

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE

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2. AMENDMENT/MODIFICATION NO. A206	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 11974-5000	CODE	7. ADMINISTERED BY (If other than Item 6)	Code

8. NAME AND ADDRESS OF CONTRACTOR (No. street, county, State and ZIP Code) Brookhaven Science Associates, LLC 25 Brookhaven Avenue Building 460 Upton, New York 11973-5000	<input checked="" type="checkbox"/>	9.A. AMENDMENT OF SOLICITATION NO.
		9.B. DATED (SEE ITEM 11)
	<input checked="" type="checkbox"/>	10.A. MODIFICATION OF Contract/Order NO. DE-AC02-98CH10886
		10.B. DATED (SEE ITEM 13) 01/05/1998
CODE N/A	FACILITY CODE N/A	

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)

All required accounting and appropriations data are included in the attached financial worksheet and Section C.6 of the contract.

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).
<input type="checkbox"/>	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
<input checked="" type="checkbox"/>	D. OTHER (Specify type of modification and authority) Mutual agreement of the parties

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 obligate American Recovery and Reinvestment Act of 2009 funds in the amount of \$11,032,000 under Treasury Accounting Symbol 89-09/10-0227. As a result, Section C.6, "Recovery Act Projects" has been amended to add funding for Nuclear Physics – Enhanced AIP Funding at NP User Facilities and reduce the funding for PHENIX Forward Vertex Detector MIE, add funding for Basic Energy Sciences – Nanoscale Science Research Centers, and add High Energy Physics - Advanced Technology R&D Augmentation.

Furthermore, revise Clause I.104, "Obligation of Funds."

15A. NAME AND TITLE OF SIGNER (Type or print) Michael Goldman Secretary and General Counsel	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 June 26, 2009	16C. DATE SIGNED 6/25/09
 (Signature of person authorized to sign)	BY  (Signature of Contracting Officer)

Said contract, as modified previously, is hereby further modified as follows:

1. **Section C.6, Recovery Act Projects:** Replace the first page of this section with the revised attached page which adds one project to category 1 Recovery Act Projects for Basic Energy Sciences – Nanoscale Science Research Centers, adds one project to category 4 Recovery Act Projects for Nuclear Physics – Enhanced AIP Funding at NP User Facilities. This Section is further revised to add Section C.6.6 which adds information and provisions specific to the individual Recovery Act Project for High Energy Physics.
2. **Section C.6.1 Recovery Act Projects Category 1:** Replace the pages of this section with the attached revised pages which add funding for Basic Energy Sciences – Nanoscale Science Research Centers.
3. **Section C.6.4, Recovery Act Projects Category 4:** Replace the pages of this Section with the attached revised pages which add funding for one Nuclear Physics project, Enhanced AIP Funding at NP User Facilities. This section is further revised to reduce the funding for project, PHENIX Forward Vertex Detector MIE.
4. **Section C.6.6, Recovery Act Projects Category 6:** This section is added to add funding for High Energy Physics – Advanced Technology R&D Augmentation.
5. **Clause I.104 - 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 \$5,663,280,140.07."
6. The following is a history of the change in the obligated amount since the last Modification that updated Clause I.104.

PRIOR OBLIGATION A205
INCREASE IN MOD A206 ARRA

\$ **5,652,248,140.07**
\$ 11,032,000.00

CURRENT TOTAL OBLIGATION:

\$ 5,663,280,140.07

Attachments:

Financial Worksheet
Section C.6

- Section C.6.1 Basic Energy Sciences – Nanoscale Science Research Centers
- Section C.6.4 Nuclear Physics – Enhanced AIP Funding at NP User Facilities
- Section C.6.6 High Energy Physics – Advanced Technology R&D Augmentation

C.6 – RECOVERY ACT PROJECTS

This section is created to identify individual Recovery Act Projects as follows:

1. Recovery Act Project Category 1: Basic Energy Sciences (BES)
 - National Synchrotron Light Source II (NSLS-II)
 - Nanoscale Science Research Centers

2. Recovery Act Project Category 2: Science Laboratories Infrastructure (SLI)
 - Roofing
 - Mechanical & Electrical Upgrades
 - Chemistry Bldg Fire safety Corrections
 - Interdisciplinary Science Building

3. Recovery Act Project Category 3: Environmental Management (EM)
 - Accelerated cleanup of Surplus Nuclear Facilities

4. Recovery Act Project Category 4: Nuclear Physics
 - PHENIX Silicon Vertex MIE
 - PHENIX Forward Vertex Detector MIE
 - Enhanced AIP Funding at NP User Facilities

5. Recovery Act Project Category 5: Energy Efficiency and Renewable Energy
 - Federal Lab Support for Recovery Act Transactions ARRA FY09

6. Recovery Act Project Category 6: High Energy Physics
 - Advanced Technology R&D Augmentation

**C.6.1 – Recovery Act Project Category 1:
 Basic Energy Science (BES)**

- A. This modification increases the obligation of American Recovery and Reinvestment Act of 2009 funds by \$4,810,000.00 from \$150,000,000.00 to a revised total of \$154,810,000.00. This modification adds one project entitled Nanoscale Science Research Centers. The value of each project is indicated separately below.
- B. Clause I.104 DEAR 970.5232-4 "Obligation of Funds" has been adjusted accordingly.
- C. The specific work funded by this modification is as follows:

1. National Synchrotron Light Source II {NSLS-II} (\$150M)

Statement of Work: These funds provided under 39KC02 are for the construction associated with the NSLS-II, Project Number 07-SC-06. Specifically, this funding is to be used to optimize project execution by acceleration of civil construction and advancement of the designs and procurements of Accelerator System Components as compared to the approved project baseline plan.

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
KC/CH13/9 Project Code 2005010	Basic Energy Science – NSLS-II

2. Nanoscale Science Research Centers (\$4.810M))

Statement of Work: These funds provided under KC20401H EQU to update, upgrade, or expand capabilities of the Center for Functional Nanomaterials to conduct leading edge science and serve users. Specifically, funds are provided as follows:

- Upgrade of JEOL Electron Beam Lithography System
- Mask Aligner for Optical Lithography
- Electron Energy-Loss Spectrometer
- Reactive Ion Etcher for Metals
- Transmission Electron Microscope for Soft Materials
- Reactor Scanning Tunneling Microscope

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
KC/CH13/9/ARRA-1 Project Code 2005040	Basic Energy Science – Nanoscale Science Research Centers

- D. The work described in this modification 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, 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 funded by this modification 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.

Note: Paragraph F pertains to the NSLS-II project only.

- F. ACCELERATED WORK: The Contractor shall submit to the CO a revised project baseline that clearly identifies the changes to the baseline due to the acceleration of work to include a detailed description of accelerated work, a budget of estimated costs for the accelerated work, and a schedule for the performance of this work within 60 days of this modification.

**C.6.4 – Recovery Act Project Category 4:
 Nuclear Physics**

- A. This modification increases the obligation of American Recovery and Reinvestment Act of 2009 funds by \$6,167,000.00 from \$2,025,000.00 to a revised total of \$8,192,000.00. This modification adds one new Nuclear Physics Projects entitled Enhanced AIP Funding at NP User Facilities and decreases funding for PHENIX Forward Vertex Detector MIE. The value of each project is indicated separately below.
- B. Clause I.104 DEAR 970.5232-4 “Obligation of Funds” has been adjusted accordingly.
- C. The specific work funded by this modification is as follows:

4. Nuclear Physics

Section A: Statement of Work

1. PHENIX Silicon Vertex MIE (\$0.225M)

These funds are provided under KB-02-01-02-1 EQU to advance funding for equipment purchases for the PHENIX Silicon Vertex Tracker MIE (71RD) project., including data acquisition crates for front-end modules for strip detectors; data collection modules, and installation fixtures and external cooling system.

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-1 Project Code 2005380	Nuclear Physics - PHENIX Silicon Vertex MIE

4. Nuclear Physics

Section A: Statement of Work

2. PHENIX Forward Vertex Detector MIE (\$1.8M - \$1.033M = revised TEC \$.767M)

These funds are provided under KB-02-01-02-1 EQU to advance funding for the purchasing of two silicon endcaps for the PHENIX Forward Vertex Detector MIE (82SF)

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-2 and Rev 01 Project Code 2005210	Nuclear Physics - Forward Vertex Detector MIE

4. Nuclear Physics

Section A: Statement of Work

3. Enhanced AIP Funding at NP User Facilities (\$7.2M)

These funds are provided under KB-02-02-01-1 for accelerated implementation of the stochastic cooling in both storage rings and implementation of electron lenses for RHIC.

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-3 Project Code 2005220	Nuclear Physics – Enhanced AIP Funding at NP User Facilities

- D. The work described in this modification 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 funded by this modification 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.

**C.6.6 – Recovery Act Project Category 6:
High Energy Physics**

- A. This modification obligates American Recovery and Reinvestment Act of 2009 funds in the amount of \$55,000.00 for the High Energy Physics Project listed below.
- B. Clause I.104 DEAR 970.5232-4 "Obligation of Funds" has been adjusted accordingly.
- C. The specific work funded by this modification is as follows:

6. High Energy Nuclear Physics	
Section A: <u>Statement of Work</u>	
1. <u>Advanced Technology R&D Augmentation (\$.55M)</u>	
These funds are provided under KA-15-02-01-1 for the first year's work on "A Laboratory-University-Industry Collaboration for the Development of Magnets with Fields > 22 Tesla Using HTS Conductor" program under the direction of Drs. Peter Wanderer and Arup Ghosh as described in the Field Work Proposal KACH139 submitted 05/15/2009.	
<i>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:</i>	
Work Authorization Number	Work Authorization Title
KA/CH13/9/ARRA-1 Project Code 2005170	Nuclear Physics – Advanced Technology R&D Augmentation

- D. The work described in this modification 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 funded by this modification 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.