AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

BPA NO.	1. CONTRACT ID CODE	PAGE	OF PAGES
		1	12

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO.(If applicable)
M006	See Block 16c.	NRR-03-028-003	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than Item 6)	CODE
U.S. Nuclear Regulatory Commission Div. of Contracts Attn: Jeffrey R. Mitchell, 301-415-6465 Mail Stop T-7-I-2 Washington, DC 20555	3100	U.S. Nuclear Regulatory Commission Div. 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.
WASHINGTON SAFETY MANAGEMENT SOLUTIONS LLC WSMS 2131 S CENTENNIAL AVE AIKEN SC 298037680		9B. DATED (SEE ITEM 11)
		10A. MODIFICATION OF CONTRACT/ORDER NO. GS23F0146R DR-03-06-028
CODE 968430645 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) 720-15-111-126 J3250 252A 31X0200.720
Obligate $107,500.00

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 "Placement of Work Order"
	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. SIX.....

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)
Vincent M. Maivelett Manager, Contracts & Procurement	Donald A. King Contracting Officer
15B. CONTRACTOR/OFFEROR (Signature of person authorized to sign)	15C. DATE SIGNED 9/27/07
16B. UNITED STATES OF AMERICA BY (Signature of Contracting Officer)	16C. DATE SIGNED 9/25/07

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

OCT 16 2007

ADM002

The purpose of this modification is to (1) Issue Work Order No. 3, entitled "Review of the Application for License Renewal of the Pennsylvania State University Research Reactor", (2) add Gary E. Dorfler add as a key personnel and (3) Incrementally fund this order in the amount of $107,500.00 thereby bring the total obligations from $409,300.00 to $516,800.00. 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. 3 is definitized. The effort shall be performed in accordance with the attached Statement of Work.

2) Refer to Section C.2 entitled, "2052.215-70 "KEY PERSONNEL (JAN 1993)" add the following key personnel:

[redacted]

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
Cumulative Total of NRC Obligations:	$516,800.00

The action obligates FY07 funds in the amount of $107,500.00.

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

Statement of Work for Task Order 3 under
Contract No. DR-03-06-028(JCN J-3250)

Title: Review of the Application for License Renewal of the Pennsylvania State University Research Reactor.

Technical Monitor: Stephen Pierce, SCP1@nrc.gov 301-415-2261

TAC No. MC9534

BACKGROUND

The Nuclear Regulatory Commission (NRC) has the authority and responsibility to review and evaluate requests for licensing actions made by its licensees. The Pennsylvania State University Research Reactor (the licensee) submitted an application for license renewal of its research reactor, the Pennsylvania State Breazeale Nuclear Reactor (PSBR). Issuance of a renewed license would authorize operation of the PSBR 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 license renewal process may include public, upper NRC management, Commission, and Congressional meetings. 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 or the contractor) 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 a Technical Evaluation Report (TER) that formalizes the safety conclusions made by WSMS, and to obtain technical support for any of the types of meetings mentioned above, as appropriate.

TECHNICAL AND OTHER SPECIAL QUALIFICATIONS REQUIRED

The contractor 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. The contractor shall provide a Program Manager to oversee the efforts of the contractor team and to ensure the timely submittal of quality deliverables such that all information is accurate and complete.

WORK REQUIREMENTS AND SCHEDULE

Tasks		Completion Schedule
1.	Develop and submit a final review plan. Includes meeting at the PSBR site for familiarization and general discussion of application.	Three weeks after receipt of material.
2.	Review the PSBR 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 TER. Provide any Draft RAIs, as needed.	Six weeks after completion of Task 1 deliverable
3.	Meet at NRC HQ to discuss the Draft TER and any Draft RAIs with NRC staff to address potential questions. This meeting may also be conducted by conference call, as determined by NRC Technical Monitor.	Two weeks after completion of Task 2.
4.	Revise the Draft TER and any Draft RAIs based on NRC staff written comments. Provide the Revised Draft RAIs and the 1st revision of the Draft TER to NRC staff.	Two weeks after receipt of comments from NRC staff.
5.	Prepare for, travel to, and participate in a meeting with PSBR staff and NRC staff at the PSBR site to discuss Draft RAIs and observe the facility considering the Revised Draft RAIs.	Four weeks after completion of Task 4.
6.	Meet with NRC staff at NRC HQ to discuss any open issues from Task 5 regarding Draft RAIs, the Draft TER, and NRC staff comments. This meeting may also be conducted by conference call, as determined by NRC Technical Monitor.	Within one week after completion of Task 5.
7.	Incorporate NRC staff written comments and provide Final RAIs.	One week after completion of Task 6.
8.	Review and evaluate the licensee's responses to the RAIs to determine adequacy and acceptability for supporting safety conclusions based on the guidance in NUREG-1537, Part 2. Perform a 2nd revision of the Draft TER to incorporate information from the responses to the Final RAIs and add safety conclusions to the Draft TER. Submit the revised Draft TER with all resolved RAIs to NRC staff. If additional RAIs are needed to complete the safety review, provide the additional RAIs to the NRC staff along with the revised Draft TER.	Seven weeks after receipt of licensee's RAI responses from NRC staff.

Tasks		Completion Schedule
9.	Prepare for and travel to a meeting at NRC HQ with NRC staff to discuss the revised Draft TER and any additional RAIs generated during Task 8. This meeting may also be conducted by conference call, as determined by NRC Technical Monitor.	Three weeks after completion of Task 8.
10.	Review and evaluate the licensee's responses to any additional RAIs generated during Task 8 to determine adequacy and acceptability for supporting safety conclusions based on the guidance in NUREG-1537, Part 2. Perform a 3rd revision of the Draft TER to incorporate information from the responses to any additional RAIs, add any additional safety conclusions to the Draft TER, and incorporate NRC staff written comments. Provide the Final TER to NRC staff.	Two weeks after receipt of NRC staff comments.
11.	Support the NRC staff, with technical expertise, in meetings and meeting resolutions including, but not limited to, public, upper NRC management, Commission, and Congressional meetings and resolutions or any hearings associated with this application review. Such meetings, if required or requested, may occur after delivery of the Final TER, and may occur in a location near the PSBR facility.	
a.	Perform Trip No. 1 and prepare Trip Report	One week after trip completion.
b.	Perform Trip No. 2 and prepare Trip Report	One week after trip completion.

PERIOD OF PERFORMANCE

The projected period of performance is from day of award through 18 months.

DELIVERABLES

Technical Reporting Requirements

NOTE: All reports to be submitted to the Technical Monitor electronically with a copy provided to the Project Manager. These reports will be prepared in WordPerfect X3 or compatible 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 the Final Review Plan.

2. At the completion of Task 2, submit the Draft TER and Draft RAIs. The Draft TER 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 4, submit the 1st revision of the Draft TER and Revised Draft RAIs.

4. At the completion of Task 7, submit the Final RAIs.

5. At the completion of Task 8, submit the 2nd revision of the Draft TER, and submit any additional RAIs, as appropriate.

6. At the completion of Task 10, submit the Final TER.

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 Expenditures	Delta	Cumulative Delta
1.	$	$	$	$
2.	$	$	$	$
3.	$	$	$	$
4.	$	$	$	$
5.	$	$	$	$
6.	$	$	$	$
7.	$	$	$	$
8.	$	$	$	$
9.	$	$	$	$
10.	$	$	$	$
11.	$	$	$	$
Total $	$	$	$	$

Approved 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

Task 1. One 3-person, 2-day trip to the PSBR to familiarize the primary reviewers with the facility.

Task 3. One 3-person, 2-day trip to NRC HQ to discuss the Draft TER and Draft RAIs. This meeting may also be conducted by conference call, as determined by NRC Technical Monitor.

Task 5. One 3-person, 2-day trip to the PSBR to discuss the Revised Draft RAIs with the licensee and observe the facility.

Task 6. One 3-person, 1-day trip to NRC HQ to discuss the site visit, the 1st revision of the Draft TER and Revised Draft RAIs. This meeting may also be conducted by conference call, as determined by NRC Technical Monitor.

Task 9. One 3-person, 1-day trip to NRC HQ to discuss the 2nd revision of the Draft TER. This meeting may also be conducted by conference call, as determined by NRC Technical Monitor.

Task 11. One 3-person, 2-day trip to NRC HQ to support the NRC staff in meetings of the types specified in the above description of Task 11. The level of effort specified above for Task 11 includes allowance for members of the WSMS staff, beyond those who actually make the trip, to assist in WSMS' preparations for these meetings.

NRC-FURNISHED MATERIALS

The following documents were mailed to the WSMS Project Manager, Bill Watkins, in August 2007:

1. Compact disk (CD) contained following files:

   PSBR Safety Analysis Report (SAR)

2. Hard Copy of the following documents:

   PSBR SAR

The contractor 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 the contractor. 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 TER, respectively, and are not to be evaluated by the contractor.

The estimated level of effort for Task 8 is based on a large number of licensee responses to the Final RAIs (approximately 80) and a minimal number of additional RAIs (approximately 10). The requested period of response from PSBR for any additional RAIs will be between 45 and 60 days.

The estimated level of effort for Task 10 is based on a minimal number of additional RAIs (approximately 10).

The estimated level of effort for Task 11 is based on two days of preparation and two days of travel to NRC HQ to participate in meetings of the types specified in the description of Task 11.

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 Technical Evaluation Report. 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

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

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

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

14 TECHNICAL SPECIFICATIONS

16 OTHER LICENSE CONSIDERATIONS

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