

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE	PAGE OF PAGES 1 of 4
2. AMENDMENT/MODIFICATION NO. <b>191</b>	3. EFFECTIVE DATE <b>See Block 16C</b>	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable) <b>N/A</b>	
6. ISSUED BY CODE <b>U.S. Department of Energy Office of Science/Fermi Site Office P.O. Box 2000, Wilson Hall – MS 118 Batavia, IL 60510</b>		7. ADMINISTERED BY (If other than Item 6) Code <b>See Block 6.</b>		
8. NAME AND ADDRESS OF CONTRACTOR (No. street, county, State and ZIP Code)  <b>Fermi Research Alliance, LLC 1111 19<sup>th</sup> Street, N.W. Suite 400 Washington, D.C. 20036</b>		(✓)	9.A. AMENDMENT OF SOLICITATION NO.	
DUNS: 62-639-9831			9.B. DATED (SEE ITEM 11)	
CODE N/A	FACILITY CODE N/A		10.A. MODIFICATION OF Contract/Order NO. <b>DE-AC02-07CH11359</b>	
			10.B. DATED (SEE ITEM 13) <b>November 1, 2006</b>	

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)  
**Not Applicable**

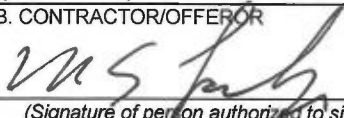
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

(✓)	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).
X	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: <b>Part I, Section F, F.2(c) and Mutual Agreement of the Parties</b>
	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor is required to sign this document and return 2 copies to the issuing office.

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

**Continued on Page 2.**

15A. NAME AND TITLE OF SIGNER (Type or print) <b>Nigel S. Lockyer, President</b>		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) <b>WHITNEY BEGNER CONTRACTING OFFICER</b>	
December 16, 2016		16B. UNITED STATES OF AMERICA	
15B. CONTRACTOR/OFFEROR  (Signature of person authorized to sign)	15C. DATE SIGNED	BY <b>Whitney Begner</b> (Signature of Contracting Officer)	16C. DATE SIGNED <b>12/20/2016</b>

#### 14. Description of Amendment/Modification:

The purpose of this modification is to extend the period of performance, update the total available fee and update the following:

Pursuant to clause F.2, Award Term Incentive, the Award Term Determination Official has determined the Contractor has earned twelve (12) months of additional award term under the contract for FY 2013, 2014, and 2015; which extends the period of performance through December 31, 2019.

1. PART I, SECTION B, B.3 – PERFORMANCE AND OTHER INCENTIVES, incorporated in Modification No. 081, is revised to read as follows:

##### B.3 – PERFORMANCE AND OTHER INCENTIVES

- (a) The transition activities shall be performed on a cost-reimbursement basis up to the amount specified in Clause H.42, Activities During Contract Transition, paragraph (d), and no fee shall be paid for these activities.
- (b) In implementation of Clause I.93, Total Available Fee: Base Fee Amount and Performance Fee Amount, the Parties have agreed that the maximum available performance fees that may be earned by the Contractor in accordance with the provisions of Appendix B, Performance Evaluation and Measurement Plan, for the performance of the work under this contract commencing January 1, 2007 are as follows:

January 1, 2007 through September 30, 2007 - \$2.662 million  
October 1, 2007 through September 30, 2008 - \$3.550 million  
October 1, 2008 through September 30, 2009 - \$3.882 million  
October 1, 2009 through September 30, 2010 - \$3.882 million  
October 1, 2010 through September 30, 2011 - \$3.882 million  
October 1, 2011 through December 31, 2011 - \$0.971 million

- (c) If DOE determines that the Contractor has earned any Award Term after December 31, 2011, in accordance with the provisions of Clause F.2 - Award Term Incentive, the Parties have agreed that the maximum available performance fee that may be earned by the Contractor shall be:

January 1, 2012 through September 30, 2012 - \$2.912 million  
October 1, 2012 through September 30, 2013 - \$3.882 million  
October 1, 2013 through September 30, 2014 - \$3.882 million  
October 1, 2014 through September 30, 2015 - \$3.882 million  
October 1, 2015 through September 30, 2016 - \$3.882 million  
October 1, 2016 through December 31, 2016 - \$0.971 million  
January 1, 2017 through September 30, 2017 - \$3.605 million  
October 1, 2017 through September 30, 2018 - \$4.576 million  
October 1, 2018 through September 30, 2019 - \$4.576 million  
October 1, 2019 through September 30, 2020 - \$4.576 million  
October 1, 2020 through September 30, 2021 - \$4.576 million  
October 1, 2021 through December 31, 2021 - \$1.144 million

- (d) The maximum available performance fee that may be earned by the Contractor for any additional extensions of the period of performance beyond said five years shall be subject to negotiation between the Parties consistent with the Department of Energy Acquisition Regulation (DEAR) in effect at the time the fee is negotiated.
- (e) At the end of each fiscal year, there shall be no adjustment in the amount of the maximum available performance fee based on differences between any estimate of cost for performance of the work and the actual cost for performance of the work. Fee is subject to adjustment only –
- (1) under the provisions of Clause I.127, "Changes"; or other contract provisions; or
  - (2) for a +/- 10 percent change in the estimated fee base of \$364.0 Million.
- (f) Any adjustment in the amount of the fee under the provisions of paragraph (e) for the fees specified in paragraphs (b) and (c) above, or negotiation of fee under paragraph (d) above, shall take into consideration the ratio (see equation below) between the Contractor's fee specified in paragraphs (b) and (c) above of the original contract and the maximum fees specified in Section L.9(c) of the Request for Proposal No. DE-AC02-07CH11359. The revised fee will be calculated in accordance with the fee policy then in effect, utilizing the adjusted fee base, while maintaining the ratio described above.

Maximum Available Performance  
Fee for Applicable Year of  
paragraph (b) or (c) = Ratio  
\$4.576 (to be prorated for  
the first and last  
fee period)

2. PART I, SECTION F, F.1 – PERIOD OF PERFORMANCE incorporated in Modification No. 113 is revised to read as follows:

F.1 – PERIOD OF PERFORMANCE

- (a) This contract shall be effective as specified in Block No. 28 – Award Date, of Standard Form 30, and shall continue up to and including December 31, 2019, unless sooner terminated according to its terms. The contract may be extended according to its terms. The contract may be extended in accordance with Clause F.2 – AWARD TERM INCENTIVE (SPECIAL).
- (b) The contract transition period is from award date through December 31, 2006.
- a. PART I, SECTION H, SPECIAL CONTRACT REQUIREMENTS, dated December 02, 2016 (attached hereto) is substituted for the previous PART I, SECTION H, SPECIAL CONTRACT REQUIREMENTS incorporated into this contract by Modification No. 180.
- b. PART II, SECTION I, CONTRACT CLAUSES, dated December 02, 2016, (attached hereto) is substituted for the previous PART II, SECTION I, CONTRACT CLAUSES incorporated into this contract by Modification No. 175.
- c. APPENDIX A – ADVANCED UNDERSTANDINGS ON HUMAN RESOURCES dated December 02, 2016, (attached hereto) is substituted for the APPENDIX A – ADVANCED UNDERSTANDING ON HUMAN RESOURCES previously incorporated into this contract by Modification No. 157.
- d. APPENDIX C – SPECIAL DEMAND DEPOSIT ACCOUNT AGREEMENT dated 7/28/2016, (attached hereto) is substituted for the APPENDIX C – SPECIAL DEMAND DEPOSIT ACCOUNT AGREEMENT previously incorporated into this contract by Modification No. 109.
- e. APPENDIX I – DOE ORDERS AND NOTICES and LIST B – WORK SMART STANDARDS dated December 02, 2016, (attached hereto) is substituted for the APPENDIX I – DOE ORDERS AND NOTICES and LIST B – WORK SMART STANDARDS previously incorporated into this contract by Modification No. 180.

All other terms and conditions remain unchanged.

**END OF MODIFICATION**

Table of Changes for  
 Fermi Research Alliance, LLC  
 Contract No. DE-AC02-07CH11359  
 Modification No. 191

The purpose of this modification is to extend the period of performance, and update the following:

1. Pursuant to clause F.2, Award Term Incentive, the Award Term Determination Official has determined the Contractor has earned twelve (12) months of additional award term under the contract for FY 2013, 2014, and 2015; which extends the period of performance through December 31, 2019.
2. PART I, SECTION F, F.1 – PERIOD OF PERFORMANCE incorporated in the base contract is revised to read as follows:

“F.1 – PERIOD OF PERFORMANCE

- (a) This contract shall be effective as specified in Block No. 28 – Award Date, of Standard Form 30, and shall continue up to and including December 31, 2019, unless sooner terminated according to its terms. The contract may be extended according to its terms. The contract may be extended in accordance with Clause F.2 – AWARD TERM INCENTIVE (SPECIAL).
- (b) The contract transition period is from award date through December 31, 2006.

**PART I SECTION B**

SUPPLIES OR SERVICES AND PRICES/COSTS

Section No.	Title	Change and Explanation
B.3	Performance and Other Incentives	Update to Maximum Available Fee

**CONTRACT SECTION H**

SPECIAL CONTRACT REQUIREMENTS

Clause No.	Title	Change and Explanation
H.11	Allowable Contractor Governance and Contract Monitoring Expenses	Updated due date for Board Cost estimate.
H.12	Prohibition on Funding for Certain Nondisclosure Agreements	New H Clauses per Acquisition Letter 2016-03
H.15	Cap on Liability	Updated references in (a)(2) and (a)(3) to reflect update to Clause I.112 DEAR 970.5228-1

H.21	Employee Compensation: Pay and Benefits	Update the Ben-Val requirement in (d)(3)(A) from “two years” to “three years” .
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**CONTRACT SECTION I**  
FAR CLAUSE CHANGES

Clause No.	Title	Change and Explanation
I.10E (FAR 52.204-21)	Basic Safeguarding of Covered Contractor Information Systems	New Clause June 2016
I.36 (FAR 52.223-11)	Ozone-Depleting Substances and High Global Warming Potential Hydrofluorocarbons	Updated to June 2016 version
I.37 (FAR 52.223-12)	Maintenance, Service, Repair, or Disposal of Refrigeration Equipment and Air Conditioners	Updated to June 2016 version
I.58 (FAR 52.244-6)	Subcontracts for Commercial Items	Updated to June 2016 version
I.69A (DEAR 952.204-2)	Security	Updated to August 2016 version
I.85 (DEAR 952.250-70)	Nuclear Hazard Indemnity Agreement	Updated to August 2016 version
I.94 (DEAR 970.5215-3)	Conditional Payment of Fee, Profit, or Incentive – Facility Management Contracts	Updated reference from DOE Order 225.1A to “DOE Order 225.1B, or successor version”
I.107 (DEAR 970.5227-5)	Notice and Assistance Regarding Patent and Copyright Infringement	Clause date is changed from Aug 2002 to Dec 2000
I.110 (DEAR 970.5227-10)	Patent Rights – Management and Operating Contracts, Nonprofit Organizations or Small Business Firm Contractor	Clause date is changed from Aug 2002 to Dec 2000
I.128 (DEAR 970.5244-1)	Contractor Purchasing System	Updated to August 2016 version
I.129 (DEAR 970.5245-1)	Property	Updated to August 2016 version

**CONTRACT SECTION J ATTACHMENT 9 APPENDIX A**

ADVANCED UNDERSTANDING ON HUMAN RESOURCES

Section	Title	Change and Explanation
Section X	Employee Programs	The Spot Award Program is now authorized in (a)

**CONTRACT SECTION J ATTACHMENT 9 APPENDIX C**  
SPECIAL DEMAND DEPOSIT ACCOUNT AGREEMENT

The new Special Demand Deposit Account Agreement executed on 7/28/2016

**CONTRACT SECTION J ATTACHMENT 9 APPENDIX I**  
DOE ORDERS AND LIST B – WORK SMART STANDARDS

Order No.	Dates	Change	Explanation for Change
O 473.3A	3/23/2016	Updated	Revised to Updated Version
O 221.1B	09/27/2016	Updated	Revised to Updated Version
O 474.2, Change 4	09/13/2016	Updated	Revised to Updated Version (Pg. Change)
O 551.1D, Change 2	08/09/2016	Updated	Revised to Updated Version
105 ILCS 105	N/A	Deleted	Requirements exist in 225 ILCS 207

In accordance with the Memorandum from Martha Michels to Michael Weis, dated 5/31/2016; the references included to Fermilab Environment Safety and Health Manual (FESHM) were updated in accordance with the revised Fermilab numbering structure.