7 Environmental Monitoring
11.2 Radioactive Waste Management
11.2.1 Radioactive Waste Management Program
11.2.2 Radioactive Waste Control
11.2.3 Release of Radioactive Waste

12 CONDUCT OF OPERATIONS

12.1 Organization
12.2 Review and Audit Activities
12.3 Procedures
12.4 Required Actions
12.5 Reports
12.6 Records
12.11 Startup Plan

13 ACCIDENT ANALYSES

13.1 Maximum Hypothetical Accident
13.2 Insertion of Excess Reactivity
13.3 Loss of Coolant
13.4 Loss of Coolant Flow
13.5 Mishandling or Malfunction of Fuel
13.6 Experiment Malfunction
13.7 Loss of Normal Electric Power
13.8 External Events
13.9 Mishandling or Malfunction of Equipment

14 TECHNICAL SPECIFICATIONS

16 OTHER LICENSE CONSIDERATIONS

16.1 Prior Use of Reactor Components
16.2 Medical Use of a Non-Power Reactor