



## Department of Energy

Oak Ridge Office  
P.O. Box 2001  
Oak Ridge, Tennessee 37831—

July 27, 2009

Mr. Michael J. Fietze, Director  
Prime Contract Administration  
UT-Battelle, LLC  
P.O. Box 2008  
Oak Ridge, TN 37831-6262

Dear Mr. Fietze:

### **CONTRACT NO. DE-AC05-00OR22725 - MODIFICATION NO. 231**

A fully executed copy of the subject contract modification is enclosed for your retention. This modification obligates American Recovery and Reinvestment Act of 2009 funding in the amount of \$19,900,000 to the contract for a project entitled "Advanced Scientific Computing Research – Leadership Computing Upgrade (Project Code 2005087)".

If you have any questions, please contact me at 576-4523.

Sincerely,

A handwritten signature in black ink that reads "Mark A. Million".

Mark A. Million  
Contracting Officer

Enclosure

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>		1. CONTRACT ID CODE	PAGE OF PAGES 1   3	
2. AMENDMENT/MODIFICATION NO. 231	3. EFFECTIVE DATE See Block 16C	4. REQUISITION/PURCHASE REQ. NO. 09SC005637	5. PROJECT NO. (If applicable)	
6. ISSUED BY OAK RIDGE U.S. Department of Energy P.O. Box 2001 Oak Ridge TN 37831	CODE 00518	7. ADMINISTERED BY (If other than Item 6) OAK RIDGE U.S. Department of Energy P.O. Box 2001 Oak Ridge TN 37831	CODE 00518	
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code) UT-BATTELLE, LLC Attn: Michael J. Freitze, Director Prime Contract Administration Post Office Box 2008 OAK RIDGE TN 37831-6231		(x) 9A. AMENDMENT OF SOLICITATION NO.		
		9B. DATED (SEE ITEM 11)		
		x 10A. MODIFICATION OF CONTRACT/ORDER NO. DE-AC05-00OR22725		
		10B. DATED (SEE ITEM 11) 10/18/1999		
CODE 099114287	FACILITY CODE	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) Net Increase: \$19,900,000.00  
See Page 3.

13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

CHECK ONE	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).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER (Specify type of modification and authority) X Clause I.143, P.L. 95-91, and P.L. 111-5

E. IMPORTANT: Contractor  is not,  is required to sign this document and return \_\_\_\_\_ 0 \_\_\_\_\_ copies to the issuing office.

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

Subj to Retent: N

Recovery TAS::89 0227::TAS

See Page 3.

Note: Information reflected on Page 2 is not relevant to this modification and may not be accurate. Please disregard Page 2.

Continued ...

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) Mark A. Million	
15B. CONTRACTOR/OFFEROR  (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA  Mark A. Million (Signature of Contracting Officer)	16C. DATE SIGNED 7/27/09

NSN 7540-01-152-8070  
Previous edition unusable

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

<b>CONTINUATION SHEET</b>	REFERENCE NO. OF DOCUMENT BEING CONTINUED	PAGE	OF
	DE-AC05-00OR22725/231	2	3

NAME OF OFFEROR OR CONTRACTOR  
 UT-BATTELLE, LLC

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
00001	FOB: Destination Period of Performance: 04/01/2000 to 03/31/2010  Change Item 00001 to read as follows (amount shown is the total amount):  Recovery TAS::89 0227::TAS - MANAGEMENT AND OPERATION OF THE OAK RIDGE NATIONAL LABORATORY - Project Entitled "Advanced Scientific Computing Research-Leadership Computing Upgrade (Project Code 2005087)" Incrementally Funded Amount: \$9,148,334,917.97				

**Block 12 “ACCOUNTING AND APPROPRIATIONS DATA,” continued.**

**Funds Obligated for Recovery Act Projects:**

All required accounting and appropriations data, including the Treasury Accounting Symbol and Fund Code is hereby provided as Attachment 2 to this modification.

**Block 14 “DESCRIPTION OF AMENDMENT/MODIFICATION,” continued.**

- A. This modification is issued to obligate American Recovery and Reinvestment Act (Recovery Act) of 2009 funds for the project entitled “Advanced Scientific Computing Research – Leadership Computing Upgrade (Project Code 2005087)”.
- B. Accordingly, pursuant to Section I Contract Clause – DEAR 970.5232-4 entitled “Obligation of Funds,” additional funds in the amount of \$19,900,000 are hereby obligated in support of Recovery Act activities. The total amount of funds obligated under this contract since its inception is increased from \$9,519,782,839.60 to \$9,539,682,839.60.
- C. 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(s):

<b>Work Authorization Number</b>	<b>Work Authorization Title</b>
WA No. KJ/OR41/9/ARRA-1 (Attachment 1)  (Number from Block 8 of the Work Authorization)	Advanced Scientific Computing Research – Leadership Computing Upgrade (Project Code 2005087)

- 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 section E below and previous contract modifications related to the Recovery Act. The funds obligated hereunder shall only be used to accomplish the work as set forth in section 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.
- F. All other terms and conditions remain unchanged.

<b>U.S. DEPARTMENT OF ENERGY CONTRACT WORK AUTHORIZATION AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009: 89-9/10-0227</b>		
1a. Project Title: <b>Advanced Scientific Computing Research – Leadership Computing Upgrade (Project Code 2005087)</b>		1b. Work Proposal Number (if applicable): <b>Various</b>
2. Headquarters Program Point of Contact: Name: <b>Michael R. Strayer</b> Organization Code: <b>SC-21</b> Telephone No.: <b>(301) 903-7486</b>		
3. Headquarters Budget Point of Contact: Name: <b>Mike Osinski</b> Organization Code: <b>SC-41</b> Telephone No.: <b>(301) 903-3590</b>		
4. Responsible Program: <b>Advanced Scientific Computing Research</b>		5. Responsible Secretarial Officer: <b>Under Secretary of Science</b>
6. Responsible Field Organization: <b>Oak Ridge Site Office</b>		
7a. Site and Facility Management Contractor: <b>UT – Battelle LLC – Oak Ridge National Laboratory</b>		7b. Contractor Point of Contact: Name: <b>Arthur Bland</b> Telephone No.: <b>865-576-6727</b>
8. Work Authorization Number: <b>KJ/OR41/9/ARRA-1</b>		9. Revision Number: <b>00</b>
10. Funds Authorized (\$ in thousands). B&R Code: <b>KJ</b> Previous: <b>\$0</b> Change: <b>\$+19,900</b> Current: <b>\$19,900 *</b>		
11. Performance Period Covered by Funds. From: <b>02/17/09</b> To: <b>09/30/10</b>		12. Work Start Date: <b>07/2009</b>
13. Expected Completion Date: <b>9/30/2010</b>		
14. Statement of Work: (see attached) This Work Authorization is issued for the sole purpose of authorizing work in support of the American Recovery and Reinvestment Act of 2009, (Pub. L. 111-5) (Recovery Act). All contract terms and conditions apply to the work identified herein; in particular contract provision H. <del>337</del> applies. The work described in this work authorization shall be performed using funds obligated under the contract, appropriated under the Recovery Act and as such is subject to special statutory conditions.  The Office of Science (SC) is committed to conducting all work authorized herein, in a manner that ensures protection of the workers, the public, and the environment. Protecting the workers, the public, and the environment is a direct and individual responsibility of all SC managers and SC-supported contractors. Funds provided by SC will be applied as necessary to ensure that all supported activities are conducted safely and in an environmentally conscientious manner. Only work conducted in this manner will be supported.  <u>Specific Recovery Act Statement of Work:</u> To help meet the SC computational needs, we propose to perform a low-risk upgrade of the 1.3 petaflop (PF) Cray XT5 at the LCF by replacing the 37,376 quad-core AMD Barcelona processors with six-core AMD Istanbul processors.  Attachment A, Contractor Recovery Act Performance Requirements, identifies the Contractor Recovery Act Schedule Milestones, Performance Measures and Outcomes and Deliverables for this Work Authorization. The contractor's performance against the identified requirements in Attachment A will be evaluated under the Office of Science laboratory appraisal process.		

15. Reporting Requirements (Status reports, scientific and technical information or similar): The recipient of funding in this Work Authorization is responsible for meeting all reporting requirements established by the Department of Energy for activities funded by the American Recovery and Reinvestment Act of 2009.		
16. Work Authorization Program Official. Name (typed): Michael R. Strayer	Signature: <i>Michael Strayer</i>	Date: <i>7/22/2009</i>
17. DOE Field Organization Official. Name (typed): Michele G. Branton	Signature: <i>M. G. Branton</i>	Date: <i>7/23/2009</i>
18. Contractor's Authorized Representative. Name (typed): <i>Arthur S. Bland</i>	Signature: <i>Arthur Bland</i>	Date: <i>7/23/2009</i>
19. DOE Contracting Officer (or delegated representative). Name (typed): <i>MARK A. MILLION</i>	Signature: <i>Mark A. Million</i>	Date: <i>7/23/09</i>

\* Includes \$19,900,000 Capital Equipment.

**ATTACHMENT A – CONTRACTOR RECOVERY ACT PERFORMANCE REQUIREMENTS**

**Section A: Contractor Recovery Act Schedule or Milestone Requirements**

Level 2 Milestone: Order six-core processors	September 30, 2009
Level 2 Milestone: Hardware delivery completion	November, 2009
Level 1 Milestone: System acceptance test complete	September, 2010

**Section B: Contractor Recovery Act Performance Outcomes and Measures**

By September, 2010, complete acceptance test for six-core upgrade of Cray XT5 at Oak Ridge which results in an increase from 1.3 petaflops to 2.0 petaflops.

**Section C: Contractor Recovery Act Deliverables**

A functional Cray XT5 computing system upgraded from four-core Opteron processors to six-core Opteron processors that will provide 2 petaflop Peak performance.

Financial Plan Number: 7  
 Contract Modification Number: 231  
 Rpt Entity: OR OR3/OR4 - Oak Ridge National Lab, X-10, UT-Battelle

Fiscal Year: 2009  
 Fiscal Month: 10

## Financial Plan Report - Detail

Site: OR

### OR22725 - UT-BATTELLE (RECOVERY ACT - 8909/100227)

Report Generated on: July 24, 2009 at 02:08:46 PM

Rpt Entity	Fund Code	Leg FT	Program	Legacy B&R	Obj. Class	Local Use	Project	WFO	Legacy Order Number	Beginning Uncosted Obs	Previous	BA Change	Revised	Total Available
470002	06199	WO	2924133	39KG01000P	32001	0473088	2005370	0000000		0.00	60,568,000.00	0.00	60,568,000.00	60,568,000.00
<i>AY 2009 - Work Authorization Number KG/OR41/9; Appropriation Symbol: 8909/100227</i>														
<b>Total for Program Parent/Control Point: 39KG01000PRN08SC71000</b>										0.00	60,568,000.00	0.00	60,568,000.00	60,568,000.00
470002	06199	WO	2923627	AT5502000	25400	0000000	2005290	0000000		0.00	144,000.00	0.00	144,000.00	144,000.00
<i>AY 2009 - Work authorization number: AT/OR41/9/ARRA-1; Appropriation Symbol: 8909/100227</i>														
<b>Total for Program Parent/Control Point: AT0000000</b>										0.00	144,000.00	0.00	144,000.00	144,000.00
470002	06199	WO	2923755	KB0401022	31001	0470023	2005190	0000000		0.00	600,000.00	0.00	600,000.00	600,000.00
<i>AY 2009 - Work Authorization Number KB/OR41/9/ARRA-1; MIE 41NM; Appropriation Symbol: 8909/100227</i>														
470002	06199	WO	2924157	KB0402011	32003	0473116	2005220	0000000		0.00	2,250,000.00	0.00	2,250,000.00	2,250,000.00
<i>AY 2009 - KB/OR41/0/ARRA-2 Rev 00; Appropriation Symbol 8909/100227</i>														
<b>Total for Program Parent/Control Point: KB0000000</b>										0.00	2,850,000.00	0.00	2,850,000.00	2,850,000.00
470002	06199	WO	2924021	KC020401D	31003	0000000	2005040	0000000		0.00	5,785,000.00	0.00	5,785,000.00	5,785,000.00
<i>AY 2009 - Work Authorization Number KC/OR41/9/ARRA-1; Appropriation Symbol: 8909/100227</i>														
<b>Total for Program Parent/Control Point: KC0200000</b>										0.00	5,785,000.00	0.00	5,785,000.00	5,785,000.00
470002	06199	WO	2924024	KG0900000	32002	0473068	2005380	0000000		0.00	10,000,000.00	0.00	10,000,000.00	10,000,000.00
<i>AY 2009 - Work Authorization Number KG/OR41/9; Appropriation Symbol: 8909/100227</i>														
<b>Total for Program Parent/Control Point: KG0900000</b>										0.00	10,000,000.00	0.00	10,000,000.00	10,000,000.00
470002	06199	WO	2924139	KJ0502000	31003	0473121	2005087	0000000		0.00	0.00	19,900,000.00	19,900,000.00	19,900,000.00
<i>AY 2009 - Work authorization KJ/OR41/9/ARRA-1 Appropriation Symbol: 8909/100227</i>														
<b>Total for Program Parent/Control Point: KJ0000000</b>										0.00	0.00	19,900,000.00	19,900,000.00	19,900,000.00
<b>Total for Fund Type: WO</b>										0.00	79,347,000.00	19,900,000.00	99,247,000.00	99,247,000.00
<b>Total for Recipient Code: OR</b>										0.00	79,347,000.00	19,900,000.00	99,247,000.00	99,247,000.00
<b>Total for Reporting Entity: 470002</b>														
<b>Total for OR22725 - UT-BATTELLE (RECOVERY ACT - 8909/100227)</b>										0.00	79,347,000.00	19,900,000.00	99,247,000.00	99,247,000.00

Attachment 2