

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE PAGE OF PAGES
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2. AMENDMENT/MODIFICATION NO. M468	3. EFFECTIVE DATE See Block 16C	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
6. ISSUED BY U.S. Department of Energy Brookhaven Site Office 53 Bell Avenue, Building 464 Upton, NY 11973-5000	CODE 06005	7. ADMINISTERED BY (If other than Item 6) Code	06005

8. NAME AND ADDRESS OF CONTRACTOR (No. street, county, State and ZIP Code) Brookhaven Science Associates, LLC 40 Brookhaven Avenue Building 460 Upton, New York 11973-5000	(✓)	9. A. AMENDMENT OF SOLICITATION NO.
		9. B. DATED (SEE ITEM 11)
	X	10. A. MODIFICATION OF Contract/Order NO. DE-AC02-98CH10886
		10. B. DATED (SEE ITEM 13) 01/05/1998

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 ACKNOWLEDGEMENT 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.

<input type="checkbox"/>	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.
<input type="checkbox"/>	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 of the parties
<input type="checkbox"/>	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor is not is required to sign this document and return 1 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section heading, including solicitation/contract subject matter where feasible.)
This Modification is issued to revise Section C.6.4 – Recovery Act Project Category 4: “Nuclear Physics”, to incorporate authorized changes to current Work Authorizations; Revise Clause I.139, Obligation of Funds.

15A. NAME AND TITLE OF SIGNER (Type or print) Suzanne M. Davidson Chief Financial Officer	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Evelyn Landini Contracting Officer
15B. CONTRACTOR/OFFEROR	16B. UNITED STATES OF AMERICA
15C. DATE SIGNED 5/24/12	16C. DATE SIGNED 5/25/12
 (Signature of person authorized to sign)	BY  (Signature of Contracting Officer)

Block 14 continued:

1. **Section C.6.4 - Recovery Act Project Category 4:** Replace the pages of this section with the attached revised pages which incorporate Work Authorization changes.
 - a) C.6.4.4: Enhanced Utilization of Isotope Facilities
 - b) C.6.4.5: Nuclear Science Workforce
2. **Clause I.139, DEAR 970.5232-4, Obligation of Funds:** The first sentence of paragraph (a) is revised to read as follows: The amount presently obligated by the Government with respect to this Contract is \$7,711,135,648.99.

The revised total reflects an increase of \$110,313,136.73 as a result of modifications M456 through A467 from \$7,600,822,512.26 to \$7,711,135,648.99.

Attachments:

Section C.6.4, Recovery Act Project Category 4: Nuclear Physics
C.6.4.4: Enhanced Utilization of Isotope Facilities
C.6.4.5: Nuclear Science Workforce

4. Enhanced Utilization of Isotope Facilities (TEC \$1.878M)

Statement of Work: These funds are provided under ST-60-01-03 for procuring and commissioning a new inductively coupled plasma (ICP) mass spectrometer. This funding will enhance isotope production and processing capabilities at BNL to enable the program to better meet the need for isotopes in short supply (Initial funding \$225,000).

Rev 01 provides \$1,316,000 in OPE funding under ST-60-01-02 for:

- FWP #2009-BNL-MO086 for the "Development of Zn-68 targets for improved yields and production of Cu-67" (\$724,000). The project period is October 2009 – October 2011.
- FWP#2009-BNL-MO087 for the "Development of large scale production of PET isotope Yttrium-86 at Brookhaven Linac Isotope Production" (\$592,000). The project period is October 2009 – October 2011.

Rev 02 provides \$337,000 in additional funding :

- OPE (\$25,000) "Brookhaven Linear Isotope Producer" for the development support for accelerator production of actinium-225 (Ac-225).
- EQU (\$262,000) Procurement of new equipment to include a portable contamination monitor (\$123,000), a small portable Ge gamma ray spectrometer (\$89,000) and a lifting device to assist with Model 7 manipulator replacement (\$50,000).
- OPE (\$50,000) Engineering and design of new lifting device for Model 7 manipulator replacement through the roof of the hot cells.

Rev 03 provides a transfer of obligated funds provided in Rev02 as follows:

- EQU (\$312,000) Procurement of new equipment to include a portable contamination monitor (\$123,000), a small portable Ge gamma ray spectrometer (\$89,000) and a lifting device to assist with Model 7 manipulator replacement (\$100,000).
- OPE (\$0.00) Engineering and design of new lifting device for Model 7 manipulator replacement through the roof of the hot cells.

Rev 04 changes the Expected Completion Date of the project from 10/2011 to 10/2012 to ensure completion of the final tasks to develop labeling protocols for the Copper-67 and Yttrium-86 projects as specified in the Work Authorization.

Rev 05 changes the Expected Completion Date of the project from 10/2012 to 09/2013 and redistributes obligated funds as indicated in the Work Authorization. The new totals are as follows:

- OPE \$1,576,049.37
- EQU \$301,950.63

The specific Contractor Recovery Act Statement of Work, Milestones, Outcomes and Measures, and Deliverables funded by this modification are identified in the following referenced Work Authorization:

Work Authorization Number	Work Authorization Title
ST/CH13/9 ARRA-4 and Rev 01, Rev 02, Rev 03, Rev 04 and Rev 05 Project Code: 2005230	Nuclear Physics – Enhanced Utilization of Isotope Facilities

5. Nuclear Science Workforce (\$1.808M)

Statement of Work: These funds (\$1,400,000) are provided under KB-03-01-04-2 for FWP#22675 entitled "Neutron Cross Section Covariances for the ENDF/B-VII Library." The Principal Investigator is Pavel Oblozinsky. The project period is 09/2009 to 09/2012.

These funds (\$408,000) are provided under KB-04-01-02-2 for FWP#22555 entitled, "Use of Covariances in a Consistent Data Assimilation for Improvement of Basic Nuclear Parameters in Nuclear Reactor Applications: From Meters to Femtometers." The Principal Investigator is Michael Herman. The project period is 10/2009 to 09/2012.

Rev 01 transfers obligated funds from KB-03 to KB-04 in the amount of \$241,281.55 and authorizes expenditure. The new totals are as follows:

- KB-03 \$1,158,718.45
- KB-04 \$649,281.55

The specific Contractor Recovery Act Statement of Work, Milestones, Outcomes and Measures, and Deliverables funded by this modification are identified in the following referenced Work Authorization:

Work Authorization Number	Work Authorization Title
KB/CH13/9/ARRA-5 and Rev 01 Project Code 2005270	Nuclear Physics – Nuclear Science Workforce

- D. The work described above shall be performed using funds obligated under this contract, which have been appropriated under the Recovery Act of 2009, Pub. L. 111-5, and as such, is subject to the special statutory conditions and the additional contractual terms and conditions that are listed in paragraph E below and the changes made to Sections E and G of the contract pertaining to the Recovery Act. The funds obligated hereunder shall only be used to accomplish the work as set forth in paragraph C. above and may not be used for any other purpose without the prior written consent of the Contracting Officer.
- E. The Contractor shall complete all Recovery Act Work, included within this work scope, in accordance with Recovery Act requirements, including the required completion dates specified therein, and by the completion date identified in the approved work authorization for the activity.