



Department of Energy

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

March 1, 2010

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. 330

A fully executed copy of the subject contract modification is enclosed for your retention. This modification obligates American Recovery and Reinvestment Act (Recovery Act) of 2009 funds in the amount of \$17,936,000 to the contract for multiple Office of Energy Efficiency and Renewable Energy projects. The total amount of funds obligated under this contract since its inception is increased from \$10,915,839,749.74 to \$10,933,775,749.74.

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

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT		1. CONTRACT ID CODE	PAGE OF PAGES 1 4
2. AMENDMENT/MODIFICATION NO. 330	3. EFFECTIVE DATE See Block 16C	4. REQUISITION/PURCHASE REQ. NO. 10SC002917	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)
CODE 099114287	FACILITY CODE	x 10A. MODIFICATION OF CONTRACT/ORDER NO. DE-AC05-00OR22725	10B. DATED (SEE ITEM 13) 10/18/1999

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: \$17,936,000.00
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:
X	D. OTHER (Specify type of modification and authority) 970.5232-4 OBLIGATION OF FUNDS (DEC 2000), P.L. 111-5, and P.L. 95-91

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.)
The administrative office (administrative contracting activity) for this award/modification/amendment is 00518.

The administrative office (administrative contracting activity) code is needed by the contractor/recipient for reporting to FederalReporting.gov concerning awards made with funding from the American Recovery and Reinvestment Act of 2009 (ARRA or Recovery Act).
Subj to Retent: N
Recovery TAS::89 0331::TAS

See Page 3.

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 02/23/2010

CONTINUATION SHEET

REFERENCE NO. OF DOCUMENT BEING CONTINUED
DE-AC05-00OR22725/330

PAGE OF
2 4

NAME OF OFFEROR OR CONTRACTOR
UT-BATTELLE, LLC

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	FOB: Destination Period of Performance: 04/01/2000 to 03/31/2010				

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 in the amount of \$17,936,000.00 to the contract for the Office of Energy Efficiency and Renewable Energy projects identified in the Work Authorizations reflected in section C below.

B. Accordingly, pursuant to Section I Contract Clause – DEAR 970.5232-4 entitled “Obligation of Funds,” additional funds in the amount of \$17,936,000.00 are hereby obligated in support of Recovery Act activities. The total amount of funds obligated under this contract since its inception is increased from \$10,915,839,749.74 to \$10,933,775,749.74.

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

Work Authorization Number	Work Authorization Title
WA No. BT-470002-20727-10, Rev. 1-6 (Attachment 1a)	Residential Buildings (Building America, Builders Challenge, and Existing Home Retrofits)
WA No. BM-470002-20472-10, Rev. 1 & 2 (Attachment 1b)	Transportation Infrastructure Activities
WA No. GT-470002-20685-10, Rev. 1-4 (Attachment 1c)	EGS R&D
WA No. BT-470002-20745-10 Rev. 1 (Attachment 1d)	Solid State Lighting
WA No. BT-470002-20742-10 Rev 7-9, 12, & 13 (Attachment 1e)	Residential Buildings (Building America, Builders Challenge, and Existing Home Retrofits)
WA No. WW-470002-20464-10 (Attachment 1f)	Wind Energy Technology R&D and Testing
WA No. WI-470002-20455-10 (Attachment 1g)	Evaluation ARRA 2009
WA No. -470002-20698-10 (Attachment 1h)	EECBG Formula Grants Technical Assistance

Note that the following Work Authorizations are funded by this action but do not appear in the table above because they are found on previous modifications: BT47002-29743-10; SL470002-20479-10; 471999-20758-10B; IF470002-20421-10; IF470002-20416-10; WI470002-20443-09.

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.

Attachment 1a

U.S. DEPARTMENT OF ENERGY CONTRACT WORK AUTHORIZATION			
1a. Solicitation/Project Title: BTP2-2004060-Residential Buildings (Building America, Builders Challenge, and Existing Home Retrofits) <i>ARRA</i>		1b. Work Proposal Number (if applicable):	
2. Headquarters Program Point of Contact: Name: Terrence Logee		Organization Code: EE-2J	Telephone No: (202) 586-1689
3. Headquarters Budget Point of Contact: Name: Norman Hurwitz		Organization Code: EE-3B	Telephone No: (202) 287-5588
4. Responsible Program: Office of Energy Efficiency and Renewable Energy		5. Responsible Secretarial Officer: Catherine Zoi	
6. Responsible Field Element: Oak Ridge Operations Office			
7a. Site and Facility Management Contractor: University of Tennessee - Battelle (Oak Ridge National Laboratory)		7b. Contractor Point of Contact: Name: Pat M. Love Telephone No: (865) 574-4346	
8. Work Authorization Number: BT-470002-20727-10		9. Revision Number: 1	
10. Funds Authorized during FY 2010:			
<u>B&R Code</u>	<u>Previous</u>	<u>Change</u>	<u>Current</u>
BT0101000-05794-1004210 (2009)	\$0	\$325,000	\$325,000
11. Performance period covered by funds: From: 10/17/2009 To: 9/30/2010		12. Work Start Date: 10/17/2009 1/19/10 <i>NCL</i>	13. Expected Completion Date: 9/30/2010
14. Statement of Work: Specific Recovery Act Statement of Work Carryover funding in the amount of \$325,000 is authorized for BT0101000-05794-1004210-Building America (2009). These funds are made available for Project #20742 - BTP2-2004060-Residential Buildings (Building America, Builders Challenge, and Existing Home Retrofits). These funds are to be distributed to Agreement # 20334 - Retrofit Research at >50% Energy Savings in accordance with AOP# 2004060. Using the retrofit house from the DOE/TVA three-test-house project, this project will model and analyze the energy savings measurements and the hard builder cost of the retrofit package used in the Campbell Creek houses. Use BeOpt, BESTest, EnergyPlus, EnergyGauge, Remrate, and Manual J and Manual D software along with the actual walk-through audit results from the TVA residential retrofit program to generate a predicted optimum extreme retrofit package for the house type with the highest market demand and the potential to attain 40 -50% energy savings using the DOE Building America Benchmark process. The laboratory recipient of the funds is responsible for reporting all funding obligations and costs to headquarters. The laboratory recipient must maintain obligations and cost data at the agreement level and the data must be made available to Energy Efficiency and Renewable Energy. ARRA funding information: Fund: 05794, Appropriation: 89-09/10-0331, Allottee: 30 B&R Code/Program Value: BT0101000-1004210 Project Code: Attachment A, Contractor Recovery Act Performance Requirements, identifies the Contractor Recovery Act Schedule or Milestones, Performance Outcomes and Measures and Deliverables for this Work Authorization. The contractor's performance against the identified requirements in Attachment A will be evaluated under the Office of Energy Efficiency and Renewable Energy laboratory appraisal process.			
15. Reporting Requirements: (Status reports, scientific or technical information or similar)			
16. Work Authorization Program Official:			
Name (typed): Roland J. Risser, Program Manager	Signature: <i>Roland J. Risser</i>	Date: 1/19/10	
17. DOE Field Organization Official:			
Name (typed): M.G. Branton	Signature: <i>M.G. Branton</i>	Date: 2-12-10	

1a

18. Contractor's Authorized Representative:		
Name (typed): <u>D.C. Christensen</u>	Signature: <u>[Signature]</u>	Date: <u>for bcc</u>
19. DOE Contracting Officer (or delegated representative)		
Name (typed): <u>MARK A. MILLON</u>	Signature: <u>[Signature]</u>	Date: <u>2/11/10</u>
* The work authorization number will consist of the program code, AFP code, solicitation/project id and the fiscal year.		

Attachment A - Contractor Recovery Act Performance Requirements

Section A: Contractor Recovery Act Schedule or Milestone Requirements:

Milestone: 43171; Complete report to DOE documenting the predicted optimum extreme retrofit package to attain at least 40% energy savings using the DOE Building America Benchmark process. - Plan Complete: 4/30/2010
Milestone: 43172; Complete fact sheet on all ten houses selected for the extreme retrofit include age, floor space, number of stories, estimated SEER and HSPF of all HVAC units, etc. - Plan Complete: 6/30/2010

Section B: Contractor Recovery Act Performance Outcomes and Measures:

All project reports and documentation free of technical, grammatical and delivery errors. Key milestones completed within schedule.

Section C: Contractor Recovery Act Deliverables:

Report on predicted optimum retrofit package. Fact sheet on all houses selected for the extreme retrofit package.

FED 10-9039-RA AFP Jan

BT - 47002 - 20727 - 10, 1

U.S. DEPARTMENT OF ENERGY CONTRACT WORK AUTHORIZATION			
1a. Solicitation/Project Title: BTP2-2004060-Residential Buildings (Building America, Builders Challenge, and Existing Home Retrofits) <i>ARRA</i>		1b. Work Proposal Number (if applicable):	
2. Headquarters Program Point of Contact: Name: Terrence Logee		Organization Code: EE-2J	Telephone No: (202) 586-1689
3. Headquarters Budget Point of Contact: Name: Norman Hurwitz		Organization Code: EE-3B	Telephone No: (202) 287-5588
4. Responsible Program: Office of Energy Efficiency and Renewable Energy		5. Responsible Secretarial Officer: Catherine Zoi	
6. Responsible Field Element: Oak Ridge Operations Office			
7a. Site and Facility Management Contractor: University of Tennessee - Battelle (Oak Ridge National Laboratory)		7b. Contractor Point of Contact: Name: Pat M. Love Telephone No: (865) 574-4346	
8. Work Authorization Number: BT-470002-20742-10		9. Revision Number: 2	
10. Funds Authorized during FY 2010:			
<u>B&R Code</u>	<u>Previous</u>	<u>Change</u>	<u>Current</u>
BT0101000-05794-1004210 (2009)	\$0	\$200,000	\$200,000
<i>11/2010 WCL</i>			
11. Performance period covered by funds: From: 10/1/2009 To: 9/30/2010		12. Work Start Date: 10/1/2009 <i>11/2010 WCL</i>	13. Expected Completion Date: 9/30/2012
14. Statement of Work: Specific Recovery Act Statement of Work Carryover funding in the amount of \$200,000 is authorized for BT0101000-05794-1004210-Building America (2009). These funds are made available for Project #20742 - BTP2-2004060-Residential Buildings (Building America, Builders Challenge, and Existing Home Retrofits). These funds are to be distributed to Agreement # 20341 - BA New Home Technical Support in accordance with AOP# 2004060. This task will provide technical support to Schaad Companies, the company responsible for building 4 high-performance unoccupied research homes for DOE. Information packages will be developed that effectively communicate how to build the Schaad 3 and 4 houses that in the mixed humid climate region will achieve the 50+% savings level using proven technologies. The project will also compare of measurements of two different horizontal geothermal loop systems, one vertical loop geothermal system and one SEER 19 air source heat pump. Particular interest is detailed measurement of the advanced 2 ton Geothermal system and the SEER- 19 air source heat pump that have promise of retrofit applications. The laboratory recipient of the funds is responsible for reporting all funding obligations and costs to headquarters. The laboratory recipient must maintain obligations and cost data at the agreement level and the data must be made available to Energy Efficiency and Renewable Energy. ARRA funding information: Fund: 05794, Appropriation: 89-09/10-0331, Allottee: 30 B&R Code/Program Value: BT0101000-1004210 Project Code: Attachment A, Contractor Recovery Act Performance Requirements, identifies the Contractor Recovery Act Schedule or Milestones, Performance Outcomes and Measures and Deliverables for this Work Authorization. The contractor's performance against the identified requirements in Attachment A will be evaluated under the Office of Energy Efficiency and Renewable Energy laboratory appraisal process.			
15. Reporting Requirements: (Status reports, scientific or technical information or similar)			
16. Work Authorization Program Official:			
Name (typed): Roland J. Risser, Program Manager	Signature: <i>[Signature]</i>	Date: <i>11/9/10</i>	
17. DOE Field Organization Official:			
Name (typed): M.G. Brandon	Signature: <i>[Signature]</i>	Date: 2-12-10	

18. Contractor's Authorized Representative:		
Name (typed): <u>D. C. Christensen</u>	Signature: <u>[Signature]</u>	Date: <u>2/17/2010</u>
19. DOE Contracting Officer (or delegated representative)		
Name (typed): <u>Mark A. Million</u>	Signature: <u>[Signature]</u>	Date: <u>2/11/10</u>
* The work authorization number will consist of the program code, AFP code, solicitation/project id and the fiscal year.		

Attachment A - Contractor Recovery Act Performance Requirements

Section A: Contractor Recovery Act Schedule or Milestone Requirements:

Milestone: 43173: Complete report documenting the information package testing and validation methodology. -
 Plan Complete: 6/30/2010

Section B: Contractor Recovery Act Performance Outcomes and Measures:

All project reports and documentation free of technical, grammatical and delivery errors. Key milestones completed within schedule.

Section C: Contractor Recovery Act Deliverables:

Information package testing and validation methodology report. Performance report for two high-performance houses.

FED 10-9039-RA AFP Jan

BT-47002-20742-10,2

U.S. DEPARTMENT OF ENERGY CONTRACT WORK AUTHORIZATION			
1a. Solicitation/Project Title: BTP2-2004060-Residential Buildings (Building America, Builders Challenge, and Existing Home Retrofits)		1b. Work Proposal Number (if applicable):	
2. Headquarters Program Point of Contact: Name: Terrence Logee		Organization Code: EE-2J	Telephone No: (202) 586-1689
3. Headquarters Budget Point of Contact: Name: Norman Hurwitz		Organization Code: EE-3B	Telephone No: (202) 287-5588
4. Responsible Program: Office of Energy Efficiency and Renewable Energy		5. Responsible Secretarial Officer: Catherine Zoi	
6. Responsible Field Element: Oak Ridge Operations Office			
7a. Site and Facility Management Contractor: University of Tennessee - Battelle (Oak Ridge National Laboratory)		7b. Contractor Point of Contact: Name: Pat M. Love Telephone No: (865) 574-4346	
8. Work Authorization Number: BT-47002-20742-10		9. Revision Number: 3	
10. Funds Authorized during FY 2010:			
B&R Code	Previous	Change	Current
BT0101000-05794-1004210 (2009)	\$0	\$157,000	\$157,000
11. Performance period covered by funds: From: 10/1/2009 To: 9/30/2010		12. Work Start Date: 10/1/2009 1/1/2010 NCL	
		13. Expected Completion Date: 9/30/2010	
14. Statement of Work: Specific Recovery Act Statement of Work Carryover funding in the amount of \$157,000 is authorized for BT0101000-05794-1004210-Building America (2009). These funds are made available for Project #20742 - BTP2-2004060-Residential Buildings (Building America, Builders Challenge, and Existing Home Retrofits). These funds are to be distributed to Agreement # 20339 - Building America Lab Retrofit Houses and Systems Research in accordance with AOP# 2004060. Over the 2008-2009 winter heating and summer season, detailed measurements were made on an "extreme energy retrofit" package of technologies on the Campbell Creek "retrofit" house (HERS =66) that was found to save 35-40 percent on a whole house energy consumption basis compared to the "builder" house (HERS= 85) next door with identical floor plan, orientation, shading and thermostat settings. This project will determine if the energy consumption and home operation documentation from the 10 occupied retrofitted houses can be used to develop energy saving simulated occupancy for the three Campbell Creek and four Wolf Creek DOE/TVA retrofit research houses. Additional tasks will include creating defensible/documented occupant energy use schedules and temperature settings for "energy efficient" behavior patterns for implementation in the Campbell Creek retrofit research houses. The laboratory recipient of the funds is responsible for reporting all funding obligations and costs to headquarters. The laboratory recipient must maintain obligations and cost data at the agreement level and the data must be made available to Energy Efficiency and Renewable Energy. ARRA funding information: Fund: 05794, Appropriation: 89-09/10-0331, Allottee: 30 B&R Code/Program Value: BT0101000-1004210 Project Code: Attachment A, Contractor Recovery Act Performance Requirements, identifies the Contractor Recovery Act Schedule or Milestones, Performance Outcomes and Measures and Deliverables for this Work Authorization. The contractor's performance against the identified requirements in Attachment A will be evaluated under the Office of Energy Efficiency and Renewable Energy laboratory appraisal process.			
15. Reporting Requirements: (Status reports, scientific or technical information or similar)			
16. Work Authorization Program Official: Name (typed): Roland J. Rissor, Program Manager		Signature: 	Date: 1/9/10

17. DOE Field Organization Official:		
Name (typed): M.G. Branton	Signature: <i>M.G. Branton</i>	Date: 2-12-10
18. Contractor's Authorized Representative:		
Name (typed): D.C. Christensen	Signature: <i>Johnny A. for DCC</i>	Date: 2/17/2010
19. DOE Contracting Officer (or delegated representative):		
Name (typed): MARK A. MILLION	Signature: <i>Mark A. Million</i>	Date: 2/10/10
* The work authorization number will consist of the program code, AFP code, solicitation/project id and the fiscal year.		

Attachment A - Contractor Recovery Act Performance Requirements

Section A: Contractor Recovery Act Schedule or Milestone Requirements:

Milestone: 43169; Complete defensible/documented occupant energy use schedules and temperature settings for "energy efficient" behavior patterns for implementation in the Campbell Creek retrofit research houses. - Plan Complete: 5/1/2010
 Milestone: 43170; Complete report documenting the two and three story ZEHcor wall performance in Wolf Creek research houses. - Plan Complete: 2/28/2010

Section B: Contractor Recovery Act Performance Outcomes and Measures:

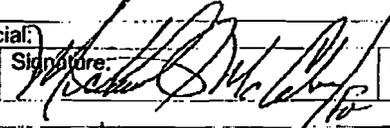
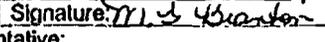
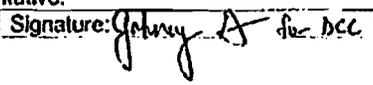
All project reports and documentation free of technical, grammatical and delivery errors. Key milestones completed within schedule.

Section C: Contractor Recovery Act Deliverables:

Occupant energy use schedules and temperature settings for energy efficient behavior patterns. Wolf Creek research houses ZEHcor wall performance report.

FED 10-9039-RA AFP Jan

B1-47002-20742-10,3

U.S. DEPARTMENT OF ENERGY CONTRACT WORK AUTHORIZATION			
1a. Solicitation/Project Title: BTP2-2004060-Residential Buildings (Building America, Builders Challenge, and Existing Home Retrofits)		1b. Work Proposal Number (if applicable):	
2. Headquarters Program Point of Contact: Name: Terrence Logee Organization Code: EE-2J Telephone No: (202) 586-1689			
3. Headquarters Budget Point of Contact: Name: Norman Hurwitz Organization Code: EE-3B Telephone No: (202) 287-5588			
4. Responsible Program: Office of Energy Efficiency and Renewable Energy		5. Responsible Secretarial Officer: Catherine Zoi	
6. Responsible Field Element: Oak Ridge Operations Office			
7a. Site and Facility Management Contractor: University of Tennessee - Battelle (Oak Ridge National Laboratory)		7b. Contractor Point of Contact: Name: Pat M. Love Telephone No: (865) 574-4346	
8. Work Authorization Number: BT-470002-20742-10		9. Revision Number: 4	
10. Funds Authorized during FY 2010 :			
<u>B&R Code</u>	<u>Previous</u>	<u>Change</u>	<u>Current</u>
BT0101000-05794-1004210 (2009)	\$0	\$300,000	\$300,000
11. Performance period covered by funds: From: 10/1/2009 To: 9/30/2010		12. Work Start Date: 10/1/2009 ^{1/1/2010 WCL}	13. Expected Completion Date: 9/30/2010
14. Statement of Work: Specific Recovery Act Statement of Work Carryover funding in the amount of \$300,000 is authorized for BT0101000-05794-1004210-Building America (2009). These funds are made available for Project #20742 - BTP2-2004060-Residential Buildings (Building America, Builders Challenge, and Existing Home Retrofits). These funds are to be distributed to Agreement # 20337-Documentation & Resource Development in accordance with AOP# 2004060. Building America has been focusing on energy efficient new construction for over 15 years. Most of American homes are now in need of major retrofitting. This project proposes to provide information and instruction on how to retrofit and save money on utility bills in the process. By working with industry professionals, we will assemble the latest information on energy efficient technologies and provide step by step instructions on how to utilize the information to make all homes safe, comfortable and energy efficient. The laboratory recipient of the funds is responsible for reporting all funding obligations and costs to headquarters. The laboratory recipient must maintain obligations and cost data at the agreement level and the data must be made available to Energy Efficiency and Renewable Energy. ARRA funding information: Fund: 05794, Appropriation: 89-09/10-0331, Allottee: 30 B&R Code/Program Value: BT0101000-1004210 Project Code: Attachment A, Contractor Recovery Act Performance Requirements, identifies the Contractor Recovery Act Schedule or Milestones, Performance Outcomes and Measures and Deliverables for this Work Authorization. The contractor's performance against the identified requirements in Attachment A will be evaluated under the Office of Energy Efficiency and Renewable Energy laboratory appraisal process.			
15. Reporting Requirements: (Status reports, scientific or technical information or similar)			
16. Work Authorization Program Official:			
Name (typed): Roland J. Risser, Program Manager	Signature: 	Date: 1/19/10	
17. DOE Field Organization Official:			
Name (typed): M.G. Branton	Signature: 	Date: 2-12-10	
18. Contractor's Authorized Representative:			
Name (typed): De Christensen	Signature: 	Date: 2/17/2010	

19. DOE Contracting Officer (or delegated representative)

Name (typed): MARK A. MILLER Signature: Mark A. Miller Date: 2/11/10

* The work authorization number will consist of the program code, AFP code, solicitation/project id and the fiscal year.

Attachment A - Contractor Recovery Act Performance Requirements

Section A: Contractor Recovery Act Schedule or Milestone Requirements:

Milestone: 43168; Complete report on "No Regrets Remodeling." - Plan Complete: 9/30/2010

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

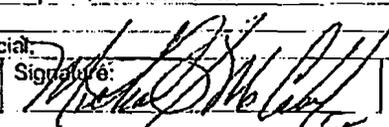
All project reports and documentation free of technical, grammatical and delivery errors. Key milestones completed within schedule.

Section C: Contractor Recovery Act Deliverables:

"No regrets remodeling" report.

FED 10-9039-RA AFP Jan

BT- 470002-20742-10, 4

U.S. DEPARTMENT OF ENERGY CONTRACT WORK AUTHORIZATION			
1a. Solicitation/Project Title: BTP2-2004060-Residential Buildings (Building America, Builders Challenge, and Existing Home Retrofits)		1b. Work Proposal Number (if applicable):	
2. Headquarters Program Point of Contact: Name: Terrence Logee Organization Code: EE-2J Telephone No: (202) 586-1689			
3. Headquarters Budget Point of Contact: Name: Norman Hurwitz Organization Code: EE-3B Telephone No: (202) 287-5588			
4. Responsible Program: Office of Energy Efficiency and Renewable Energy		5. Responsible Secretarial Officer: Catherine Zoi	
6. Responsible Field Element: Oak Ridge Operations Office			
7a. Site and Facility Management Contractor: University of Tennessee - Battelle (Oak Ridge National Laboratory)		7b. Contractor Point of Contact: Name: Pal M. Love Telephone No: (865) 574-4348	
8. Work Authorization Number: BT-470002-20742-10		9. Revision Number: 5	
10. Funds Authorized during FY 2010:			
B&R Code	Previous	Change	Current
BT0101000-05794-1004210 (2009)	\$0	\$500,000	\$500,000
11. Performance period covered by funds: From: 10/1/2009 To: 9/30/2010		12. Work Start Date: 10/4/2009 1/1/2010 WCL	
		13. Expected Completion Date: 9/30/2010	
14. Statement of Work: Specific Recovery Act Statement of Work Carryover funding in the amount of \$500,000 is authorized for BT0101000-05794-1004210-Building America (2009). These funds are made available for Project #20742 - BTP2-2004060-Residential Buildings (Building America, Builders Challenge, and Existing Home Retrofits). These funds are to be distributed to Agreement # 20677 - BA Retrofit Technical Support in accordance with AOP# 2004060. This will provide the technical support needed to execute the 10 extreme residential retrofits. ORNL will team with various retrofit partners for directing and generating technical support implementation. Some of these partners include, City of Knoxville, State of Tennessee, Town of Farragut, Tennessee, Knoxville Utility, etc. The technical approach starts with a team examination of the 1st year of data collection on what was thought to be a most cost effective retrofit for the most common type of house in TVA's service territory. Using BeOpt, BESTest, EnergyPlus, EnergyGauge, Remrate, and Manual J and Manual D software along with the actual walk-through audit results from the TVA residential retrofit program, optimum extreme retrofit packages will be recommended for the mixed humid climate for the house types with the highest market demand and the potential to attain 40-50% energy savings using the DOE Building America Benchmark process. The laboratory recipient of the funds is responsible for reporting all funding obligations and costs to headquarters. The laboratory recipient must maintain obligations and cost data at the agreement level and the data must be made available to Energy Efficiency and Renewable Energy. ARRA funding information: Fund: 05794, Appropriation: 89-09/10-0331, Allottee: 30 B&R Code/Program Value: BT0101000-1004210 Project Code: Attachment A. Contractor Recovery Act Performance Requirements, identifies the Contractor Recovery Act Schedule or Milestones, Performance Outcomes and Measures and Deliverables for this Work Authorization. The contractor's performance against the identified requirements in Attachment A will be evaluated under the Office of Energy Efficiency and Renewable Energy laboratory appraisal process.			
15. Reporting Requirements: (Status reports, scientific or technical information or similar)			
16. Work Authorization Program Official: Name (typed): Roland J. Risser, Program Manager			
Signature: 		Date: 1/19/10	

17. DOE Field Organization Official:		
Name (typed): M.G. Granton	Signature: M.G. Granton	Date: 2-12-10
18. Contractor's Authorized Representative:		
Name (typed): A.C. Christensen	Signature: Johnny A. for DCC	Date: 2/17/2010
19. DOE Contracting Officer (or delegated representative)		
Name (typed): MARK A. MILLION	Signature: Mark A. Million	Date: 2/11/10
* The work authorization number will consist of the program code, AFP code, solicitation/project id and the fiscal year.		

Attachment A - Contractor Recovery Act Performance Requirements

Section A: Contractor Recovery Act Schedule or Milestone Requirements:

Milestone: 43178; Obligate funding. - Plan Complete: 9/30/2010

Section B: Contractor Recovery Act Performance Outcomes and Measures:

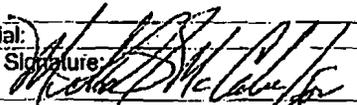
All project reports and documentation free of technical, grammatical and delivery errors. Key milestones completed within schedule.

Section C: Contractor Recovery Act Deliverables:

An electronic book on strategies and technical pathways and heavily rendered critical details for achieving extreme energy savings retrofits of 40-50%.

FED 10-9039-RA AFP Jan

BT - 47002 - 20742 - 10, 5

U.S. DEPARTMENT OF ENERGY CONTRACT WORK AUTHORIZATION			
1a. Solicitation/Project Title: BTP2-2004060-Residential Buildings (Building America, Builders Challenge, and Existing Home Retrofits)		1b. Work Proposal Number (if applicable):	
2. Headquarters Program Point of Contact: Name: Edward Pollock, Jr. Organization Code: EE-2J Telephone No: (202) 586-5778			
3. Headquarters Budget Point of Contact: Name: Norman Hurwitz Organization Code: EE-3B Telephone No: (202) 287-5588			
4. Responsible Program: Office of Energy Efficiency and Renewable Energy		5. Responsible Secretarial Officer: Catherine Zoi	
6. Responsible Field Element: Oak Ridge Operations Office			
7a. Site and Facility Management Contractor: University of Tennessee - Battelle (Oak Ridge National Laboratory)		7b. Contractor Point of Contact: Name: Jeffrey Christian Telephone No: (865) 574-5207	
8. Work Authorization Number: * BT-470002-20742-10		9. Revision Number: 6	
10. Funds Authorized during FY 2010:			
<u>B&R Code</u>	<u>Previous</u>	<u>Change</u>	<u>Current</u>
BT0101000-05794-1004210 (2009)	\$0	\$150,000	\$150,000
11. Performance period covered by funds: From: 10/1/2009 To: 9/30/2010			
12. Work Start Date: 10/1/2009		13. Expected Completion Date: 9/30/2010	
14. Statement of Work: <u>Specific Recovery Act Statement of Work</u> Carryover funding in the amount of \$150,000 is authorized for BT0101000-05794-1004210-Building America (2009). These funds are made available for Project #20742 - BTP2-2004060-Residential Buildings (Building America, Builders Challenge, and Existing Home Retrofits). These funds are to be distributed to Agreement # 20094-BA Retrofit Analysis in accordance with AOP# 2004060. This task is to validate a computer model and retrofit costs of house 2 at Campbell Creek with the heating and cooling season performance measurements already collected. The costs from the Campbell Creek house have been taken directly from the invoices. These costs will be the starting point for gathering hard quotes on 10 houses from TVA residential retrofit certified contractors. Each of the selected 10 test homeowners will provide detailed characteristics of the home and at least 12 months (preferably 36 months) of historic energy bills for the home. Three HVAC contractors who have worked with ORNL on the near zero energy houses have agreed to provide detailed cost estimates to remove the two old HVAC systems and replace them with the high-efficiency single zoned systems located in an insulated and sealed attic. The laboratory recipient of the funds is responsible for reporting all funding obligations and costs to headquarters. The laboratory recipient must maintain obligations and cost data at the agreement level and the data must be made available to Energy Efficiency and Renewable Energy. ARRA funding information: Fund: 05794, Appropriation: 89-09/10-0331, Allottee: 30 B&R Code/Program Value: BT0101000-1004210 Project Code: Attachment A, Contractor Recovery Act Performance Requirements, identifies the Contractor Recovery Act Schedule or Milestones, Performance Outcomes and Measures and Deliverables for this Work Authorization. The contractor's performance against the identified requirements in Attachment A will be evaluated under the Office of Energy Efficiency and Renewable Energy laboratory appraisal process.			
15. Reporting Requirements: (Status reports, scientific or technical information or similar)			
16. Work Authorization Program Official:			
Name (typed): Roland J. Risser, Program Manager	Signature: 	Date: 1/19/10	
17. DOE Field Organization Official:			

Name (typed): M.G. Branton	Signature: <i>M.G. Branton</i>	Date: 2-12-10
18. Contractor's Authorized Representative:		
Name (typed): D.P. Christensen	Signature: <i>D.P. Christensen</i>	Date: 2/17/2010
19. DOE Contracting Officer (or delegated representative)		
Name (typed): MARK A. MILLER	Signature: <i>Mark A. Miller</i>	Date: 2/11/10
* The work authorization number will consist of the program code, AFP code, solicitation/project id and the fiscal year.		

Attachment A - Contractor Recovery Act Performance Requirements

Section A: Contractor Recovery Act Schedule or Milestone Requirements:

Milestone: 43279; Complete report on optimum energy retrofit packages with neutral cash flow for common house type retrofit candidates participating in TVA's In-home Energy Evaluation. - Plan Complete: 1/30/2010

Section B: Contractor Recovery Act Performance Outcomes and Measures:

All project reports and documentation free of technical, grammatical and delivery errors. Key milestones completed within schedule.

Section C: Contractor Recovery Act Deliverables:

Report on optimum energy retrofit packages.

FED 10-9039-RA AFP Jan

BT-470002-20742-10, 6

Attachment 1b

U.S. DEPARTMENT OF ENERGY CONTRACT WORK AUTHORIZATION			
1a. Solicitation/Project Title: <i>APPX</i> B5 Transportation Infrastructure Activities		1b. Work Proposal Number (if applicable):	
2. Headquarters Program Point of Contact: Name: Alicia Lindauer-Thompson		Organization Code:	Telephone No: (202) 586-8847
3. Headquarters Budget Point of Contact: Name: Leshawn Sutton		Organization Code: EE-3B	Telephone No: (202) 586-9258
4. Responsible Program: Office of Energy Efficiency and Renewable Energy		5. Responsible Secretarial Officer: Catherine Zoi	
6. Responsible Field Element: Oak Ridge Operations Office			
7a. Site and Facility Management Contractor: University of Tennessee - Battelle (Oak Ridge National Laboratory)		7b. Contractor Point of Contact: Name: Mark Downing Telephone No: (865) 576-8140	
8. Work Authorization Number: BM-470002-20472-10		9. Revision Number: 2	
10. Funds Authorized during FY 2010:			
<u>B&R Code</u>	<u>Previous</u>	<u>Change</u>	<u>Current</u>
BM0102060-05794-1004173 (2009)	\$0	\$2,170,000	\$2,170,000
<i>See attached printout</i>			
11. Performance period covered by funds: From: 01/2010 To: 9/30/2010 <i>1/31/2011</i>		12. Work Start Date: 01/2010	13. Expected Completion Date: 01/30/2010 <i>1/31/2011</i> make
14. Statement of Work: Specific Recovery Act Statement of Work Carryover funding in the amount of \$2,170,000 is authorized for BM0102060-05794-1004173-Biorefinery (2009). These funds are made available for Project #20472 - B5 Transportation Infrastructure Activities. These funds are to be distributed to Agreement # 19087-B5 - WBS 8.5.10.2 ORNL Intermediate Blends Testing (Phase 1 & 2) (Project number: 2004570) in accordance with AOP# 2004570. These funds are made available due to reduced funding for the Infrastructure National Outreach and the Retail Refueling solicitation, and related merit reviews. This funding is to be applied to ORNL I-Blends testing, specifically for Task V4 (full useful life emissions testing). The laboratory recipient of the funds is responsible for reporting all funding obligations and costs to headquarters. The laboratory recipient must maintain obligations and cost data at the agreement level and the data must be made available to Energy Efficiency and Renewable Energy. ARRA funding information: Fund: 05794, Appropriation: 89-09/10-0331, Allottee: 30 B&R Code/Program Value: BM0102060-1004173 Project Code: 2004570 Attachment A, Contractor Recovery Act Performance Requirements, identifies the Contractor Recovery Act Schedule or Milestones, Performance Outcomes and Measures and Deliverables for this Work Authorization. The contractor's performance against the identified requirements in Attachment A will be evaluated under the Office of Energy Efficiency and Renewable Energy laboratory appraisal process.			
15. Reporting Requirements: (Status reports, scientific or technical information or similar)			
16. Work Authorization Program Official: Name (typed): John Ferrell, Acting Program Manager			
Signature: <i>John Ferrell</i>		Date: <i>12/31/09</i>	
17. DOE Field Organization Official: Name (typed): <i>A. Cole G. Branton</i>			
Signature: <i>A. Cole G. Branton</i>		Date: <i>2-17-10</i>	
18. Contractor's Authorized Representative: Name (typed): <i>D.C. Christensen</i>			
Signature: <i>Johnny A. for DCC</i>		Date: <i>2/17/2010</i>	
19. DOE Contracting Officer (or delegated representative): Name (typed): <i>Mark B. Millon</i>			
Signature: <i>Mark B. Millon</i>		Date: <i>2/16/10</i>	
* The work authorization number will consist of the program code, AFP code, solicitation/project id and the fiscal year.			

*ARRA Funds**16*

Attachment A - Contractor Recovery Act Performance Requirements

Section A: Contractor Recovery Act Schedule or Milestone Requirements:

Issue contract to testing facility for carrying out full useful life emissions tests on 21 vehicles by January 2010.

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

Collect and analyze data on the effects of intermediate ethanol blends on 21 vehicles by December 2010

Section C: Contractor Recovery Act Deliverables:

Provide a summary report on full useful life testing by March 2011.

FED 10-5083 AFP Jan

Internet Explorer - CPS 7005

Home | Help | Fundamentals | School | Contract | Grants | Financial | Performance | EEOC | User Guide

Ed Agreement: BS - WBS 8.5.10.2 ORIL Intermediate Blends Testing (Phase 1 & 2) (Project number: 2004570) (Agreement ID: 19087)

Go to View Page

Basic Information | Funding Agreements | Cost & Outputs | Metrics | Subgrants | Documents | Sections

Total Contract Value: **Total Cost Share Value:**

Mortgage/Out-Year Planning Data

FY	Amount
2009	\$0.00
2010	\$0.00
2011	\$0.00
2012	\$0.00
Total	\$0.00

View Agreement Fund Transfers Show Adjusted Totals including Scholarship Award Values

Authorized Program Guidance

Funding Action Number	FY	Month	Amount	Funding Source	Type	Expense Type	Funding Action Type
20472-24319	2009	Jul	\$2,000,000.00	B110102110-05794-1004173-Secretary	R	Operating	Program Guidance
20472-27331	2010	Dec	\$2,000,000.00	B110102680-05794-1004173-Secretary (2009)	C	Operating	Program Guidance
20472-28354	2010	Jan	\$2,170,000.00	B110102680-05794-1004173-Secretary (2009)	C	Operating	Program Guidance
Total:			\$6,170,000.00				

Internet 100%

U.S. DEPARTMENT OF ENERGY CONTRACT WORK AUTHORIZATION			
1a. Solicitation/Project Title: ARRA B5 Transportation Infrastructure Activities		1b. Work Proposal Number (if applicable):	
2. Headquarters Program Point of Contact: Name: Shabnam Fardanesh		Organization Code: EE-2G	Telephone No: (202) 586-7011
3. Headquarters Budget Point of Contact: Name: Leshawn Sutton		Organization Code: EE-3B	Telephone No: (202) 586-9258
4. Responsible Program: Office of Energy Efficiency and Renewable Energy		5. Responsible Secretarial Officer: Catherine Zoi	
6. Responsible Field Element: Oak Ridge Operations Office			
7a. Site and Facility Management Contractor: University of Tennessee - Battelle (Oak Ridge National Laboratory)		7b. Contractor Point of Contact: Name: Robin Graham Telephone No: (865) 576-7756	
8. Work Authorization Number: * BM-470002-20472-10		9. Revision Number: 1	
10. Funds Authorized during FY 2010:			
<u>B&R Code</u>	<u>Previous</u>	<u>Change</u>	<u>Current</u>
BM0102060-05794-1004173 (2009)	\$0 * <i>See attached CPS printout</i>	\$2,000,000	\$2,000,000
11. Performance period covered by funds: From: 2/1/2010 To: 9/30/2010 <i>1/21/2011</i> 10/1/2010		12. Work Start Date: 10/1/2010	13. Expected Completion Date: 8/31/2010 <i>(mnd)</i>
14. Statement of Work: Specific Recovery Act Statement of Work Carryover funding in the amount of \$2,000,000 is authorized for BM0102060-05794-1004173-Biorefinery (2009). These funds are made available for Project #20472 - B5 Transportation Infrastructure Activities. These funds are to be distributed to Agreement # 19087-B5 - WBS 8.5.10.2 ORNL Intermediate Blends Testing (Phase 1 & 2) (Project number: 2004570) in accordance with AOP# 2004570. This funding supports ethanol blends testing. Enhanced fuel testing will measure the impacts of higher intermediate ethanol blends (E15 and E20) on existing engines as well as infrastructure. This work will involve two phases. Phase 1 will involve testing newer Tier II emissions level vehicles over their full useful life. Phase 2 will involve additional vehicle testing on used and older Tier II and Tier I emissions level vehicles. The laboratory recipient of the funds is responsible for reporting all funding obligations and costs to headquarters. The laboratory recipient must maintain obligations and cost data at the agreement level and the data must be made available to Energy Efficiency and Renewable Energy. ARRA funding information: Fund: 05794, Appropriation: 89-09/10-0331, Allottee: 30 B&R Code/Program Value: BM0102060-1004173 Project Code: 2004570 Attachment A, Contractor Recovery Act Performance Requirements, identifies the Contractor Recovery Act Schedule or Milestones, Performance Outcomes and Measures and Deliverables for this Work Authorization. The contractor's performance against the identified requirements in Attachment A will be evaluated under the Office of Energy Efficiency and Renewable Energy laboratory appraisal process.			
15. Reporting Requirements: (Status reports, scientific or technical information or similar)			
16. Work Authorization Program Official:			
Name (typed): John Ferrell, Acting Program Manager		Signature: <i>John Ferrell</i>	Date: <i>10/31/09</i>
17. DOE Field Organization Official:			
Name (typed): <i>Michelle G. Barton</i>		Signature: <i>M. G. Barton</i>	Date: <i>2-17-10</i>
18. Contractor's Authorized Representative:			
Name (typed): <i>DC Christensen</i>		Signature: <i>DC Christensen</i>	Date: <i>2/17/10</i>
19. DOE Contracting Officer (or delegated representative):			
Name (typed): <i>Mark A. Million</i>		Signature: <i>Mark A. Million</i>	Date: <i>2/16/10</i>
* The work authorization number will consist of the program code, AFP code, solicitation/project id and the fiscal			

ARRA Funds

year.

Attachment A - Contractor Recovery Act Performance Requirements

Section A: Contractor Recovery Act Schedule or Milestone Requirements:

Issue contract to testing facility for carrying out full useful life emissions tests on 21 vehicles by January 2010.

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

Collect and analyze data on the effects of intermediate ethanol blends on 21 vehicles by December 2010.

Section C: Contractor Recovery Act Deliverables:

Provide a summary report on full useful life testing by March 2011.

FED 10-5079 AFP Dec

Attachment 1c

ARRA U.S. DEPARTMENT OF ENERGY CONTRACT WORK AUTHORIZATION			
1a. Solicitation/Project Title: EGS R&D (2004190) <i>ARRA</i>		1b. Work Proposal Number (if applicable):	
2. Headquarters Program Point of Contact: Name: Raymond Fortuna		Organization Code:	Telephone No: (202) 586-1711
3. Headquarters Budget Point of Contact: Name: Kyra Humphreys		Organization Code: EE-3B	Telephone No: (202) 586-8138
4. Responsible Program: Office of Energy Efficiency and Renewable Energy		5. Responsible Secretarial Officer: Catherine Zoi	
6. Responsible Field Element: Oak Ridge Operations Office			
7a. Site and Facility Management Contractor: University of Tennessee - Battelle (Oak Ridge National Laboratory)		7b. Contractor Point of Contact: Name: Adrian Sabau Telephone No:	
8. Work Authorization Number: * GT-470002-20685-10		9. Revision Number: 1	
10. Funds Authorized during FY 2010:			
B&R Code	Previous	Change	Current
EB4005020-05794-1004281 (2009)	50 *	\$705,000	\$705,000
<i>1/1/2010 see attached CPS printouts</i>			
11. Performance period covered by funds: From: 10/1/2009 To: 9/30/2010		12. Work Start Date: 10/1/2009	13. Expected Completion Date: 9/30/2010
14. Statement of Work: Specific Recovery Act Statement of Work Carryover funding in the amount of \$705,000 is authorized for EB4005020-05794-1004281-EGS (2009). These funds are made available for Project #20685 - EGS R&D (2004190). These funds are to be distributed to Agreement # 19994-Working Fluids and their Effect on Geothermal Turbines in accordance with FWP# CEEB180. Oak Ridge National Laboratory will evaluate working fluids for a geothermal turbine cycle based on property measurements, molecular dynamics modeling, and thermodynamic modeling to increase the turbine cycle efficiency in binary power plants. The laboratory recipient of the funds is responsible for reporting all funding obligations and costs to headquarters. The laboratory recipient must maintain obligations and cost data at the agreement level and the data must be made available to Energy Efficiency and Renewable Energy. ARRA funding information: Fund: 05794, Appropriation: 89-09/10-0331, Allottee: 30 B&R Code/Program Value: EB4005020-1004281 Project Code: 2004190 Attachment A, Contractor Recovery Act Performance Requirements, identifies the Contractor Recovery Act Schedule or Milestones, Performance Outcomes and Measures and Deliverables for this Work Authorization. The contractor's performance against the identified requirements in Attachment A will be evaluated under the Office of Energy Efficiency and Renewable Energy laboratory appraisal process.			
15. Reporting Requirements: (Status reports, scientific or 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): Edward Wall, Program Manager			
Signature: <i>E. Wall</i>		Date: 1/21/10	
17. DOE Field Organization Official: Name (typed): Michele L. Baanman			
Signature: <i>M. Baanman</i>		Date: 2-17-2010	
18. Contractor's Authorized Representative: Name (typed): D.C. Christensen			
Signature: <i>D.C. Christensen</i>		Date: 2/17/2010	
19. DOE Contracting Officer (or delegated representative) Name (typed): MARK A. MILLION			
Signature: <i>Mark A. Million</i>		Date: 2/16/10	
* The work authorization number will consist of the program code, AFP code, solicitation/project id and the fiscal			

year.

Attachment A - Contractor Recovery Act Performance Requirements

Section A: Contractor Recovery Act Schedule or Milestone Requirements:

1) 10/1/10 Prediction of thermodynamic properties for a single component fluid through the critical point. 2) 4/1/11 Obtain the full vapor-liquid equilibrium envelopes and critical points full for one set of mixtures.

Section B: Contractor Recovery Act Performance Outcomes and Measures:

Thermophysical and thermodynamic properties measured and validated against NIST values.

Section C: Contractor Recovery Act Deliverables:

1) thermodynamic properties for several candidate working fluids (2) a computational toolbox for the analysis of mixtures of fluids, turbine design and cooling needs (3) experimental results from Brayton cycle tests (4) recommendations for new working fluids.

FED 10-3029 ARRA AFP Jan

rev. 1



- OS/Rev: EERE
 FY: 2010
- Energy Efficiency and Renewable Energy
 - Biomass Applications
 - DOE Offices
 - Policy and Act
 - Program Support
 - Budget and Accounting
 - Facilities and Services
 - Federal Energy Storage
 - Geothermal Technology
 - Information Syst
 - ITAD
 - EERE &
 - EIS
 - EIS
 - EIS
 - EIS
 - EIS
 - HQ Offices
 - External Relations
 - Energy Res.
 - Energy Efficiency
 - Energy Storage
 - Technology Development

Portfolio Management Funding Information Reports Search
 EERE Agreement: Working Fluids and their Effect on Geothermal Turbines (Agreement ID: 19994)

Go to View Page
 Description Funding Authority Cost & Obligations Metrics Subscriptions Documents Solutions

Total Contract Value: Total Cost Share Value:

Mortgage/Out-Year Planning Data

FY	Amount
2009	\$0.00
2010	\$0.00
2011	\$0.00
2012	\$0.00
Total	\$0.00

View Agreement Fund Transfers Show Adjusted Totals Including Solicitation Award Values

Authorized Program Guidance

Funding Action Number	FY	Month	Amount	Funding Source	Type	Expense Type	Funding Action Type
20435-26293	2009	Sep	\$90,000.00	EB4605020-05794-1004281-EGS	R	Operating	Program Guidance
20595-22359	2010	Jan	\$705,000.00	EB4605020-05794-1004281-EGS (2009)	C	Operating	Program Guidance
Total:			\$795,000.00				

ARRA U.S. DEPARTMENT OF ENERGY CONTRACT WORK AUTHORIZATION			
1a. Solicitation/Project Title: EGS R&D (2004190)		1b. Work Proposal Number (if applicable):	
2. Headquarters Program Point of Contact: Name: Raymond Fortuna Organization Code: Telephone No: (202) 586-1711			
3. Headquarters Budget Point of Contact: Name: Kyra Humphreys Organization Code: EE-3B Telephone No: (202) 586-8138			
4. Responsible Program: Office of Energy Efficiency and Renewable Energy		5. Responsible Secretarial Officer: Catherine Zoi	
6. Responsible Field Element: Oak Ridge Operations Office			
7a. Site and Facility Management Contractor: University of Tennessee - Ballele (Oak Ridge National Laboratory)		7b. Contractor Point of Contact: Name: David Cole Telephone No: (865) 574-5473	
8. Work Authorization Number: GT-470002-20685-10		9. Revision Number: 2	
10. Funds Authorized during FY 2010:			
B&R Code	Previous	Change	Current
EB4005020-05794-1004281 (2009)	50 *	\$400,000	\$400,000
<i>1/1/2010 NCL See attached CPS printout.</i>			
11. Performance period covered by funds: From: 10/1/2009 To: 9/30/2010		12. Work Start Date: 10/1/2009	13. Expected Completion Date: 1/1/2010 NCL 9/30/2010
14. Statement of Work: Specific Recovery Act Statement of Work Carryover funding in the amount of \$400,000 is authorized for EB4005020-05794-1004281-EGS (2009). These funds are made available for Project #20685 - EGS R&D (2004190). These funds are to be distributed to Agreement # 19996-Properties of CO2 Rich Pore Fluids and their Effect on Porosity Evolution in EGS Rocks in accordance with FWP# CEEB182. Oak Ridge National Laboratory will 1) characterize CO2 and water bulk and pore fluids by vibrating tube densimetry, 2) determine changing pore and fluid structures using neutron scattering, and 3) conduct real time imaging of the dissolution front and evolution of porosity using x-ray and neutron computed tomography. The laboratory recipient of the funds is responsible for reporting all funding obligations and costs to headquarters. The laboratory recipient must maintain obligations and cost data at the agreement level and the data must be made available to Energy Efficiency and Renewable Energy. ARRA funding information: Fund: 05794, Appropriation: 89-09/10-0331, Allottee: 30 B&R Code/Program Value: EB4005020-1004281 Project Code: 2004190 Attachment A, Contractor Recovery Act Performance Requirements, identifies the Contractor Recovery Act Schedule or Milestones, Performance Outcomes and Measures and Deliverables for this Work Authorization. The contractor's performance against the identified requirements in Attachment A will be evaluated under the Office of Energy Efficiency and Renewable Energy laboratory appraisal process.			
15. Reporting Requirements: (Status reports, scientific or 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): Edward Wall, Program Manager Signature: <i>Edward Wall</i> Date: 1/21/10			
17. DOE Field Organization Official: Name (typed): Michele G. D'Amico Signature: <i>M. G. D'Amico</i> Date: 2-17-2010			
18. Contractor's Authorized Representative: Name (typed): D.C. Christensen Signature: <i>Johny A. for DC</i> Date: 2/17/2010			
19. DOE Contracting Officer (or delegated representative): Name (typed): MARK A. MILLION Signature: <i>Mark A. Million</i> Date: 2/16/10			

* The work authorization number will consist of the program code, AFP code, solicitation/project id and the fiscal year.

Attachment A - Contractor Recovery Act Performance Requirements

Section A: Contractor Recovery Act Schedule or Milestone Requirements:

1. thermophysical data on CO₂-rich fluid mixtures - 12/30/10 2. (a) to probe the pore-scale features likely to be encountered in subsurface environments, and (b) to assess the impact of pore-scale confinement on the properties of CO₂-rich fluids. - 9/30/11

Section B: Contractor Recovery Act Performance Outcomes and Measures:

(a) Accurate fluid properties in the relevant pressure, temperature, and composition ranges; (b) predict the migration of such fluids through the fracture/pore environment over variable length scales; and (c) provide provisions in current models for the effects of adsorption and fluid confinement.

Section C: Contractor Recovery Act Deliverables:

The quantified parameters critically needed for developing and validating numerical modeling of chemical interactions between EGS reservoir rocks and supercritical CO₂ and CO₂-rich aqueous fluids.

FED 10-3029 ARRA AFP Jan

rev. 2

ARRA U.S. DEPARTMENT OF ENERGY CONTRACT WORK AUTHORIZATION			
1a. Solicitation/Project Title: EGS R&D (2004190)		1b. Work Proposal Number (if applicable):	
2. Headquarters Program Point of Contact: Name: Raymond Fortuna Organization Code: Telephone No: (202) 586-1711			
3. Headquarters Budget Point of Contact: Name: Kyra Humphreys Organization Code: EE-3B Telephone No: (202) 586-8138			
4. Responsible Program: Office of Energy Efficiency and Renewable Energy		5. Responsible Secretarial Officer: Catherine Zoi	
6. Responsible Field Element: Oak Ridge Operations Office			
7a. Site and Facility Management Contractor: University of Tennessee - Battelle (Oak Ridge National Laboratory)		7b. Contractor Point of Contact: Name: William Peter Telephone No:	
8. Work Authorization Number: GT-470002-20685-10		9. Revision Number: 3	
10. Funds Authorized during FY 2010:			
B&R Code	Previous	Change	Current
EB4005020-05794- 1004281 (2009)	\$0 *	\$434,000	\$434,000
<i>2/1/2010 NCL See attached CRB printout</i>			
11. Performance period covered by funds: From: 10/1/2009 To: 9/30/2010		12. Work Start Date: 10/1/2009 <i>1/1/2010 NCL</i>	
13. Expected Completion Date: 9/30/2010			
14. Statement of Work: Specific Recovery Act Statement of Work Carryover funding in the amount of \$434,000 is authorized for EB4005020-05794-1004281-EGS (2009). These funds are made available for Project #20685 - EGS R&D (2004190). These funds are to be distributed to Agreement # 19998-Wear-Resistant NanoComposite Stainless Steel Coatings and Bits for Geothermal Drilling in accordance with FWP# CEEB183. Oak Ridge National Laboratory will develop ultra hard, wear resistant nanocomposite stainless steels coatings and bulk components to increase the lifetime of drill tooling in harsh geothermal environments. The laboratory recipient of the funds is responsible for reporting all funding obligations and costs to headquarters. The laboratory recipient must maintain obligations and cost data at the agreement level and the data must be made available to Energy Efficiency and Renewable Energy. ARRA funding information: Fund: 05794, Appropriation: 89-09/10-0331, Allottee: 30 B&R Code/Program Value: EB4005020-1004281 Project Code: 2004190 Attachment A, Contractor Recovery Act Performance Requirements, identifies the Contractor Recovery Act Schedule or Milestones, Performance Outcomes and Measures and Deliverables for this Work Authorization. The contractor's performance against the identified requirements in Attachment A will be evaluated under the Office of Energy Efficiency and Renewable Energy laboratory appraisal process.			
15. Reporting Requirements: (Status reports, scientific or 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): Edward Wall, Program Manager Signature: <i>[Signature]</i> Date: <i>1/21/10</i>			
17. DOE Field Organization Official: Name (typed): <i>Michelle G. Brantley</i> Signature: <i>[Signature]</i> Date: <i>2-17-2010</i>			
18. Contractor's Authorized Representative: Name (typed): <i>D.C. Christensen</i> Signature: <i>[Signature]</i> Date: <i>2/17/2010</i>			
19. DOE Contracting Officer (or delegated representative): Name (typed): <i>MARKA MILLION</i> Signature: <i>[Signature]</i> Date: <i>2/16/10</i>			
* The work authorization number will consist of the program code, AFP code, solicitation/project id and the fiscal			

year.

Attachment A - Contractor Recovery Act Performance Requirements

Section A: Contractor Recovery Act Schedule or Milestone Requirements:

ORNL will have performed wear tests using abrasive wear loop apparatus, salt fog tests for corrosion, and fracture toughness/Impact tests to compare coatings and bulk samples with H13 steel, 316 stainless steel, and WC/20% Co. 12/30/10 In addition, ORNL will develop, validate and create baseline data using a unique testing apparatus for simulating geothermal conditions.

Section B: Contractor Recovery Act Performance Outcomes and Measures:

The coatings/bulk samples must have equal or better salt fog test results than the 316 stainless steel, equal or better abrasive wear test results than H13 steel, and equal or better fracture toughness results than WC/20%Co.

Section C: Contractor Recovery Act Deliverables:

A mid-project report containing metallurgical, mechanical and corrosion results will be provided in 18 months.

FED 10-3029 ARRA AFP Jan

REV. 3

Office: **EERE**
 FY: **2010**

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EdI Agreement: Wear-Resistant NanoComposite Stainless Steel Coatings and Drills for Geothermal Drilling (Agreement ID: 19938)

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Total Contract Value:

Total Cost Share Value:

Mortgage/Out-Year Planning Data

FY	Amount
2009	\$0.00
2010	\$0.00
2011	\$0.00
2012	\$0.00
Total:	\$0.00

View Agreement Fund Transfers

Show Adjusted Totals Including Solicitation Award Values

Authorized Program Guidance

Funding Action Number	FY	Month	Amount	Funding Source	Type	Expense Type	Funding Action Type
20685-26285	2009	Sep	\$551,030.00	EB4005020-05784-1034281-EGS	R	Operating	Program Guidance
20685-28562	2010	Jan	\$434,030.00	EB4005020-05784-1034281-EGS (2009)	C	Operating	Program Guidance
Total:			\$1,085,000.00				

[View Current Year](#)

ARRA
U.S. DEPARTMENT OF ENERGY
CONTRACT WORK AUTHORIZATION

1a. Solicitation/Project Title: EGS R&D (2004190)		1b. Work Proposal Number (if applicable):	
2. Headquarters Program Point of Contact: Name: Raymond Fortuna Organization Code: Telephone No: (202) 586-1711			
3. Headquarters Budget Point of Contact: Name: Kyra Humphreys Organization Code: EF-3B Telephone No: (202) 586-8138			
4. Responsible Program: Office of Energy Efficiency and Renewable Energy		5. Responsible Secretarial Officer: Catherine Zoi	
6. Responsible Field Element: Oak Ridge Operations Office			
7a. Site and Facility Management Contractor: University of Tennessee - Battelle (Oak Ridge National Laboratory)		7b. Contractor Point of Contact: Name: Halice Akkurt Telephone No: (865) 574-9143	
8. Work Authorization Number: GT-470002-20685-10		9. Revision Number: 4	
10. Funds Authorized during FY 2010:			
<u>B&R Code</u>	<u>Previous</u>	<u>Change</u>	<u>Current</u>
EB4005020-05794-1004281 (2009)	\$0 *	\$385,000	\$385,000
<i>11/2009 ncc See attached CPS printout</i>			
11. Performance period covered by funds: From: 10/1/2009 To: 9/30/2010		12. Work Start Date: 10/1/2009 11/2010 ncc	
13. Expected Completion Date: 9/30/2010			
14. Statement of Work: Specific Recovery Act Statement of Work Carryover funding in the amount of \$385,000 is authorized for EB4005020-05794-1004281-EGS (2009). These funds are made available for Project #20685 - EGS R&D (2004190). These funds are to be distributed to Agreement # 19999-Feasibility and Design Studies for a High Temperature Downhole Tool in accordance with FWP# CEEB181. Oak Ridge National Laboratory will perform feasibility and design studies for a high temperature downhole tool that can measure the porosity, lithology, and density profile of geothermal wells. The laboratory recipient of the funds is responsible for reporting all funding obligations and costs to headquarters. The laboratory recipient must maintain obligations and cost data at the agreement level and the data must be made available to Energy Efficiency and Renewable Energy. ARRA funding information: Fund: 05794, Appropriation: 89-09/10-0331, Allottee: 30 B&R Code/Program Value: EB4005020-1004281 Project Code: 2004190 Attachment A, Contractor Recovery Act Performance Requirements, identifies the Contractor Recovery Act Schedule or Milestones, Performance Outcomes and Measures and Deliverables for this Work Authorization. The contractor's performance against the identified requirements in Attachment A will be evaluated under the Office of Energy Efficiency and Renewable Energy laboratory appraisal process.			
15. Reporting Requirements: (Status reports, scientific or 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): Edward Wall, Program Manager Signature: <i>E. Wall</i> Date: 1/21/10			
17. DOE Field Organization Official: Name (typed): <i>Michelle G. Branton</i> Signature: <i>M. G. Branton</i> Date: 2-17-2010			
18. Contractor's Authorized Representative: Name (typed): <i>D.C. Christensen</i> Signature: <i>D.C. Christensen</i> Date: 2/17/2010			
19. DOE Contracting Officer (or delegated representative) Name (typed): <i>Mark A. Mullion</i> Signature: <i>Mark A. Mullion</i> Date: 2/16/10			
* The work authorization number will consist of the program code, AFP code, solicitation/project id and the fiscal			

year.

Attachment A - Contractor Recovery Act Performance Requirements

Section A: Contractor Recovery Act Schedule or Milestone Requirements:

Evaluation and testing of the commercially available scintillator materials (for photon detection) and moderator materials (for neutron detector) for temperature and pressure to determine operation range. Temperature tests will be conducted up to 400oC. Further tests will be performed to investigate if temperature/pressure resistance could be improved by using different encapsulation materials/or the detectors. Simulations will be performed for optimum tool design to determine the number and types of detectors for the optimum response. Go/no-go: None of the commercially available scintillators meet the criteria, then we move to crystals that are not commercially available (i.e., SrI2:Eu2+, CeCl3). If plastic moderators do not work, we will evaluate other candidate moderator materials. 9/30/10.

Section B: Contractor Recovery Act Performance Outcomes and Measures:

Determination of the operating range with validation results from both tests and simulations. Demonstration of the response within the operation range.

Section C: Contractor Recovery Act Deliverables:

Progress report documenting the results from the first phase of the feasibility studies, including the test results and status. The report will also discuss the path forward for the second half of the project based on findings

FED 10-3029 ARRA AFP Jan

rev. 4

Attachment 1d

U.S. DEPARTMENT OF ENERGY CONTRACT WORK AUTHORIZATION			
1a. Solicitation/Project Title: BTP6-2004100-Solid State Lighting <i>ARRA</i>		1b. Work Proposal Number (if applicable):	
2. Headquarters Program Point of Contact: Name: James Brodrick Organization Code: EE-2J Telephone No: (202) 586-1856			
3. Headquarters Budget Point of Contact: Name: Norman Hurwitz Organization Code: EE-3B Telephone No: (202) 287-5588			
4. Responsible Program: Office of Energy Efficiency and Renewable Energy		5. Responsible Secretarial Officer: Catherine Zoi	
6. Responsible Field Element: Oak Ridge Operations Office			
7a. Site and Facility Management Contractor: University of Tennessee - Battelle (Oak Ridge National Laboratory)		7b. Contractor Point of Contact: Name: Pat M. Love Telephone No: (865) 574-4346	
8. Work Authorization Number: * BT-470002-20745-10		9. Revision Number: 1	
10. Funds Authorized during FY 2010:			
<u>B&R Code</u>	<u>Previous</u>	<u>Change</u>	<u>Current</u>
BT0301000-05794-1004214 (2009)	\$0	\$1,200,000	\$1,200,000
11. Performance period covered by funds: From: 10/1/2009 To: 9/30/2010		12. Work Start Date: 10/1/2009 1/1/2010 <i>wel</i>	13. Expected Completion Date: 9/30/2010
14. Statement of Work: Specific Recovery Act Statement of Work Carryover funding in the amount of \$1,200,000 is authorized for BT0301000-05794-1004214-Lighting R&D (2009). These funds are made available for Project # 20745 - BTP6-2004100-Solid State Lighting. These funds are to be distributed to Agreement # 20348 - SSL LARGE RETAIL OUTREACH in accordance with AOP# 2004100. This scope of work covers Recovery Act Funding for solid-state lighting (SSL) outreach to large retail partners for an 18-month program. The key components of the outreach include cooperative marketing support, expansion of the Lighting Facts web site, product testing and analysis, and monitoring and reporting of program results. The laboratory recipient of the funds is responsible for reporting all funding obligations and costs to headquarters. The laboratory recipient must maintain obligations and cost data at the agreement level and the data must be made available to Energy Efficiency and Renewable Energy. ARRA funding information: Fund: 05794, Appropriation: 89-09/10-0331, Allottee: 30 B&R Code/Program Value: BT0301000-1004214 Project Code: Attachment A, Contractor Recovery Act Performance Requirements, identifies the Contractor Recovery Act Schedule or Milestones, Performance Outcomes and Measures and Deliverables for this Work Authorization. The contractor's performance against the identified requirements in Attachment A will be evaluated under the Office of Energy Efficiency and Renewable Energy laboratory appraisal process.			
15. Reporting Requirements: (Status reports, scientific or technical information or similar)			
16. Work Authorization Program Official: Name (typed): Roland J. Rissor, Program Manager Signature: <i>[Signature]</i> Date: 1/19/10			
17. DOE Field Organization Official: Name (typed): Michele G. Brunton Signature: <i>[Signature]</i> Date: 2/16/2010			
18. Contractor's Authorized Representative: Name (typed): De Christensen Signature: <i>[Signature]</i> Date: 2/17/2010			
19. DOE Contracting Officer (or delegated representative): Name (typed): MARK A. MILLON Signature: <i>[Signature]</i> Date: 2/11/10			
* The work authorization number will consist of the program code, AFP code, solicitation/project id and the fiscal year.			

1d

Attachment A - Contractor Recovery Act Performance Requirements

Section A: Contractor Recovery Act Schedule or Milestone Requirements:

Milestone: 43052; Complete approval of retailer proposals. - Plan Complete: 9/30/2010 Milestone: 43353; Complete development of marketing material. - Plan Complete: 9/30/2010 Milestone: 43354; Complete monthly product testing and analysis report. - Plan Complete: 9/30/2010

Section B: Contractor Recovery Act Performance Outcomes and Measures:

o Complete 4 approved proposals by 3 months after receipt of funding. o Complete marketing materials by 6 months after receipt of funding. o Test 16 products for retailers to select for sale in their stores by 12 months after receipt of funding.

Section C: Contractor Recovery Act Deliverables:

o Approved retailer proposals. o Final marketing materials. o Product list and product testing and analysis reports.

FED 10-9039-RA AFP Jan

BT - 470002 - 20145 - 10, 1

Attachment 1e

U.S. DEPARTMENT OF ENERGY CONTRACT WORK AUTHORIZATION			
1a. Solicitation/Project Title: BTP2-2004060-Residential Buildings (Building America, Builders Challenge, and Existing Home Retrofits)		1b. Work Proposal Number (if applicable):	
2. Headquarters Program Point of Contact: Name: Terrence Logee Organization Code: EE-2J Telephone No: (202) 586-1689			
3. Headquarters Budget Point of Contact: Name: Norman Hurwitz Organization Code: EE-3B Telephone No: (202) 287-5588			
4. Responsible Program: Office of Energy Efficiency and Renewable Energy		5. Responsible Secretarial Officer: Catherine Zoi	
6. Responsible Field Element: Oak Ridge Operations Office			
7a. Site and Facility Management Contractor: University of Tennessee - Battelle (Oak Ridge National Laboratory)		7b. Contractor Point of Contact: Name: Pat M. Love Telephone No: (865) 574-1346	
8. Work Authorization Number: BT-470002-20742-10		9. Revision Number: 7	
10. Funds Authorized during FY 2010 :			
<u>B&R Code</u>	<u>Previous</u>	<u>Change</u>	<u>Current</u>
BT0101000-05794-1004210 (2009)	\$0	\$530,000	\$530,000
11. Performance period covered by funds: From: 10/1/2009 To: 9/30/2010		12. Work Start Date: 10/1/2009 1/1/2010 <i>WCC</i>	
		13. Expected Completion Date: 9/30/2010	
14. Statement of Work: Specific Recovery Act Statement of Work Carryover funding in the amount of \$530,000 is authorized for BT0101000-05794-1004210-Building America (2009). These funds are made available for Project #20742 - BTP2-2004060-Residential Buildings (Building America, Builders Challenge, and Existing Home Retrofits). These funds are to be distributed to Agreement # 20695-BA Retrofit Market Transformation - Documentation in accordance with AOP# 2004060. To support the market transformation effort and reach DOE's aggressive goals, the DRD team will support Building America teams in their efforts to recruit, partner and disseminate results. The approach will differ by climate region, demographic segment, housing stock, and regional conventions, but is likely to include developing key messaging and outreach materials for print and online dissemination, and support at national, regional, and local trade and educational conferences. A key to success will be the development of a strategic market transformation plan. The plan will be developed based on interviews with key stakeholders combined with market analysis. The laboratory recipient of the funds is responsible for reporting all funding obligations and costs to headquarters. The laboratory recipient must maintain obligations and cost data at the agreement level and the data must be made available to Energy Efficiency and Renewable Energy. ARRA funding information: Fund: 05794, Appropriation: 89-09/10-0331, Allottee: 30 B&R Code/Program Value: BT0101000-1004210 Project Code: Attachment A, Contractor Recovery Act Performance Requirements, identifies the Contractor Recovery Act Schedule or Milestones, Performance Outcomes and Measures and Deliverables for this Work Authorization. The contractor's performance against the identified requirements in Attachment A will be evaluated under the Office of Energy Efficiency and Renewable Energy laboratory appraisal process.			
15. Reporting Requirements: (Status reports, scientific or technical information or similar)			
16. Work Authorization Program Official: Name (typed): Roland J. Risser, Program Manager Signature: <i>[Signature]</i> Date: 1/19/10			
17. DOE Field Organization Official: Name (typed): M.G. Branton Signature: <i>[Signature]</i> Date: 2-12-10			

le

18. Contractor's Authorized Representative:		
Name (typed): J.C. Christensen	Signature: <i>J.C. Christensen</i>	Date: 2/17/2010
19. DOE Contracting Officer (or delegated representative):		
Name (typed): MARK A. MILLION	Signature: <i>Mark A. Million</i>	Date: 2/11/10
* The work authorization number will consist of the program code, AFP code, solicitation/project id and the fiscal year.		

Attachment A - Contractor Recovery Act Performance Requirements

Section A: Contractor Recovery Act Schedule or Milestone Requirements:

Milestone: 43289; Complete market transformation plan addressing tactics for region and outcome measures. -
 Plan Complete: 4/30/2010

Section B: Contractor Recovery Act Performance Outcomes and Measures:

All project reports and documentation free of technical, grammatical and delivery errors. Key milestones completed within schedule.

Section C: Contractor Recovery Act Deliverables:

Market transformation plan. Final report.

FED 10-9039-RA AFP Jan

BT - 470002 - 20742 - 10, 7

- Object: **BERE**
 FY: **2010**
- Agency Strategy and Research Group
 - Strategic Administration
 - DCB Contract
 - Agency All
 - Business Program
 - Strategic Technology Program
 - BTTC-2010-001-Operational Support**
 - BA Data Mining Technical Support
 - BA Research Analysis
 - BA Research Data Management
 - BA Research Quality Management
 - BA Research Technical Support
 - Building America Loan Servicing
 - Educational & Research
 - Federal BA Technical Support
 - Federal Loan Servicing and Data
 - Research Research in 2010
 - Research Systems
 - BTTC-2010-002-Educational Support
 - BTTC-2010-003-Operational Support
 - Technical and Information
 - Federal Energy Management Program
 - Operational Technology Support
 - HQ Operations
 - Internal Technology
 - State Energy
 - Workforce and Management
 - Student Management Technology
 - Technology Development

Portfolio Management Funding Information Reports Search

Exit Agreement: BA Research Market Transformation - Documentation (Agreement ID: 20595)

Go to View Page

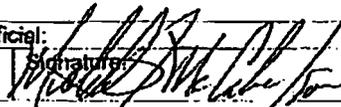
Basic Information Funding Authorized Cost Objectors Milestones Subcontract Documents Solicitors

Total Contract Value: Total Cost Share Value:

Mortgage/Out-Year Planning Data	
FY	Amount
2010	\$0.00
2011	\$0.00
2012	\$0.00
Total	\$0.00

View Agreement Fund Transfers Show Adjusted Totals Including Solicitation Award Values

Authorized Program Guidance							
Funding Action Number	FY	Month	Amount	Funding Source	Type	Expense Type	Funding Action Type
23742-28320	2010	Jan	\$530,000.00	BTTC101000-05784-1004210-Building America (2309)	C	Operating	Program Guidance
Total			\$530,000.00				

U.S. DEPARTMENT OF ENERGY CONTRACT WORK AUTHORIZATION			
1a. Solicitation/Project Title: BTP2-2004060-Residential Buildings (Building America, Builders Challenge, and Existing Home Retrofits)		1b. Work Proposal Number (if applicable):	
2. Headquarters Program Point of Contact: Name: Terrence Logee Organization Code: EE-2J Telephone No: (202) 586-1689			
3. Headquarters Budget Point of Contact: Name: Norman Hurwitz Organization Code: EE-3B Telephone No: (202) 287-5588			
4. Responsible Program: Office of Energy Efficiency and Renewable Energy		5. Responsible Secretarial Officer: Catherine Zoi	
6. Responsible Field Element: Oak Ridge Operations Office			
7a. Site and Facility Management Contractor: University of Tennessee - Battelle (Oak Ridge National Laboratory)		7b. Contractor Point of Contact: Name: Jeffrey Christian Telephone No: (865) 674-5207	
8. Work Authorization Number: BT-470002-20742-10		9. Revision Number: 8	
10. Funds Authorized during FY 2010:			
<u>B&R Code</u>	<u>Previous</u>	<u>Change</u>	<u>Current</u>
BT0101000-05794-1004210 (2009)	\$0	\$530,000	\$530,000
11. Performance period covered by funds: From: 10/1/2009 To: 9/30/2010		12. Work Start Date: 10/1/2009 1/1/2010 <i>NCL</i>	
		13. Expected Completion Date: 9/30/2010	
14. Statement of Work: Specific Recovery Act Statement of Work Carryover funding in the amount of \$530,000 is authorized for BT0101000-05794-1004210-Building America (2009). These funds are made available for Project #20742 - BTP2-2004060-Residential Buildings (Building America, Builders Challenge, and Existing Home Retrofits). These funds are to be distributed to Agreement # 20696-Focused BA regional Retrofit Market Transformation in accordance with AOP# 2004060. Project# 2004060-Residential Buildings (Building America, Builders Challenge, and Existing Home Retrofits) This builds on the TVA residential retrofit program just ramping up in the middle of the mixed-humid climate region. TVA and its 158 public power distributors have a long history of residential energy-efficiency programs that had been abandoned up to a few years ago. TVA's latest strategic plan states that it will strive to return to the top quartile of utility-ranked energy efficiency and demand side management programs by 2012. It will also require community involvement information seminars. These will take the form of a series of town hall meetings announcing the retrofit research house findings from the Campbell Creek Retrofit Research Houses. The second major task is to identify individual homeowners, subdivisions with geographically aggregated homes of similar construction, age, and market readiness for major renovation that can integrate the lessons learned from the 10 DOE Building America/TVA retrofit test homes. The laboratory recipient of the funds is responsible for reporting all funding obligations and costs to headquarters. The laboratory recipient must maintain obligations and cost data at the agreement level and the data must be made available to Energy Efficiency and Renewable Energy. ARRA funding information: Fund: 05794, Appropriation: 89-09/10-0331, Allottee: 30 B&R Code/Program Value: BT0101000-1004210 Project Code: Attachment A, Contractor Recovery Act Performance Requirements, identifies the Contractor Recovery Act Schedule or Milestones, Performance Outcomes and Measures and Deliverables for this Work Authorization. The contractor's performance against the identified requirements in Attachment A will be evaluated under the Office of Energy Efficiency and Renewable Energy laboratory appraisal process.			
15. Reporting Requirements: (Status reports, scientific or technical information or similar)			
16. Work Authorization Program Official:			
Name (typed): Joseph W. Hagerman, Acting Program		Signature: 	Date: 1/19/10

Name (typed): M.G. Branton	Signature: M.G. Branton	Date: 2-12-10
18. Contractor's Authorized Representative:		
Name (typed): D.C. Christensen	Signature: Johnny A. to DCC	Date: 2/17/2010
19. DOE Contracting Officer (or delegated representative)		
Name (typed): MARK A. MILLION	Signature: Mark A. Million	Date: 2/11/10
* The work authorization number will consist of the program code, AFP code, solicitation/project id and the fiscal year.		

Attachment A - Contractor Recovery Act Performance Requirements

Section A: Contractor Recovery Act Schedule or Milestone Requirements:

Milestone: 43293; Obligate Funding. - Plan Complete: 9/30/2010

Section B: Contractor Recovery Act Performance Outcomes and Measures:

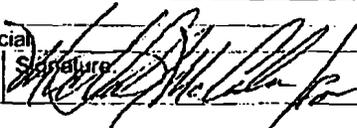
All project reports and documentation free of technical, grammatical and delivery errors. Key milestones completed within schedule.

Section C: Contractor Recovery Act Deliverables:

Set of fact sheets on each extreme retro home project, with neutral cash flow analysis and documented thermal comfort improvement.

FED 10-9039-RA AFP Jan

BT- 47002-20742-10, 8

U.S. DEPARTMENT OF ENERGY CONTRACT WORK AUTHORIZATION			
1a. Solicitation/Project Title: BTP2-2004060-Residential Buildings (Building America, Builders Challenge, and Existing Home Retrofits)		1b. Work Proposal Number (if applicable):	
2. Headquarters Program Point of Contact: Name: Terrence Logee Organization Code: EE-2J Telephone No: (202) 586-1689			
3. Headquarters Budget Point of Contact: Name: Norman Hurwitz Organization Code: EE-3B Telephone No: (202) 287-5588			
4. Responsible Program: Office of Energy Efficiency and Renewable Energy		5. Responsible Secretarial Officer: Catherine Zoi	
6. Responsible Field Element: Oak Ridge Operations Office			
7a. Site and Facility Management Contractor: University of Tennessee - Battelle (Oak Ridge National Laboratory)		7b. Contractor Point of Contact: Name: Pat M. Love Telephone No: (865) 574-4346	
8. Work Authorization Number: BT-470002-20742-10		9. Revision Number: 9	
10. Funds Authorized during FY 2010:			
<u>B&R Code</u>	<u>Previous</u>	<u>Change</u>	<u>Current</u>
BT0101000-05794-1004210 (2009)	\$0	\$200,000	\$200,000
11. Performance period covered by funds: From: 10/1/2009 ^{11/1/2010} To: 9/30/2010		12. Work Start Date: 10/1/2009 ^{11/1/2010}	
		13. Expected Completion Date: 9/30/2010	
14. Statement of Work: Specific Recovery Act Statement of Work Carryover funding in the amount of \$200,000 is authorized for BT0101000-05794-1004210-Building America (2009). These funds are made available for Project #20742 - BTP2-2004060-Residential Buildings (Building America, Builders Challenge, and Existing Home Retrofits). These funds are to be distributed to Agreement # 20699 - BA Retrofit Quality Management in accordance with AOP# 2004060. This will work to gain an understanding of the most useful uniform reporting format to help DOE compile direct and indirect energy savings, job creation numbers and capabilities left in place for outlying year strides to accelerate energy savings in the countries existing housing stock. Going into the project it is anticipated that this work will provide solid documentation of an extreme retrofit package for homes which has maximum market demand in much of the mixed humid climate. A uniform retrofit construction process needs to be developed. DOE's BA Stage Gate quality assurance criteria will be used and a set of job-ready, quality work statements and job complete instruments need to be generated for major retrofit tasks: insulation, HVAC, window installation, water heater installation, and weatherization using the home performance with Energy Star and DOE BA/EPA thermal bypass check-list criteria. The laboratory recipient of the funds is responsible for reporting all funding obligations and costs to headquarters. The laboratory recipient must maintain obligations and cost data at the agreement level and the data must be made available to Energy Efficiency and Renewable Energy. ARRA funding information: Fund: 05794, Appropriation: 89-09/10-0331, Allottee: 30 B&R Code/Program Value: BT0101000-1004210 Project Code: Attachment A, Contractor Recovery Act Performance Requirements, identifies the Contractor Recovery Act Schedule or Milestones, Performance Outcomes and Measures and Deliverables for this Work Authorization. The contractor's performance against the identified requirements in Attachment A will be evaluated under the Office of Energy Efficiency and Renewable Energy laboratory appraisal process.			
15. Reporting Requirements: (Status reports, scientific or technical information or similar)			
16. Work Authorization Program Official Name (typed): Roland J. Risser, Program Manager		Signature: 	Date: 11/9/10
17. DOE Field Organization Official:			

Name (typed):	<i>M.G. Grant</i>	Signature:	<i>M.G. Grant</i>	Date:	<i>2-12-10</i>
18. Contractor's Authorized Representative:					
Name (typed):	<i>D.C. Christensen</i>	Signature:	<i>Johnny A. for DC</i>	Date:	<i>2/17/2010</i>
19. DOE Contracting Officer (or delegated representative)					
Name (typed):	<i>MARK A. MILLON</i>	Signature:	<i>Mark A. Millon</i>	Date:	<i>2/11/10</i>
* The work authorization number will consist of the program code, AFP code, solicitation/project id and the fiscal year.					

Attachment A - Contractor Recovery Act Performance Requirements

Section A: Contractor Recovery Act Schedule or Milestone Requirements:

Milestone: 43295; Complete all bid prices and final costs for all energy related retrofit work for all 10 projects placed on the web site. - Plan Complete: 7/30/2010 Milestone: 43297; Complete meeting with DOE, NREL and the Building America performers to define a uniform reporting format to report direct and indirect energy savings, job creation numbers and capabilities left in place for outlying year energy savings. - Plan Complete: 1/30/2010

Section B: Contractor Recovery Act Performance Outcomes and Measures:

All project reports and documentation free of technical, grammatical and delivery errors. Key milestones completed within schedule.

Section C: Contractor Recovery Act Deliverables:

Energy performance summary reports. Bid prices and final costs for all energy related retrofit work.

FED 10-9039-RA AFP Jan

BT-47002-20742-10, 9

- Office: **EERE**
 FY: **2010**
- Energy Efficiency and Renewable Energy
 - Systems Administration
 - DOE Contact
 - Energy Act
 - Business Programs
 - Strategic Technology Program
 - BTF2-2004-04: Evaluation of
 - BA Merit-Media Technology
 - BA Merit-Analysis
 - BA Merit-Media Outreach
 - BA Merit-Operations
 - BA Merit-Validation Study
 - Building America Low Emiss
 - Documentation & Materials
 - Federal BA project Coord
 - Federal Outreach and Data
 - Federal Outreach to DOE E
 - Merit System
 - BTF4-2004-04: Commercial Areas
 - BTF5-2004-04: State SIP
 - Federal Energy Information Law
 - Federal Energy Management Program
 - General of Technology Program
 - HQ Corporate
 - Federal Technology
 - State Energy
 - Wind Energy and Energy Information
 - Wind and Hydrogen Technology
 - Technology Development

Profile Management Funding Information Reports Search
 Edit Agreement BA Retrofit Quality Management (Agreement ID: 20698)

Go to this Page
 Basic Information Funding Authorized Cost Objectives Milestones Subcontractors Documents Solicitors

Total Contract Value:
 Total Cost Share Value:

Mortgage/Out-Year Planning Data

FY	Amount
2010	\$0.00
2011	\$0.00
2012	\$0.00
Total	\$0.00

Via Agreement Fund Transfers Show Adjusted Totals Including Solicitation Award Values

Authorized Program Guidance

Funding Action Number	FY	Month	Amount	Funding Source	Type	Expense Type	Funding Action Type
20742-28722	2010	Jan	\$200,000.00	BTD101008-05784-1004210-Building America (2009)	C	Operating	Program Guidance
Total			\$200,000.00				

U.S. DEPARTMENT OF ENERGY CONTRACT WORK AUTHORIZATION			
1a. Solicitation/Project Title: BTP2-2004060-Residential Buildings (Building America, Builders Challenge, and Existing Home Retrofits)		1b. Work Proposal Number (if applicable):	
2. Headquarters Program Point of Contact: Name: Terrence Logee Organization Code: EE-2J Telephone No: (202) 586-1689			
3. Headquarters Budget Point of Contact: Name: Norman Hurwitz Organization Code: EE-3B Telephone No: (202) 287-5588			
4. Responsible Program: Office of Energy Efficiency and Renewable Energy		5. Responsible Secretarial Officer: Catherine Zoi	
6. Responsible Field Element: Oak Ridge Operations Office			
7a. Site and Facility Management Contractor: University of Tennessee - Battelle (Oak Ridge National Laboratory)		7b. Contractor Point of Contact: Name: Pat M. Love Telephone No: (865) 574-4346	
8. Work Authorization Number: * BT-470002-20742-10		9. Revision Number: 12	
10. Funds Authorized during FY 2010:			
<u>B&R Code</u>	<u>Previous</u>	<u>Change</u>	<u>Current</u>
BT0101000-05794-1004210 (2009)	\$0	\$200,000	\$200,000
<i>11/1/2010 NCL</i>			
11. Performance period covered by funds: From: 10/1/2009 To: 9/30/2010		12. Work Start Date: 10/1/2009 11/2010 <i>NCL</i>	13. Expected Completion Date: 9/30/2012
14. Statement of Work: Specific Recovery Act Statement of Work Carryover funding in the amount of \$200,000 is authorized for BT0101000-05794-1004210-Building America (2009). These funds are made available for Project #20742 - BTP2-2004060-Residential Buildings (Building America, Builders Challenge, and Existing Home Retrofits). These funds are to be distributed to Agreement # 20705 - Retrofit Systems in accordance with AOP# 2004060. In foundation wall retrofits the interior of the walls of existing homes is often impossible to get at because of all the shelving, mechanical equipment, cabinets, electrical panels interior wall edge interfaces, and many times drywall and paneling. High pressure water drilling has gained ground in below grade applications. ORNL has identified several companies that have drilling experience that will partner on a demonstration. ORNL will install a section of below grade insulation after slurry excavation on the Envelope Systems Research Facility that has been used to test foundation insulation systems for the last 20 years. The laboratory recipient of the funds is responsible for reporting all funding obligations and costs to headquarters. The laboratory recipient must maintain obligations and cost data at the agreement level and the data must be made available to Energy Efficiency and Renewable Energy. ARRA funding information: Fund: 05794, Appropriation: 89-09/10-0331, Allottee: 30 B&R Code/Program Value: BT0101000-1004210 Project Code: Attachment A, Contractor Recovery Act Performance Requirements, identifies the Contractor Recovery Act Schedule or Milestones, Performance Outcomes and Measures and Deliverables for this Work Authorization. The contractor's performance against the identified requirements in Attachment A will be evaluated under the Office of Energy Efficiency and Renewable Energy laboratory appraisal process.			
15. Reporting Requirements: (Status reports, scientific or technical information or similar)			
16. Work Authorization Program Official: Name (typed): Roland J. Risser, Program Manager Signature: <i>[Signature]</i> Date: 11/9/10			
17. DOE Field Organization Official: Name (typed): M. G. Brenton Signature: <i>[Signature]</i> Date: 2-12-10			
18. Contractor's Authorized Representative:			

Name (typed): <u>D.C. Christensen</u>	Signature: <u>[Signature]</u>	Date: <u>2/17/10</u>
19. DOE Contracting Officer (or delegated representative)		
Name (typed): <u>MARK A. MILLION</u>	Signature: <u>[Signature]</u>	Date: <u>2/11/10</u>
* The work authorization number will consist of the program code, AFP code, solicitation/project id and the fiscal year.		

Attachment A - Contractor Recovery Act Performance Requirements

Section A: Contractor Recovery Act Schedule or Milestone Requirements:

Milestone: 43332; Complete letter report to DOE on an extensive literature search for foundation excavation using water slurry technique. - Plan Complete: 9/30/2010

Section B: Contractor Recovery Act Performance Outcomes and Measures:

All project reports and documentation free of technical, grammatical and delivery errors. Key milestones completed within schedule.

Section C: Contractor Recovery Act Deliverables:

Letter report to DOE on extensive literature search for foundation excavation using water slurry technique.

FED 10-9039-RA AFP Jan

BT-470002-20742-10, 12

- Office: EERE
 FY: 2010
- Energy Efficiency and Renewable Energy
 - Business Administration
 - DOE Offices
 - Energy Act
 - Special Topics
 - Strategic Technology Program
 - BTF2-000407-Non-Contract BA
 - BA Report: Energy Technical St
 - BA Report: Analysis
 - BA Report: Market Trends
 - BA Report: Quality Manage
 - BA Report: Technical Supp
 - Building America's 10 Year
 - Demonstration & Research
 - Federal BA of Federal Energy
 - Energy Efficiency and EPPs
 - Energy Efficiency in 2014 E
 - Energy Efficiency
 - BTF2-000407-Contract BA
 - BTF2-000407-1004 Energy Effic
 - BTF2-000407-1004 Energy Effic
 - Facilities and Infrastructure
 - Federal Energy Management Program
 - Operation of Technology Program
 - HQ Offices
 - Industrial Technologies
 - Solar Energy
 - Water, Waste, and Energy Efficiency
 - Wind and Hydrogen Technology
 - Technology Development

Portfolio Management Funding Information Reports Search
 Edit Agreement Retrofit Systems (Agreement ID: 20735)

Go to View Page
 Basic Information Funding Authorizations Certifications Milestones Subcontractors Documents Selectors

Total Contract Value: Total Cost Share Value:

Mortgage/Out-Year Planning Data

FY	Amount
2010	\$0.00
2011	\$0.00
2012	\$0.00
Total	\$0.00

View Agreement Fund Transfers Show Adjusted Totals Including Scholarship Awards Values

Authorized Program Guidance

Funding Action Number	FY	Month	Amount	Funding Source	Type	Expense Type	Funding Action Type
20742-28348	2010	Jan	\$200,000.00	BT0101000-05794-1004213-Building America (2309)	C	Operating	Program Guidance
Total			-\$200,000.00				

**U.S. DEPARTMENT OF ENERGY
CONTRACT WORK AUTHORIZATION**

1a. Solicitation/Project Title: BTP2-2004060-Residential Buildings (Building America, Builders Challenge, and Existing Home Retrofits)		1b. Work Proposal Number (if applicable):	
2. Headquarters Program Point of Contact: Name: Terrence Logee Organization Code: EE-2J Telephone No: (202) 586-1689			
3. Headquarters Budget Point of Contact: Name: Norman Hurwitz Organization Code: EE-3B Telephone No: (202) 287-5588			
4. Responsible Program: Office of Energy Efficiency and Renewable Energy		5. Responsible Secretarial Officer: Catherine Zoi	
6. Responsible Field Element: Oak Ridge Operations Office			
7a. Site and Facility Management Contractor: University of Tennessee - Battelle (Oak Ridge National Laboratory)		7b. Contractor Point of Contact: Name: Pat M. Love Telephone No: (865) 574-4346	
8. Work Authorization Number: BT-470002-20742-10		9. Revision Number: 13	
10. Funds Authorized during FY 2010:			
B&R Code	Previous	Change	Current
BT0101000-05794-1004210 (2009)	\$0	\$1,500,000	\$1,500,000
11. Performance period covered by funds: From: 10/1/2009 To: 9/30/2010		12. Work Start Date: 10/1/2009 1/1/2010 <i>MCL</i>	13. Expected Completion Date: 9/30/2010
14. Statement of Work:			
Specific Recovery Act Statement of Work			
Carryover funding in the amount of \$1,500,000 is authorized for BT0101000-05794-1004210-Building America (2009). These funds are made available for Project #20742 - BTP2-2004060-Residential Buildings (Building America, Builders Challenge, and Existing Home Retrofits). These funds are to be distributed to Agreement # 20700 - Retrofit Marketing and Behavioral R & D in accordance with AOP# 2004060. The National Building Rating program will provide guidance for building energy retrofits based on state-of-the-art cost and performance data and a national, comprehensive energy efficiency rating system for both residential and commercial buildings. The program's rating system will address the building's physical characteristics (the "asset measurement") and past energy performance (the "operational measurement") as well as its performance relative to other similar buildings ("benchmarking"). These measurements build upon existing tools, including EPA's commercial and residential building benchmarking tools. The program will use a labeling scheme that conveys building energy use information from the rating system to residential and commercial building owners, energy managers, purchasers and other stakeholders. The program will also support continuous improvement of building energy-efficiency by enabling tracking of costs and impacts of energy-efficiency improvements in residential and commercial buildings, including work funded by the DOE Weatherization Assistance Program (WAP), State Energy Program (SEP), and the Energy Efficiency and Conservation Block Grant (EECBG) programs. The laboratory recipient of the funds is responsible for reporting all funding obligations and costs to headquarters. The laboratory recipient must maintain obligations and cost data at the agreement level and the data must be made available to Energy Efficiency and Renewable Energy.			
ARRA funding information: Fund: 05794, Appropriation: 89-09/10-0331, Allottee: 30 B&R Code/Program Value: BT0101000-1004210 Project Code:			
Attachment A, Contractor Recovery Act Performance Requirements, identifies the Contractor Recovery Act Schedule or Milestones, Performance Outcomes and Measures and Deliverables for this Work Authorization. The contractor's performance against the identified requirements in Attachment A will be evaluated under the Office of Energy Efficiency and Renewable Energy laboratory appraisal process.			
15. Reporting Requirements: (Status reports, scientific or technical information or similar)			

16. Work Authorization Program Official:		
Name (typed): Roland J. Risser, Program Manager	Signature: <i>Michael M. Chyba</i>	Date: 1/19/10
17. DOE Field Organization Official:		
Name (typed): M.G. Branton	Signature: <i>M.G. Branton</i>	Date: 2-12-2010
18. Contractor's Authorized Representative:		
Name (typed): D.C. Christensen	Signature: <i>Johnny A. for DOE</i>	Date: 2/17/2010
19. DOE Contracting Officer (or delegated representative)		
Name (typed): MARK A. MILLION	Signature: <i>Mark A. Million</i>	Date: 2/11/10
* The work authorization number will consist of the program code, AFP code, solicitation/project id and the fiscal year.		

Attachment A - Contractor Recovery Act Performance Requirements

Section A: Contractor Recovery Act Schedule or Milestone Requirements:
Milestone: 43298; Completion of planning document. - Plan Complete: 9/30/2010

Section B: Contractor Recovery Act Performance Outcomes and Measures:
Performance Outcomes and Measures:
Status update.

Section C: Contractor Recovery Act Deliverables:
Completion of final document.

FED 10-9047-RA AFP Jan

BT - 470002 - 20742 - 10, 13

Attachment 1f

U.S. DEPARTMENT OF ENERGY CONTRACT WORK AUTHORIZATION			
1a. Solicitation/Project Title: Wind Energy Technology R&D and Testing <i>ARCA</i>		1b. Work Proposal Number (if applicable): CEEB140	
2. Headquarters Program Point of Contact: Name: Michael R. Derby <i>MRD</i>		Organization Code: EE-2B	Telephone No: (202) 586-8830
3. Headquarters Budget Point of Contact: Name: Tomiko Williams-Edwards		Organization Code:	Telephone No: (202) 586-2828
4. Responsible Program: Office of Energy Efficiency and Renewable Energy		5. Responsible Secretarial Officer: Catherine Zol	
6. Responsible Field Element: Oak Ridge Operations Office			
7a. Site and Facility Management Contractor: University of Tennessee - Battelle (Oak Ridge National Laboratory)		7b. Contractor Point of Contact: Name: Brennan Smith Telephone No: (865) 241-5180	
8. Work Authorization Number: * WW-470002-20484-10		9. Revision Number: 0	
10. Funds Authorized during FY 2010:			
B&E Code	Previous	Change	Current
EB2501030-05794-1004255	\$0	\$50,000	\$50,000
11. Performance period covered by funds: From: 1/04/2010 To: 9/30/2011		12. Work Start Date: 1/04/2010	13. Expected Completion Date: 9/30/2011
14. Statement of Work: Specific Recovery Act Statement of Work Funding in the amount of \$50,000 is authorized for EB2501030-05794-1004255-Support Ranch & Test. These funds are made available for Project #20484 - Wind Energy Technology R&D and Testing. These funds are to be distributed to Agreement # 20485-2004180 - Wind Turbine Manufacturing Process Monitoring in accordance with FWP# CEEB140. This FWP is related to a proposal that is being submitted in response to a DOE Solicitation entitled "20% Wind by 2030: Overcoming the Challenges," DE-F338-09G089010 under Topic Area 1. ORNL Polymer Matrix Composites staff will play an advisory role in support of GE's proposal to develop a more effective composite prepreg tape laying head for manufacturing spar caps on large wind turbine blades. ORNL will participate in brainstorming sessions, and project reviews, and planning for Phase 2 implementation of the improved processing capability. ORNL will bring extensive composite experience, including competition head development, automated performing, composites processing, and fiber and fiber product form development, to assist in identifying necessary hardware, processing, and material form improvements necessary for full integrated concept development and implementation. ORNL's task will also involve review of complementary technologies useful for development and demonstration of the improved equipment. The laboratory recipient of the funds is responsible for reporting all funding obligations and costs to headquarters. The laboratory recipient must maintain obligations and cost data at the agreement level and the data must be made available to Energy Efficiency and Renewable Energy. ARRA funding information: Fund: 85794, Appropriation: 88-09/10-0331, Allottee: 30 B&E Code/Program Value: EB2501030-1004255 Project Code: Attachment A, Contractor Recovery Act Performance Requirements, identifies the Contractor Recovery Act Schedule or Milestones, Performance Outcomes and Measures and Deliverables for this Work Authorization. The contractor's performance against the identified requirements in Attachment A will be evaluated under the Office of Energy Efficiency and Renewable Energy laboratory appraisal process.			
15. Reporting Requirements: (Status reports, scientific or technical information or similar)			
16. Work Authorization Program Official: Name (typed): Megan McCluer Program Manager <i>mm</i>			
Signature: <i>for</i>		Date: 1/4/10	
17. DOE Field Organization Official:			

IF

Name (typed): Michele G. Brant	Signature: <i>M. G. Brant</i>	Date: 1/21/2010
18. Contractor's Authorized Representative:		
Name (typed): Dano Christensen	Signature: <i>Dano Christensen</i>	Date: 21 Jan 2010
19. DOE Contracting Officer (or delegated representative)		
Name (typed): MARK A. PHILLIPS	Signature: <i>Mark A. Phillips</i>	Date: 1/23/2010
* The work authorization number will consist of the program code, AFP code, solicitation/project id and the fiscal year.		

Attachment A - Contractor Recovery Act Performance Requirements

Section A: Contractor Recovery Act Schedule or Milestone Requirements:

- ORNL will complete initial recommendations to GE on material and processing conditions and accept/reject criteria. September 30, 2010

Section B: Contractor Recovery Act Performance Outcomes and Measures:

ORNL is providing consultation and support to GE's development of an inline inspection system for a prepreg tape delivery head. Most input will be provided to GE directly at meetings or through informal project communications. The project itself will have measurable milestones and deliverables. Formal input to GE will be contained in an annual report and end-of-project report summarizing ORNL's contributions and impact assessment.

Section C: Contractor Recovery Act Deliverables:

- ORNL will provide GE with final report input to include a review of complimentary technologies useful for development and demonstration of the improved equipment for composite materials processing, such as advanced robotics, imaging, and image analysis for automated fabrication and inspection. September 30, 2011

Attachment 1g

ATTACHMENT A – CONTRACTOR RECOVERY ACT PERFORMANCE REQUIREMENTS

Section A: Contractor Recovery Act Schedule or Milestone Requirements

1. Approval of data collection instrument by OMB

Instruments will be submitted to OMB in FY 2010, 3rd quarter.

(Given the unpredictable time to complete the OMB review process, this milestone is expected to be met in FY 2011, 1st quarter or 2nd quarter

Delay in approval will result in delay of Data Collections and Delivery of Final Report)

2. Data collections

For national energy savings attributable to

WAP for Program Year 2009:

FY 2012, 1st quarter (11/15/2011)

WAP for Program Year 2010:

FY 2013, 1st quarter (11/15/2012)

Data collection for the process assessment:

FY 2011, 3rd quarter. (6/15/2011)

Data collection for special studies:

FY 2012, 3rd quarter.(6/15/2012)

3. Final Reports

Final Report:

FY 2013, 4th quarter (9/30/2013)

Section B: Contractor Recovery Act Performance Outcomes and Measures

National energy savings attributable to WAP for Program Years (PY) 2009 & 2010

Energy savings attributable to innovations in WAP program delivery

Monetary estimates of non-energy benefits attributable to WAP for PY Years 2009 & 2010

Estimates of reductions in the emission of greenhouse gases attributable to WAP for PY Years 2009 & 2010

Qualitative observations about WAP operation and administration for PY Years 2009 & 2010

Section C: Contractor Recovery Act Deliverables

Monthly Progress Reports

Interim reports documenting:

Program Year 2009 national energy savings

Program Year 2010 national energy savings

Program Year 2009 non-energy benefits

Program Year 2010 non-energy benefits

Special Studies Reports:

WAP Process Assessment

WAP Strategies Assessment for WAP post-ARRA

Final Project Report

Attachment 1h

U.S. DEPARTMENT OF ENERGY CONTRACT WORK AUTHORIZATION			
1a. Solicitation/Project Title: EECBG Formula Grants Technical Assistance		1b. Work Proposal Number (if applicable):	
2. Headquarters Program Point of Contact Name: Scott Hine		Organization Code:	Telephone No: (202) 586-6744
3. Headquarters Budget Point of Contact Name: Thomas Heavey		Organization Code: EE-3B	Telephone No: (202) 586-4501
4. Responsible Program: Office of Energy Efficiency and Renewable Energy		5. Responsible Secretarial Officer: Catherine Zol	
6. Responsible Field Element: Oak Ridge Operations Office			
7a. Site and Facility Management Contractor: University of Tennessee - Battelle (Oak Ridge National Laboratory)		7b. Contractor Point of Contact: Name: Greg Turner Telephone No: (865) 241-0848	
8. Work Authorization Number: * -470002-20698-10		9. Revision Number: 1	
10. Funds Authorized during FY 2010:			
B&R Code	Previous	Change	Current
EB5100000-05784-1005098 (2008)	\$0	\$200,000	\$200,000
11. Performance period covered by funds: From: 2/5/2010 To: 9/30/2010		12. Work Start Date: 2/5/2010	13. Expected Completion Date: 9/30/2010
14. Statement of Work Specific Recovery Act Statement of Work Carryover funding in the amount of \$200,000 is authorized for EB5100000-05784-1005098-HQ PD (2008). These funds are made available for Project #20698 - EECBG Formula Grants Technical Assistance. These funds are to be distributed to Agreement # 20825-ORNL EECBG Technical Assistance. UT-Battelle will provide technical assistance to the DOE ORNL Site Office by working with ORO EECBG grantees in resolving technical issues associated with the strategy submissions under the EECBG program and in expediting document modifications and submissions. The laboratory recipient of the funds is responsible for reporting all funding obligations and costs to headquarters. The laboratory recipient must maintain obligations and cost data at the agreement level and the data must be made available to Energy Efficiency and Renewable Energy. ARRA funding information: Fund: 05784, Appropriation: 89-09/10-0331, Allottee: 60 B&R Code/Program Value: EB5100000-1005098 Project Code: 2004940 Attachment A, Contractor Recovery Act Performance Requirements, identifies the Contractor Recovery Act Schedule or Milestones, Performance Outcomes and Measures and Deliverables for this Work Authorization. The contractor's performance against the identified requirements in Attachment A will be evaluated under the Office of Energy Efficiency and Renewable Energy laboratory appraisal process.			
15. Reporting Requirements: (Status reports, scientific or technical information or similar)			
16. Work Authorization Program Official: Name (typed): A. Avon Meacham, Signature: <i>[Signature]</i> Date: Feb 5, 2010 Director OPBA			
17. DOE Field Organization Official: Name (typed): Michele G. Brandon, Signature: <i>[Signature]</i> Date: 2/5/2010			
18. Contractor's Authorized Representative: Name (typed): D.C. Christensen, Signature: <i>[Signature]</i> Date: 2/5/2010			
19. DOE Contracting Officer (or delegated representative) Name (typed): MARK A. MILLER, Signature: <i>[Signature]</i> Date: 2/5/2010			
* The work authorization number will consist of the program code, AFP code, solicitation/project id and the fiscal year.			

ATTACHMENT A – CONTRACTOR RECOVERY ACT PERFORMANCE REQUIREMENTS

Section A: Contractor Recovery Act Schedule or Milestone Requirements

The contractor shall provide technical assistance to EECBG grantees in accordance with the schedule and milestones established by the procurement team. Milestones: Provide technical assistance for block grant applications as requested.

Section B: Contractor Recovery Act Performance Outcomes and Measures

The contractor will become proficient, knowledgeable and subject matter experts in EECBG grant applications and submissions. All reviews and assistance will be conducted and completed in accordance with the procedures, milestones and schedule specified by the procurement team. The contractor will be assessed on the quality and completeness of EECBG grantee assistance. This will include the ability to successfully articulate and apply the goals and objectives of EECBG in conducting reviews and assistance.

Section C: Contractor Recovery Act Deliverables

- Provide EECBG grantee assistance in resolving technical issues associated with the strategy submissions and in expediting document modifications.
- Participate in EECBG submission assistance as subject matter experts as required.

FED 1012122 AFP Feb

Attachment 2

Financial Plan Report - Detail

OR22725 - UT-BATTELLE (RECOVERY ACT - 8909/100331)

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	05794	ZT	1004172	BM0102030	25400	0000000	2004020	0000000		705,763.85	0.00	0.00	0.00	705,763.85
470002	05794	ZT	1004173	BM0102060	25400	0000000	2004000	0000000		655,029.94	0.00	0.00	0.00	655,029.94
470002	05794	ZT	1004173	BM0102060	25400	0000000	2004570	0000000		4,999,613.74	0.00	4,170,000.00	4,170,000.00	9,169,613.74
AY 2009 - Work Authorization Number BM-470002-20472-10; Appropriation Number: 8909/100331														
Total for Program Parent/Control Point: BM0100000										6,360,407.53	0.00	4,170,000.00	4,170,000.00	10,530,407.53
470002	05794	ZT	1004210	BT0101000	25400	0000000	2004060	0000000		0.00	0.00	4,592,000.00	4,592,000.00	4,592,000.00
AY 2009 - Work Authorization Number BT-470002-20742-10; Appropriation Number 8909/100331 (\$4,267,000) Work Authorization Number BT-470002-20727-10; Appropriation Number 8909/100331 (\$325,000)														
470002	05794	ZT	1004212	BT0201000	25400	0000000	2004080	0000000		0.00	500,000.00	0.00	500,000.00	500,000.00
AY 2009 - Work Authorization Number BT-470002-20743-10; Appropriation Symbol 8909/100331														
470002	05794	ZT	1004214	BT0301000	25400	0000000	2004100	0000000		0.00	0.00	1,200,000.00	1,200,000.00	1,200,000.00
AY 2009 - Work Authorization Number: BT-470002-20745-10; Appropriation Number 8909/100331														
Total for Program Parent/Control Point: BT0000000										0.00	500,000.00	5,792,000.00	6,292,000.00	8,292,000.00
470002	05794	ZT	1004248	EB2103000	25400	0000000	2004420	0000000		0.00	935,000.00	0.00	935,000.00	935,000.00
AY 2009 - Work Authorization SL-470002-20479-10 Appropriation # 8909/100331.91														
Total for Program Parent/Control Point: EB2100000										0.00	935,000.00	0.00	935,000.00	935,000.00
470002	05794	ZT	1004255	EB2501030	25400	0000000	2004480	0000000		0.00	0.00	50,000.00	50,000.00	50,000.00
AY 2009 - Work Authorization Number WW-470002-20464-10 Appropriation 8909/10-0331														
Total for Program Parent/Control Point: EB2500000										0.00	0.00	50,000.00	50,000.00	50,000.00
470002	05794	ZT	1004281	EB4005020	25400	0000000	2004190	0000000		1,920,000.00	0.00	1,924,000.00	1,924,000.00	3,844,000.00
AY 2009 - Work Authorization Number GT-470002-20685-10; Appropriation Symbol: 8909/100331														
Total for Program Parent/Control Point: EB4000000										1,920,000.00	0.00	1,924,000.00	1,924,000.00	3,844,000.00
470002	05794	ZT	1005098	EB5100000	25400	0000000	2004040	0000000		0.00	350,205.00	0.00	350,205.00	350,205.00
AY 2009 - Work Authorization Number: 471999-20758-10B; Appropriation Number 8909/100331 W														
470002	05794	ZT	1005098	EB5100000	25400	0473100	2004040	0000000		150,291.32	200,000.00	200,000.00	400,000.00	550,291.32
AY 2009 - Work Authorization Number 470002-20476-10; Appropriation Symbol 8909/100331 Work Authorization Number: 470002-20698-10; Appropriation Number 8909/100331														
Total for Program Parent/Control Point: EB5100000										150,291.32	550,205.00	200,000.00	750,205.00	900,496.32
470002	05794	ZT	1004383	ED1904032	25400	0000000	2004320	0000000		10,401,949.12	8,408,822.00	0.00	8,408,822.00	18,810,771.12
AY 2009 - Work Authorization Number: IF-470002-20421-10; Appropriation Number: 8909/100331														
470002	05794	ZT	1004383	ED1904032	31003	0000000	2004320	0000000		4,490,655.42	0.00	0.00	0.00	4,490,655.42
470002	05794	ZT	1004397	ED1907042	25400	0000000	2004310	0000000		1,224,800.00	0.00	0.00	0.00	1,224,800.00
470002	05794	ZT	1004889	ED1908000	25400	0000000	2004320	0000000		3,078,640.05	1,730,189.00	0.00	1,730,189.00	4,808,829.05
AY 2009 - Work Authorization Number IF-470002-20416-10; Appropriation Number 8909/100331														
Total for Program Parent/Control Point: ED0000000										19,194,044.59	10,139,011.00	0.00	10,139,011.00	29,333,055.59

Financial Plan Number: 4
 Contract Modification Number: ** No MOD **
 Rpt Entity: OR OR3/OR4 - Oak Ridge National Lab, X-10, UT-Battelle

Fiscal Year: 2010
 Fiscal Month: 05

Financial Plan Report - Detail

Site: OR

Page 2 of 3
 Report: RFI0001

OR22725 - UT-BATTELLE (RECOVERY ACT - 8909/100331)

Report Generated on: February 22, 2010 at 11:32:40 AM

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	05794	ZT	1004578	EL1702010	25400	0000000	2004160	0000000		646,120.72	0.00	0.00	0.00	646,120.72
470002	05794	ZT	1004580	EL1703010	25400	0000000	2004160	0000000		984,443.83	0.00	0.00	0.00	984,443.83
470002	05794	ZT	1004582	EL1704000	25400	0000000	2004160	0000000		519,945.39	0.00	0.00	0.00	519,945.39
Total for Program Parent/Control Point: EL1700000										2,150,509.94	0.00	0.00	0.00	2,150,509.94
470002	05794	ZT	1005113	W1100000	25400	0000000	2004380	0000000		2,477,283.34	0.00	0.00	0.00	2,477,283.34
Total for Program Parent/Control Point: W1100000										2,477,283.34	0.00	0.00	0.00	2,477,283.34
Total for Fund Type: ZT										32,252,536.72	12,124,216.00	12,136,000.00	24,260,216.00	58,512,752.72
470002	05796	ZV	1005116	W1001020	25400	0000000	2004350	0000000		16,789,712.89	0.00	0.00	0.00	16,789,712.89
Total for Program Parent/Control Point: W1001000										16,789,712.89	0.00	0.00	0.00	16,789,712.89
Total for Fund Type: ZV										16,789,712.89	0.00	0.00	0.00	16,789,712.89
470002	05797	ZW	1004760	W10702000	25400	0000000	2004360	0000000		11,568,008.19	0.00	0.00	0.00	11,568,008.19
AY 2009 - Work Authorization Number: W1-470002-20455-10; Work Authorization Number: W1-470002-18777-09; Appropriation Symbol: 8909/100331 - \$5.8M														
Work Authorization Number: W1-470002-20443-09; Appropriation Symbol: 8909/100331 - \$6.0M														
470002	05797	ZW	1004760	W10702000	25400	0000000	2004370	0000000		0.00	0.00	5,800,000.00	5,800,000.00	5,800,000.00
AY 2009 - Work Authorization Number W1-470002-20455-10; Appropriation Symbol 8909/100331 - 5.8M														
Total for Program Parent/Control Point: W10702000										11,568,008.19	0.00	5,800,000.00	5,800,000.00	17,368,008.19
Total for Fund Type: ZW										11,568,008.19	0.00	5,800,000.00	5,800,000.00	17,368,008.19
Total for Recipient Code: OR										60,610,257.80	12,124,216.00	17,936,000.00	30,060,216.00	90,670,473.80
Total for Reporting Entity: 470002										60,610,257.80	12,124,216.00	17,936,000.00	30,060,216.00	90,670,473.80
Total for OR22725 - UT-BATTELLE (RECOVERY ACT - 8909/100331)										60,610,257.80	12,124,216.00	17,936,000.00	30,060,216.00	90,670,473.80

Financial Plan Number: 4

Fiscal Year: 2010

Fiscal Month: 05

Contract Modification Number: ** No MOD **

Rpt Entity: OR OR3/OR4 - Oak Ridge National Lab, X-10, UT-Battelle

Financial Plan Report - Detail

Site: OR

Page 3 of 3

Report: RFP0001

Report Generated on: February 22, 2010 at 11:32:40

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OR22725 - UT-BATTELLE (RECOVERY ACT - 8909/100331)

<u>Agency</u>	<u>Obligation Change Amount</u>
Total Appropriated Funds (Program 40):	0.00
Total DOE and Non-Appropriated Funds:	17,936,000.00
Grand Total:	17,936,000.00
Total Non-Appropriated Funds:	0.00