MENDMENT OF SOLICITATION/MODIFI	CATION OF CONTRAC	T BPA NO.	1. CONTRA	CT ID CODE	PAGE 1	0F 8
MENDMENT/MODIFICATION NO. MOD 4	3. EFFECTIVE DATE See Block 16C	4. REQUISITION/PURCHASE RE NMS-11-090	2. NO.	5. PR	OJECT NO. (if applie	:ebte)
SSUED BY CODE	3100	7. ADMINISTERED BY (II other	than tiem 6)	CODE	3100	
U.S. Nuclear Regulatory Commission Div. of Contracts Attn: Mandy Mauer, 301-492-3537 Mail Stop: TWB-01-B10M Washington, DC 20555	U.S. Nuclear Re Div. of Contrac Mail Stop: TWB- Washington, DC	gulatory Commu ts -01-B10M 20555	ission	<u></u>		
MALE AND ADDRESS OF CONTRACTOR (No., street, county, Sta	te and ZIP Code)		(X) BA. AMENDME	NT OF SOLICITATION	NO.	
SOUTHWEST RESEARCH INSTITUTE			SB. DATED (S	iee ittem 11)	<u></u>	
220 CULEBRA RD			10A. MODIFIC	ATION OF CONTRACT	TORDER NO.	
SAN ANTONIO TX 782385166				(SEE ITEM 13)		
0E FACILITY CODE X 03-23-2010						
<u>11. THIS ITEN</u>	ONLY APPLIES TO AM	ENDMENTS OF SOLIC	TATIONS			
a) by compressing items 5 and 15, and returning	copies of the amend which includes a reference to ICE DESIGNATED FOR THE rirtue of this amendment you o r makes reference to the solid	nem; (0) by acknowledging the solicitation and amendr RECEIPT OF OFFERS PR lestre to change an offer all tation and this amendment	receipt of this ameri nent numbers. FAI IOR TO THE HOUF eady submitted, sur , and is received pri	nument on each of LURE OF YOUR AND DATE SPE ch change may be or to the opening	ac- ECIFIED MAY a made hour	
ACCOUNTING AND APPROPRIATION DATA (If required)	BER: 11-50-38-4-149 FAIMIS: 114239 NAIC:	JCN: 5660 BOC: 2 S: 541990 PSC: R4	52A APPN: 31 21 DUNS: 007	x0200 936842		
13. THIS ITEM APP	LIES ONLY TO MODIFIC	ATIONS OF CONTRAC	TS/ORDERS,			
11 MODIFIES	THE CONTRACT/ORDER	RTH IN ITEM 14 ARE MADE IN THE	N ITEM 14.	IN ITEM 10A.		
B. THE ABOVE NUMBERED CONTRACTIORDER IS MODIFIED SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF	TO REFLECT THE ADMINISTRATIVE (FAR 43. H03(b).	CHANGES (such as changes b	i paying office, appropriatio	A Clath, etc.)		
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PU	RSUANT TO AUTHORITY OF:	· ·				
D. OTHER (Specify type of modification and subority)			······································	<u></u>	<u> </u>	
IMPORTANT: Contractor is not. X	is required to slan this docum	ent and return 1	copies to the Issu	ina office.		
DESCRIPTION OF AMERICANODIFICATION (Organized by	UCF section headings, including solicitat	ion/contract subject matter where fiss				
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cept as provided herein, all terms and conditions of the document refer	enced in item 8A or 10A, as heretofore d	hanged, remains unchanged and in fi	d force and effect.		·····	
A. NAME AND TITLE OF SIGNER (Type or print)	Contracts	16A. MAME AND TITLE OF CON Valerie M. Whith Contracting Of	TRACTING OFFICER	(Type or print)		
E. CONTRACTORIOFFEBOR (Signature of person sufferized to sign)	15C. DATE SIGNED 9/21/2011			\bot	16C. DATE SIGNE	11
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NRC-02-06-021 Task Order No. 8 Modification No. 4 Page 2 of 8

The purpose of this contract modification is to: (1) revise the Statement of Work to decrease the level of effort; (2) change the period of performance; and (3) provide incremental funding in the amount of \$15,000.00, thereby, increasing the obligated amount from \$161,000.00 to \$176,000.00.

Accordingly, the following changes are hereby made:

1) The Statement of Work is revised to decrease the level of effort and modify the period of performance. Attachment 1, entitled "Statement of Work" is hereby incorporated into the subject contract.

2) Section B, CONSIDERATION AND OBLIGATION – COST PLUS FIXED FEE (JUN 1988) ALTERNATE I (JUN 1991), paragraph (c) is deleted in its entirety and replaced with the following:

(c) The amount currently obligated by the Government with respect to this contract is \$176,000.00, of which the sum of summer presents the estimated reimbursable costs, and of which summer represents the fixed fee.

3) Section C, PERIOD OF PERFORMANCE is deleted in its entirety and replaced with the following:

The period of performance of this order is March 23, 2010 through September 30, 2011.

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

Total FY'09 Obligations:	\$60,000.00
Total FY'10 Obligations:	\$61,000.00
Total FY'11 Obligations:	\$55,000.00
Total NRC Obligations:	\$176,000.00

This modification obligates FY'11 funds in the amount of \$15,000.00.

STATEMENT OF WORK

PROJECT TITLE:	SUPPORT FOR REVIEW OF INTERNATIONAL ISOTOPES LICENSE APPLICATION
JOB CODE:	J5590
NRC PROJECT MANAGER:	Brenda J. DuBose (301) 492-3247
NRC TECHNICAL MONITOR:	Tyrone D. Naquin (301) 492-3187
DOCKET NUMBER:	40-9086
TAC NUMBER:	L32723

1.0 BACKGROUND

In April 2009, International Isotopes, Inc., (INIS) submitted a letter of intent (see Agencywide Documents Access and Management System accession number ML091260796) to the U.S. Nuclear Regulatory Commission (NRC) to build a depleted uranium de-conversion facility. Depleted Uranium Hexafluoride (DUF₆) is a by-product of the uranium enrichment process. Approximately 90% of the UF₆ that goes into the enrichment process emerges as DUF₆. There are currently four enrichment facilities in the U.S. that are being built or are planned for construction. The initial stated capacity of those facilities will produce in excess of 60 million pounds of DUF₆ each year. INIS has notified the NRC that they intend to submit the license application to the NRC in December 2009. Once licensed, the facility will be constructed in Lea County, New Mexico, approximately 15 miles west of Hobbs, New Mexico.

The Department of Energy (DOE) stores approximately 1.54 billion pounds of depleted UF₆ at existing enrichment facilities. DOE is building two deconversion plants, one at each of the gaseous diffusion enrichment sites near Paducah, Kentucky and Portsmouth, Ohio. These facilities will process DOE's inventory of material. In addition, Aerojet Ordinance Inc., located in Tennessee, produces uranium metal for military penetrators, shielding, and counter weights from depleted Uranium Tetrafluoride (UF₄). This facility is licensed by an agreement state in accordance with 10 Code of Federal Regulations (CFR) Part 40, but unlike INIS, its process does not involve large quantities of UF₆.

INIS will be the nation's first commercial facility for the deconversion of DUF_6 and fluorine extraction. The INIS de-conversion facility will produce high-value, specialty fluoride gas products, which are in commercial demand for use in microelectronics manufacturing and in other applications. The off product will be depleted uranium dioxide (DUO_2) which will be disposed of as low level radioactive waste.

NRC staff will use 10 CFR Parts 40, 51, and 70 regulations as the basis for licensing the deconversion facility which requires the preparation of an Environmental Impact Statement (EIS). There may be formal contested hearings conducted under 10 CFR Part 2, Subpart L. NRC must issue its license before any construction can begin. NRC staff will use portions of

NUREG-1520, "Standard Review Plan for the Review of a License Application for a Fuel Cycle Facility," as guidance for its review.

2.0 <u>OBJECTIVE</u>

The objective of this task order is to provide technical support to the NRC staff in reviewing and assessing the adequacy of the seismic, structural design, and tornado and high wind hazard evaluations performed by INIS in support of its license application and environmental report. The focus of the reviews shall be on license conditions and the commitments made by INIS in its Safety Analysis Report (SAR) and Integrated Safety Analysis (ISA) Summary.

3.0 LEVEL OF EFFORT

The estimated total level of effort for the task order is 0.43 Full Time Equivalents (FTE) in FY10 and 0.62 FTE in FY11. (Note: This change represents an increase in the level of effort of 0.03 FTE in FY10 and 0.17 FTE in FY11.)

4.0 PERIOD OF PERFORMANCE

The period of performance for the work specified in this Statement of Work (SOW) will begin on or about late December 2009 and will expire on September 30, 2011.

5.0 SCOPE OF WORK

The contractor shall review the seismic, structural design, and tornado and high wind analyses presented in the INIS license application and environmental report to ensure consistency with NRC regulations, with state-of-the-art analysis methods, and with the conclusions drawn from the data.

Specifically, the contractor shall:

The Commission directed in SECY-07-0146 that new 10 CFR Part 40 licensees Subtask 1: with significant quantities of uranium hexafluoride would be subject to the requirements in 10 CFR Part 70, Subpart H. (Note: Consistent with SECY-07-0146, upon completion of the rulemaking to incorporate ISA requirements into Part 40, the Part 70, Subpart H requirements will take precedence.) Therefore, in accordance with the requirements in 10 CFR Part 40, 10 CFR Part 70, Subpart H, and applicable portions of NUREG-1520, the contractor shall review the seismic, structural design, and tornado and high wind hazard analyses presented in the INIS license application and environmental report. In addition, the contractor shall verify the final design bases to be consistent with the commitments made in the SAR and the analyses performed in the ISA Summary. The contractor shall prepare input for Requests for Additional Information (RAIs), as needed, to document areas where additional information from the applicant is required to complete the licensing review. The contractor shall also review the applicant's response to the RAIs.

Activity 1 Review Plan

Prepare a review plan to describe the seismic, structural design, and tornado and high wind hazard reviews to be performed. Discuss the criteria to be used in assessing the adequacy of the applicant's analysis in the review plan.

Activity 2 General Issues for Review Under the SAR and ISA

- 1. Have all significant issues related to defining the seismic, structural design, and tornado and high wind hazard areas been addressed in the application and environmental report?
- 2. Have Items Relied on for Safety (IROFS) boundary packages related to seismic, structural design, and tornado and high wind hazards been prepared consistently with the regulations and with INIS' commitments in the SAR and supporting calculations in the ISA?
- 3. For the seismic area, are the results consistent with the overall approaches defined in NRC regulations and with INIS' commitments in the SAR and supporting calculations in the ISA?

For the structural design area, are the results consistent with overall NRC approaches for evaluating:

- (a) loads and load combinations (i.e., are all applicable loads (e.g., seismic, tornado, wind, flood, explosion, thermal, gravity (dead and live) included and are the load combinations appropriate?);
- (b) codes and standards;
- (c) structural design approaches (e.g., elastic vs. inelastic, soilstructure interactions, etc.);
- (d) approaches to transform natural phenomena into loads;
- (e) aircraft hazards;

For the tornado and high wind hazard area, are the results consistent with the overall approach defined in NRC regulations, the INIS SAR and supporting calculations in the ISA Summary for: (a) mean and median hazard definitions (i.e., likelihood vs. magnitude); and (b) uncertainties.

- 4. Assist NRC staff in determining whether the performance requirements of the ISA in 10 CFR 70.61 and the baseline design criteria of 10 CFR 70.64 are met.
- 5. Are there any limitations in using the results of the applicant's and contractor's evaluations for the proposed site?

Activity 3 Meetings and Conference Calls

The contractor shall participate in meetings (Refer to Section 6.0 – Travel Requirements) and conference calls with NRC staff and the applicant to discuss the technical evaluations.

Subtask 2: Review the design criteria commitments, quality assurance requirements, and management measures of the electrical utility and digital instrumentation and control (I & C) as described in the license application as they apply to Items Relied On For Safety (IROFS). Ensure the design portion, as described, if established and maintained pursuant to 10 CFR 70.62 will be adequate to provide reasonable assurance that these IROFS will be available and reliable to perform their intended safety function(s) when needed and in the context of the performance requirements of 10 CFR 70.61. The contractor shall prepare input for Requests for Additional Information (RAIs), as needed, to document areas where additional information from the applicant is required to complete the licensing review. The contractor shall also review the applicant's response to the RAIs.

Activity 1 General Issues for Review Under the SAR and ISA

- 1. Do the safety related aspects of the application, pursuant to 10 CFR Part 70, which apply to instrumentation and controls and applied management measures maintain IROFS?
- 2. Determine whether the proposed conceptual design and intended operations of the electrical power and I&C systems and components for the INIS that are relied on for safety pursuant to 10 CFR Part 70 and encompassed by the hazard and accident analyses of the integrated safety analysis (ISA), will be adequate to ensure that items designated as IROFS will be available and reliable to perform their intended safety function during normal operations, upset conditions, and postulated accidents and natural phenomena events.
- Subtask 2: Review responses to RAIs to ensure any modifications requested are designed to meet INIS commitments in the SAR. As needed, participate in followup conference calls with NRC staff and the applicant to discuss and/or clarify responses to RAIs. If necessary, prepare draft and final RAIs as followup to responses to RAIs. Prepare draft input to the NRC's Safety Evaluation Report (SER) to document the review and analyses performed in the seismic, structural design, and tornado and high wind hazard areas.
- Subtask 3: Assist NRC reviewers during any on-site reviews at Hobbs, New Mexico; Idaho Falls, Idaho; or the contractor's facility in Paducah, Kentucky. This subtask is during FY10 and FY11. Refer to Paragraph 6.0 – Travel Requirements.

Subtask 4: Assist NRC inspectors as needed during on-site inspections to INIS facilities in Hobbs, New Mexico; Idaho Falls, Idaho; or their contractor's facility in Paducah, Kentucky. In addition, travel to NRC Headquarters or NRC's Region II Office may be required. This subtask is during FY10 and FY11. Refer to Paragraph 6.0 – Travel Requirements.

6.0 TRAVEL REQUIREMENTS

During FY10, the NRC anticipates two (2) trips to NRC Headquarters in Rockville, Maryland, and/or NRC Region II in Atlanta, Georgia and one (1) trip to either the INIS office in Hobbs, New Mexico; Idaho Falls, Idaho; or their contractor's facility in Paducah, Kentucky, as being necessary to perform reviews and discuss technical issues applicable to the seismic, structural design, and tornado and high wind hazard areas. These meetings and inspections are expected to last three (3) days each and will consist of three (3) contractor staff.

During FY11, the NRC anticipates two (2) trips to NRC Headquarters in Rockville, Maryland, and/or NRC Region II located in Atlanta, Georgia, and three (3) trips to the INIS facilities in Hobbs, New Mexico; Idaho Falls, Idaho, or their contractor's facility in Paducah, Kentucky, as being necessary to assist in inspections, perform reviews, and discuss technical issues applicable to the seismic, structural design, and tornado and high wind hazard areas. These meetings and inspections are expected to last three (3) days each and will consist of three (3) contractor staff.

7.0 NRC FURNISHED MATERIAL

The NRC Technical Project Manager (TPM) will provide copies of the following documents to the contractor:

- INIS application and environmental report
- responses to NRC Requests for Additional Information
- applicable NRC regulations
- applicable guidance materials

8.0 CONTRACTOR ACQUIRED MATERIAL

No materials are expected to be acquired under this task order.

9.0 DELIVERABLES AND SCHEDULE

Deliverable	Completion Date
Deliverable 1: If needed, prepare input for Requests for Additional Information.	2 weeks after the task order is awarded.
(Ref: Subtask 2)	

Deliverable 2: Prepare draft input to the SER.	4 weeks after receipt of responses to RAI
(Note: <u>The site visits are</u> <u>conducted as part of the</u> <u>SER development.</u>)	
(Ref: Subtask 2)	
NRC to provide comments to the contractor on the Draft SER	4 weeks after receipt of the Draft SER.
(Ref: Subtask 2)	
Deliverable 6: Prepare and provide draft input to NRC Inspection Reports	14 days after conducting the inspections/design reviews or as directed by the NRC inspection staff
(Ref. Subtask 4)	
NRC to provide comments to the contractor on the NRC Inspection Reports	2 weeks after receipt of Draft Inspection Reports
Deliverable 7: Prepare and provide final input to NRC Inspection Reports	5 days after receipt of NRC inspection staff comments on draft input
(Ref. Subtask 4)	

Any change(s) to the delivery schedule delineated under Section 9.0 – Deliverables and Schedule, must be approved and authorized, in writing, by the NRC Contracting Officer.

The NRC staff will review and provide comments to the contractor on the submitted draft reports and documents. Upon receipt of the comments, the contractor shall address each comment and revise the report, as needed, to address NRC input.

10. TECHNICAL DIRECTION

Matthew Bartlett is designated as the NMSS TPM for this task order. Brenda J. DuBose is designated as the NRC Project Officer. The NMSS TPM is responsible for providing technical guidance to the performing organization regarding staff interpretations of technical aspects of regulatory requirements along with relevant documents when requested by the performing organization. All work products must be reviewed and approved by the NMSS TPM before they are submitted as final documents. All technical direction given to the contractor by the NRC TPM must be consistent with the work scope and schedule. The NMSS TPM is not authorized to unilaterally make changes to the approved work scope or schedule or give the contractor any direction that would increase costs over approved levels. Directions, if any, for changes in scope of work, cost, or period of performance will be issued by the NRC Contracting Officer.