



Department of Energy

Fermi Site Office
Post Office Box 2000
Batavia, Illinois 60510

Contract

AUG 10 2009

Mr. Benjamin G. Stauss
Fermi Research Alliance, LLC
1111 19th Street, NW, Suite 400
Washington, DC 20036

Dear Mr. Stauss:

SUBJECT: MODIFICATION NO. A044 TO U.S. DEPARTMENT OF ENERGY
CONTRACT NO. DE-AC02-07CH11359 FOR OBLIGATION OF AMERICAN
RECOVERY AND REINVESTMENT ACT (ARRA) FUNDING

Enclosed for your records is a fully executed copy of Modification A044.

Sincerely,

A handwritten signature in black ink, appearing to read "Rory S. Simpson".

Rory S. Simpson
Contracting Officer

Enclosures:

- 1) Standard Form 30, Mod A044
- 2) FY 2009 Approved Funding Program No. 17
- 3) ARRA Approved Funding Program Guidance
dated 7/23/09 and 8/4/09

cc: P. Oddone, Fermilab, w/encls.
Y.-K. Kim, Fermilab, w/encls.
B. Chrisman, Fermilab, w/encls.
D. Carlson, Fermilab, w/encls.
C. Conger, Fermilab, w/encls.
C. Trimby, Fermilab, w/encls.
M. Rhoades, Fermilab, w/encls.

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE

PAGE OF PAGES

1 | 2

2. AMENDMENT/MODIFICATION NO.

3. EFFECTIVE DATE

4. REQUISITION/PURCHASE REQ. NO.

5. PROJECT NO. (If applicable)

A044

08/06/2009

N/A

6. BY CODE

7. ADMINISTERED BY (If other than Item 6)

Code

S. Department of Energy
Office of Science/Fermi Site Office
P.O. Box 2000, Wilson Hall - MS 118
Batavia, IL 60510

See Block 6.

8. NAME AND ADDRESS OF CONTRACTOR (No. street, county, State and ZIP Code)

(✓)

9.A. AMENDMENT OF SOLICITATION NO.

Fermi Research Alliance, LLC
Fermilab
P.O. Box 500, MS 105
Batavia, IL 60510-0500

9.B. DATED (SEE ITEM 11)

DUNS: 62-639-9831

10.A. MODIFICATION OF Contract/Order NO.

DE-AC02-07CH11359

10.B. DATED (SEE ITEM 13)

November 1, 2006

CODE N/A

FACILITY CODE N/A

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers is extended, is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning ___ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

ATTACHED FY 2009 APPROVED FUNDING PROGRAM (AFP) NO. 17 TAS Symbol/Fund Code: 8909100227 / 06199

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).

C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
Part II, Section I, Clause I 119; DEAR 970.5232-4

D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor is required to sign this document.

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

See pages attached to this modification.

15A. NAME AND TITLE OF SIGNER (Type or print)

GARY LEONARD / Secty / FRA

16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)

RORY S. SIMPSON
CONTRACTING OFFICER, ESO

15B. CONTRACTOR/OFFEROR

FRA, LLC

15C. DATE SIGNED

6 Aug 09

16B. UNITED STATES OF AMERICA

U.S. DEPARTMENT OF ENERGY
BY OFFICE OF SCIENCE

16C. DATE SIGNED

08/06/09

Signature of person authorized to sign

(Signature of Contracting Officer)

Block 14 "DESCRIPTION OF AMENDMENT/MODIFICATION," continued.

1. Pursuant to Section I Contract Clause – DEAR 970.5232-4 entitled "Obligation of Funds," funds in the amount of \$17,000,000.00 are hereby obligated in support of Recovery Act activities. The amount of funds obligated under this contract since its inception is therefore increased from \$1,184,988,611.58 to a total of \$1,201,988,611.58.
2. The specific Contractor Recovery Act Statement of Work, Milestones, Outcomes and Measures, and Deliverables funded by this modification are identified in the following referenced U.S. Department of Energy Work Authorizations:

Work Authorization Number	Work Authorization Title
KA/CH14/9/ARRA-1, Revision No. 01 (\$2,500,000.00)	High Energy Physics – Fermilab GPP Augmentation (2005140)
KA/CH14/9/ARRA-2, Revision No. 01 (\$5,500,000.00)	High Energy Physics – NovA MIE (2005120)
KA/CH14/9/ARRA-4, Revision No. 00 (\$5,000,000.00)	High Energy Physics - Long Baseline Neutrino Experiment (2005175)
KA/CH14/9/ARRA-4, Revision No. 01 (\$4,000,000.00)	High Energy Physics - Long Baseline Neutrino Experiment (2005175)

3. 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 paragraphs F. through I. of Modification No. A039 to this contract. The funds obligated hereunder shall only be used to accomplish the work as set forth in paragraph C. above and may not be used for any other purpose without the prior written consent of the Contracting Officer.
4. 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.
5. All other terms and conditions remain unchanged.

END OF MODIFICATION

CHICAGO OPERATIONS OFFICE
FY 2009 APPROVED FUNDING PROGRAM NO. 17
CH Fermi Accelerator Laboratory - CONTRACT NO: CH11359
SUMMARY

BUDGET AUTHORITY (BA)

	BEGINNING	UNCOMMITTED	OBLIGATIONS	PREVIOUS	CHANGE	REVISED	TOTAL
	NEW BA						AVAILABLE
OPERATING EXPENSES	76,684,968.86	406,786,105.59	9,000,000.00	415,786,105.59		492,471,074.45	
CAPITAL EQUIPMENT	15,389,339.23	48,715,088.16	5,500,000.00	54,215,088.16		69,604,427.39	
CONSTRUCTION	7,343,690.29	29,979,000.00	2,500,000.00	32,479,000.00		39,822,690.29	
REIMBURSABLE WORK	1,548,742.93	633,614.44	0.00	633,614.44		2,182,357.37	
GRAND TOTAL	100,966,741.31	486,113,808.19	17,000,000.00	503,113,808.19		604,080,549.50	

Certification of Funds Availability:

Catherine Richardson 8-5-09
Certifying Official Date



Department of Energy

Washington, DC 20585

AUG 04 2009

MEMORANDUM FOR:

DISTRIBUTION
(See Attached List)

FROM:

DENNIS KOVAR 
ASSOCIATE DIRECTOR OF SCIENCE
FOR HIGH ENERGY PHYSICS

SUBJECT:

American Recovery and Reinvestment Act Approved
Funding Program Guidance (Approval Date of July 28, 2009)

This memorandum provides guidance primarily for the release of the Risk Assessment funds for the High Energy Physics program. In addition, there is a \$1,000,000 realignment of funds for the Long Baseline Neutrino Experiment project. This guidance is for funding made available by the American Recovery and Reinvestment Act of 2009. This act includes specific reporting requirements upon receipt of this funding. Further guidance will be provided as to the means recipients will use when reporting data for these requirements, but be aware that, at a minimum, the following data will be required.

1. The total amount of recovery funds received from that agency.
2. The amount of recovery funds received that were obligated and expended to projects or activities. This reporting will also include unobligated Allotment balances to facilitate reconciliations.
3. A detailed list of all projects or activities for which recovery funds were obligated and expended, including:
 - (A) The name of the project or activity;
 - (B) A description of the project or activity;
 - (C) An evaluation and milestones of the progress toward completion of the project or activity and a list of metrics that will be used to measure the performance of work; and
 - (D) An estimate of the number of jobs created and the number of jobs retained by the project or activity.
4. Detailed information on any subcontracts or subgrants awarded by the recipient to include the data elements required to comply with the Federal Funding Accountability and Transparency Act of 2006 (P.L. 109-282), allowing aggregate reporting on awards below \$25,000 or to individuals, as prescribed by the Director of OMB.

Reporting requirements only apply to the prime non-Federal recipients of Federal funding, including reporting of the sub-awards (e.g., sub-grants and subcontracts) made by these prime recipients as indicated in point 4 above. Each subsequent sub-recipient is not required to report.



Reporting requirements can be found under the H Clause, entitled "H.999 Special provisions relating to work funded under American Recovery and Reinvestment Act of 2009 (Feb 2009)."

All modifications will specify schedule, milestone, and deliverable requirements. The modifications must also specify performance outcomes and measures that will be used to assess performance of the Recovery Act funds.

Recovery Act funds may be used in conjunction with other funding as necessary to complete projects, but tracking and reporting must be separate to meet the reporting requirements of the Recovery Act and this guidance. Obligations of Recovery Act funding must occur no later than September 30, 2010; expenditures must occur no later than September 30, 2015.

All funds provided under the Recovery Act must be obligated and expended consistent with the provisions of the Act, the text of which can be found at http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111_cong_bills&docid=f:h1enr.pdf. Additional details related to the Recovery Act can be found at www.recovery.gov. OMB's Updated Implementing Guidance for the American Recovery and Reinvestment Act of 2009 can be found at http://www.whitehouse.gov/omb/assets/memoranda_fy2009/m09-15.pdf.

The Office of High Energy Physics is committed to conducting work in a manner that ensures protection of the workers, the public, and the environment. Protecting the workers, the public and the environment is a direct and individual responsibility of all HEP managers and HEP-supported researchers and their staff. Funds provided by HEP will be applied as necessary to ensure that all HEP activities are conducted safely and in an environmentally conscientious manner. Only work conducted in this way will be supported.

The funds provided in this AFP should be used in accordance with the attached program guidance. There should not be any variance in performance from this guidance prior to changes being coordinated and approved by the appropriate headquarters program manager and documented by a program guidance letter from headquarters. This is essential to maintain accountability for the utilization of these funds.

In addition, attached are a high-level summary document and a Major Milestone table for each Recovery Act project. Weekly reporting against the milestones is required to be submitted by the Site Office POC to the SC Program Office POC, with a copy to the SC Budget Office POC, by 8:00 PM (ET) on Thursday of each week according to the memorandum (Reporting American Recovery and Reinvestment Act activities by Management and Operating [M&O] Contractors) from Patricia Dehmer and George Malosh dated April 21, 2009.

Also attached, in accordance with DOE Order 412.1A, are the Work Authorizations for the Management and Operating (M&O) contractors under your cognizance.

If you have questions regarding the attached, please call Denise Allen on 301-903-5599 or the appropriate program manager at headquarters.

Attachments:
As stated

ADDRESSEE LIST – RECOVERY ACT FY 2009 HEP PROGRAMMATIC GUIDANCE
Approval Date of July 28, 2009

Roxanne Purucker, Manger
Chicago Office

cc: M. Sunderland, CH (mary.sunderland@ch.doe.gov)
V. Kaatz, CH (Valerie.kaatz@ch.doe.gov)

Michael D. Holland, Manager
Brookhaven Site Office

cc: S. Aronson, BNL (samaronson@bnl.gov)
R. Melucci, BNL (melucci@bnl.gov)
J. Hauser, BNL (hauser@bnl.gov)
F. Crescenzo, SC-BHSO (crescenzo@bnl.gov)
R. Purucker, CH (Roxanne.purucker@ch.doe.gov)
M. Sunderland, CH (mary.sunderland@ch.doe.gov)
V. Kaatz, CH (Valerie.kaatz@ch.doe.gov)

Joanna Livengood, Manager
Fermi Site Office

cc: P. Oddone, Fermilab (pjoddone@fnal.gov)
C. Trimby, Fermilab (ctrimby@fnal.gov)
R. Simpson, Fermi Site Office (rory.simpson@ch.doe.gov)
R. Purucker, CH (Roxanne.purucker@ch.doe.gov)
M. Sunderland, CH (mary.sunderland@ch.doe.gov)
V. Kaatz, CH (Valerie.kaatz@ch.doe.gov)

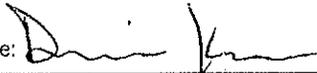
RPT7.RPT
 B&R: KA 9100227
 Lab: All
 SETASIDES: Exclude -- Reserve/Hold
 Current Stage: 2009-10-92
 Proposed Stage: 2009-10-93
 \$: Whole

FY 2009 July Program Guidance Attachment
 High Energy Physics

	Current	Approved Obligations Change	Proposed	Current	Approved Costs Change	Proposed
Chicago Office						
FERMI NATL ACCEL LAB						
Operating Expenses						
KA11 Proton Accelerator-Based Physics						
KA1102023 Other	22,500,000	2,500,000	25,000,000	22,500,000	2,500,000	25,000,000
GPP	22,500,000	2,500,000	25,000,000	22,500,000	2,500,000	25,000,000
KA1102033 Current Facility Projects	4,000,000	4,000,000	8,000,000	4,000,000	4,000,000	8,000,000
OPE	4,000,000	4,000,000	8,000,000	4,000,000	4,000,000	8,000,000
EQU 71RF	9,436,000	5,500,000	14,936,000	9,436,000	5,500,000	14,936,000
Total KA1102033	13,436,000	9,500,000	22,936,000	13,436,000	9,500,000	22,936,000
KA1102034 Future Facility R&D	1,000,000	0	1,000,000	1,000,000	0	1,000,000
OPE	1,000,000	0	1,000,000	1,000,000	0	1,000,000
Total KA1102034	36,936,000	12,000,000	48,936,000	36,936,000	12,000,000	48,936,000
Total KA11	58,436,000	16,500,000	74,936,000	58,436,000	16,500,000	74,936,000
KA15 Advanced Technology R&D	1,521,000	0	1,521,000	1,521,000	0	1,521,000
KA1502011 General Accelerator Development	1,521,000	0	1,521,000	1,521,000	0	1,521,000
OPE	1,521,000	0	1,521,000	1,521,000	0	1,521,000
Total KA1502011	3,042,000	0	3,042,000	3,042,000	0	3,042,000
Total KA15	3,042,000	0	3,042,000	3,042,000	0	3,042,000
Total Operating Expenses	38,457,000	12,000,000	50,457,000	38,457,000	12,000,000	50,457,000
Total FERM NATL ACCEL LAB	38,457,000	12,000,000	50,457,000	38,457,000	12,000,000	50,457,000

**U.S. DEPARTMENT OF ENERGY
CONTRACT WORK AUTHORIZATION
AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009: 89-09/10-0227**

1a. Project Title: High Energy Physics – Fermilab GPP augmentation (2005140)		1b. Work Proposal Number (if applicable): Various	
2. Headquarters Program Point of Contact. Name: Dennis Kovar Organization Code: SC-25 Telephone No.: (301) 903-3624			
3. Headquarters Budget Point of Contact. Name: Denise Allen Organization Code: SC-41 Telephone No.: (301) 903-5599			
4. Responsible Program: High Energy Physics		5. Responsible Secretarial Officer: Under Secretary for Science	
6. Responsible Field Organization: Fermi Site Office			
7a. Site and Facility Management Contractor: Fermi Research Alliance, LLC – Fermi National Accelerator Laboratory		7b. Contractor Point of Contact. Name: Telephone No.:	
8. Work Authorization Number: KA/CH14/9/ARRA-1		9. Revision Number: 01	
10. Funds Authorized (\$ in thousands). B&R Code: KA Previous: \$22,500 Change: +\$2,500 Current: \$25,000*			
11. Performance Period Covered by Funds. From: 02/17/09 To: 09/30/10		12. Work Start Date: 5/2009	13. Expected Completion Date: 12/2011
14. Statement of Work: see attached <p>This Work Authorization is issued for the sole purpose of authorizing work in support of the American Recovery and Reinvestment Act of 2009, (Pub. L. 111-5) (Recovery Act). All contract terms and conditions apply to the work identified herein, in particular contract provision H.999 applies. The work described in this work authorization shall be performed using funds obligated under the contract, appropriated under the Recovery Act and as such is subject to special statutory conditions.</p> <p>The Office of Science (SC) is committed to conducting all work authorized herein, in a manner that ensures protection of the workers, the public, and the environment. Protecting the workers, the public, and the environment is a direct and individual responsibility of all SC managers and SC-supported contractors. Funds provided by SC will be applied as necessary to ensure that all supported activities are conducted safely and in an environmentally conscientious manner. Only work conducted in this manner will be supported.</p> <p><u>Specific Recovery Act Statement of Work:</u></p> <p>\$2,500,000 is provided from the risk assessment reserve; total funding for this project is \$25,000,000 under KA-11-02-02-3 to reduce the backlog of General Plant Projects (GPP) projects at Fermi National Accelerator Laboratory. The proposed total funding would allow the six highest priority projects to be done. New space, power, and cooling are provided for grid computing activities that support the Large Hadron Collider research program, which is one of the HEP program's highest priorities. Utilities and environmental improvements will support safer and more reliable operation of the Fermilab accelerator complex. Additional lab space will be built to support the Superconducting Radio Frequency R&D program and other Advanced Technology R&D Augmentation programs.</p> <p>Attachment A, Contractor Recovery Act Performance Requirements, identifies the Contractor Recovery Act Schedule Milestones, Performance Measures and Outcomes and Deliverables for this Work Authorization. The contractor's performance against the identified requirements in Attachment A will be evaluated under the Office of Science laboratory appraisal process.</p>			

15. Reporting Requirements (Status reports, scientific and technical information or similar): The recipient of funding in this Work Authorization is responsible for meeting all reporting requirements established by the Department of Energy for activities funded by the American Recovery and Reinvestment Act of 2009.		
16. Work Authorization Program Official. Name (typed): Dennis Kovar	Signature: 	Date: 8/4/09
17. DOE Field Organization Official. Name (typed): Mark E. Bollinger	Signature: 	Date: 8/5/09
18. Contractor's Authorized Representative. Name (typed): PIER ODDONE	Signature: 	Date: 8/5/09
19. DOE Contracting Officer (or delegated representative). Name (typed):	Signature: 	Date: 08/05/09

* Includes General Plant Projects \$25,000,000. RORY S. SIMPSON
CONTRACTING OFFICER, FSO
U.S. DEPARTMENT OF ENERGY
OFFICE OF SCIENCE

ATTACHMENT A – CONTRACTOR RECOVERY ACT PERFORMANCE REQUIREMENTS
Fermilab GPP augmentation (2005140), KA/CH14/9/ARRA-1, Rev 01

Section A: <u>Contractor Recovery Act Schedule or Milestone Requirements</u>	
Solicit bids on all projects	September 30, 2009
Section B: <u>Contractor Recovery Act Performance Outcomes and Measures</u>	
All projects under construction	March 31, 2010
Beneficial occupancy of all building projects and Wilson Hall emergency generator installed	September 30, 2011
Section C: <u>Contractor Recovery Act Deliverables</u>	
Construction complete on all projects.	December 31, 2011

Fermilab GPP Augmentation

Program/Project Activity: Fermilab GPP Augmentation (Project Code: 2005140)

Program Office: High Energy Physics (HEP)

POC: Dennis Kovar, dennis.kovar@science.doe.gov, 301-903-3624

1. What are you going to accomplish with the stimulus funding?

The funding would be used to reduce the backlog of GPP projects at Fermi National Accelerator Laboratory (Fermilab). The proposed funding would allow six highest priority projects to be done. The priority was developed from the ten-year site plans and updated to address current HEP program priorities by the laboratory in consultation with the OHEP. The amount of funding for this project is \$25M; no SBIR/STTR backout. This project does not include Research & Development (R&D) funds. HEP applied the overall SBIR/STTR assessments against the Superconducting RF R&D and Advanced Plasma Acceleration Facility MIE projects.

2. Description of Milestones:

Please see associated excel file for milestones and schedule information.

3. Procurement Plan:

All work would be funded through the existing M&O contractor with Fermi Research Alliance, the contractor for Fermilab. The project is already underway and funding can be obligated as soon as it is available.

An H Clause modification has been put in place in the Fermilab contract (Modification M035) on March 10, 2009 to ensure that expenditure of Recovery Act funds meets the requirements established by the Act. An Approved Funding Program (AFP) guidance memorandum will be issued that will serve as the work authorization for executing project scope, and will also include minimum reporting requirements and guidance on meeting additional Recovery Act requirements. In the field, appropriate funding modifications will be enacted to implement the AFP and segregate the Recovery Act funds for reporting purposes.

The existing M&O contracts include goals for small business utilization, and this funding will therefore be subject to those overall goals.

4. Program Goals:

Two of the projects will provide new space, power, and cooling are provided for grid computing activities that support the Large Hadron Collider and Tevatron research programs, which are among the HEP program's highest priorities. One project will provide utility improvements to support safer and more reliable operation of the Fermilab complex. Two projects will add addition lab space to support the Superconducting RF research program and other technology R&D programs. One project supplies space needed to improve the efficiency of the operation of the Main Injector, utilized by both the Tevatron and neutrino programs.

5. Support of President's Technology Goals:

This activity supports investment in basic scientific infrastructure by providing expanded space and improved facilities for a variety of high energy physics programs at Fermilab.

6. Major Implementation Issues:

None.

7. Future Budget Needs:

The backlog of GPP projects will be reduced, but there will still be a need to continue GPP funding to Fermilab for additional plant projects. The planned funding for GPP will not be reduced.

8. Leads:

Lead manager

Michael Procario, Michael.procario@science.doe.gov, 301-903-2890

Lead basic science implementation officer:

N/A

Lead national laboratory:

Fermilab, Bruce Chrisman, chrisman@fnal.gov, 630-840-6657

Major Milestones

For Grants, Contracts, and Hiring Actions associated with implementing Recovery Act, provide dates for the major milestones. For NEPA reviews, provide the type of review expected and the associated major milestones with dates. Include dollar amounts where appropriate. Add duplicate lines as needed. Provide comments as needed to highlight and clarify milestones.

Grants		DATE	Amount (\$M)	Comments
1	Post synopsis on grants.gov/recovery.gov			
2	Post full announcement on grants.gov			
3	Close Date for proposals			
4	Complete proposal reviews			
6	Select Grant(s) for Award(s)			
6	Award Grant(s)			
7	Initial Funds Distribution			
8	Intermediate Funds Distribution(s) (i.e. expected draw schedule)			
9	Final Funds Distribution			

Use of Existing Grants		DATE	Amount (\$M)	Comments
1	Request a Revised Budget/Terms and Conditions			
2	Negotiate Revised Budget/Terms and Conditions			
3	Award Revised Budget/Terms and Conditions			
4	Initial Recovery Act Funds Distribution			
5	Intermediate Recovery Act Funds Distribution(s)			
6	Final Recovery Act Funds Distribution			

Use of Existing Contracts		DATE	Amount (\$M)	Comments
1	Request a Revised Proposal/Contract	1-Mar-09		As soon as we are allowed to discuss with the lab.
2	Negotiate Revised Proposal/Contract			
3	Award Modification after Signature	6-Mar-09		
4	Initial Recovery Act Funds Distribution	13-May-09	22.500	AFP & Allotment issued; Work Authorization and Guidance sent 5/14/09. \$2.500M held for Risk Assessment
5	Intermediate Recovery Act Funds Distribution(s)			
6	Final Recovery Act Funds Distribution	28-Jul-09	2.500	Release of Risk Assessment Funds

Contracts		DATE	Amount (\$M)	Comments
1	Post synopsis at FBO/Recovery.gov			
2	Post RFP on DOE website			
3	Close Date for RFP Submissions			
4	Complete RFP Evaluations (technical and cost/price)			
5	Select Source(s)			
6	Award instrument after Signature			
7	Initial Funds Distribution			
8	Intermediate Funds Distribution(s) (i.e. monthly disbursements)			
9	Final Funds Distribution			

NEPA Anticipated level of NEPA review, i.e., CX, EA or EIS (for CX, cite which one is applicable.)		DATE	Amount (\$M)	Comments
1	Begin DOE NEPA Review			Anticipated CXs; Activities will be vetted per Office of Science Management System procedures.
2	Initial Determination on CX, EA, or EIS	(1) 3/26/2009;		
3	if CX, cite which one is applicable.	(2) 4/24/02; (3) 9/13/06; (4) 3/26/09; (5) 3/25/09; (6) 6/11/02		(1) B1.15 (MI-8 expansion), (2) B1.15, B3.6 (B-addition), (3) B3.6 (Muon expansion), (4) B1.15 (FCC upgrades) (5) B1.15 (HACC), (6) B 1.3 (Utilities upgrades)
4	if EA, complete EA (including state/tribal review)			
6	if EA demonstrates no significant impact, issue FONSI			
6	if EA identifies potentially significant impact, initiate EIS			
7	if EIS, publish Notice of Intent in Federal Register with minimum 30-day comment period			
8	if EIS, publish Draft EIS with minimum 45-day comment period			
9	if EIS, conduct public hearing(s) for Draft EIS			
10	if EIS, publish Final EIS			
11	Complete NEPA Review/Issue Record of Decision			

HR		DATE	Amount (\$M)	Comments
1	Identify hiring requirement			No hiring anticipated.
2	Develop position description and crediting plan			
3	Announce position			
4	Close announcement			
5	Issue Selection Certificates			
6	Complete interviews			
7	Select new hire(s)			
8	Negotiate employee start date			
9	New employee(s) begins work			

Major Milestones

For Grants, Contracts, and Hiring Actions associated with implementing Recovery Act, provide dates for the major milestones. For NEPA reviews, provide the type of review expected and the associated major milestones with dates. Include dollar amounts where appropriate. Add duplicate lines as needed. Provide comments as needed to highlight and clarify milestones.

Weekly/Monthly Milestones Provide weekly milestones through May 8th and Monthly milestones thereafter through Sept. 2011 (add lines as necessary)			
	DATE	Amount (\$M)	Comments
1	Request a Revised Proposal/Contract	3/6/2009	As soon as we are allowed to discuss with the lab.
2	Award Modification after Signature	3/6/2009	
3		3/13/2009	
4		3/20/2009	
5		3/27/2009	
6		4/3/2009	
7		4/10/2009	
8		4/17/2009	
9		4/24/2009	
10		5/1/2009	
11		5/8/2009	
	CFO Releases Recovery Act Funds (5/13/09)	5/15/2009	22.500 \$2.500M held for Risk Reserve
	Guidance Letter and Work Authorization provided (5/14/09)	5/15/2009	
	Obligation of Funds (5/18/09)	5/22/2009	
12	Begin EDIA for all projects	5/29/2009	Milestone successfully met.
	Final Recovery Act Funds Distribution (7/28/09)	7/31/2009	2.500 Release of Risk Reserve
	Guidance Letter distributed (8/4/09)	8/7/2009	
13	Solicit bids on the High availability computing	S-09	
14	Solicit bids for NML expansion and Wilson Hall generator project	O-09	
15	Solicit bids for FCC Cooling Upgrade project	N-09	
16	Begin construction of High availability computing	D-09	4.600
17	Begin construction of NML expansion and Wilson Hall generator project	D-09	5.950
	Solicit bids for MI-8 Expansion	J-10	
18	Begin construction of FCC Cooling Upgrade project	F-10	4.750
19	Solicit Bids for Industrial Building 3 addition	F-10	Planned project cost is \$4.9M
23		M-10	
24	Begin construction of MI-8 Expansion	A-10	4.900
25		M-10	
26		J-10	
27		J-10	
28		A-10	
29		S-10	
30		O-10	
31		N-10	
32		D-10	
33		J-11	
34	Wilson Hall Emergency Generator complete	J-11	
35	Beneficial Occupancy of High Availability Computing Center	J-11	
36	Beneficial Occupancy of FCC Cooling Upgrade	J-11	
38		J-11	
39	Beneficial Occupancy of New Muon Lab Expansion	O-11	
40		A-11	
41	Beneficial Occupancy of MI-8 Expansion	D-11	

**U.S. DEPARTMENT OF ENERGY
CONTRACT WORK AUTHORIZATION
AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009: 89-09/10-0227**

1a. Project Title: High Energy Physics – NOvA MIE (2005120)		1b. Work Proposal Number (if applicable): Various	
2. Headquarters Program Point of Contact. Name: Dennis Kovar Organization Code: SC-25 Telephone No.: (301) 903-3624			
3. Headquarters Budget Point of Contact. Name: Denise Allen Organization Code: SC-41 Telephone No.: (301) 903-5599			
4. Responsible Program: High Energy Physics		5. Responsible Secretarial Officer: Under Secretary for Science	
6. Responsible Field Organization: Fermi Site Office			
7a. Site and Facility Management Contractor: Fermi Research Alliance, LLC – Fermi National Accelerator Laboratory		7b. Contractor Point of Contact. Name: Telephone No.:	
8. Work Authorization Number: KA/CH14/9/ARRA-2		9. Revision Number: 01	
10. Funds Authorized (\$ in thousands). B&R Code: KA Previous: \$9,436 Change: +\$5,500 Current: \$14,936*			
11. Performance Period Covered by Funds. From: 02/17/09 To: 09/30/10		12. Work Start Date: 5/2009	13. Expected Completion Date: 12/2011
14. Statement of Work: see attached This Work Authorization is issued for the sole purpose of authorizing work in support of the American Recovery and Reinvestment Act of 2009, (Pub. L. 111-5) (Recovery Act). All contract terms and conditions apply to the work identified herein, in particular contract provision H.999 applies. The work described in this work authorization shall be performed using funds obligated under the contract, appropriated under the Recovery Act and as such is subject to special statutory conditions. The Office of Science (SC) is committed to conducting all work authorized herein, in a manner that ensures protection of the workers, the public, and the environment. Protecting the workers, the public, and the environment is a direct and individual responsibility of all SC managers and SC-supported contractors. Funds provided by SC will be applied as necessary to ensure that all supported activities are conducted safely and in an environmentally conscientious manner. Only work conducted in this manner will be supported. <u>Specific Recovery Act Statement of Work:</u> \$5,500,000 is provided from the risk assessment reserve; total funding at Fermi National Accelerator Laboratory is \$14,936,000 of equipment funds for the NOvA project (MIE 71RF) under KA-11-02-03-3. This funding is part of the Recovery Act Project Operating Plan “NOvA MIE” which provides a total of \$55,000,000 to accelerate the completion of the NOvA Major Item of Equipment. The University of Minnesota has a cooperative agreement with DOE to construct the building that will house the detector on university owned land. The University will be provided \$40,064,000 as their part of this plan which represents all the funds needed to place contracts for the complete building rather than incrementally through FY 2011. Fermi National Accelerator Laboratory will fabricate the detector. As a result of this Recovery Act funding, the building construction will be completed 9 to 12 months earlier increasing the number of construction jobs in FY 2009 and FY 2010 compared to the original spending plan. Attachment A, Contractor Recovery Act Performance Requirements, identifies the Contractor Recovery Act Schedule Milestones, Performance Measures and Outcomes and Deliverables for this Work Authorization. The contractor’s performance against the identified requirements in Attachment A will be evaluated under the Office of Science laboratory appraisal process.			

15. Reporting Requirements (Status reports, scientific and technical information or similar):

The recipient of funding in this Work Authorization is responsible for meeting all reporting requirements established by the Department of Energy for activities funded by the American Recovery and Reinvestment Act of 2009.

16. Work Authorization Program Official. Name (typed): Dennis Kovar	Signature: 	Date: 8/4/09
17. DOE Field Organization Official. Name (typed): Mark E. Bollinger	Signature: 	Date: 8/5/09
18. Contractor's Authorized Representative. Name (typed): PIER ODDONE	Signature: 	Date: 8/5/09
19. DOE Contracting Officer (or delegated representative). Name (typed):	Signature: 	Date: 08/05/09

* Includes Capital Equipment \$14,936,000.

RORY S. SIMPSON
CONTRACTING OFFICER, FSO
U.S. DEPARTMENT OF ENERGY
OFFICE OF SCIENCE

**ATTACHMENT A -- CONTRACTOR RECOVERY ACT PERFORMANCE REQUIREMENTS
NOvA MIE (2005120), KA/CH14/9/ARRA-2, Rev 01**

<u>Section A: Contractor Recovery Act Schedule or Milestone Requirements</u>	
Purchase Order for first Recovery Act funded detector component (wavershifters) complete	May 2009
Purchase Orders for last Recovery Act funded detector components complete	December 2009
Purchase Orders for all Recovery Act funded accelerator components complete	January 2010
<u>Section B: Contractor Recovery Act Performance Outcomes and Measures</u>	
Delivery of all Recovery Act funded accelerator components complete	March 2010
Delivery of first Recovery Act funded detector (wavershifters) complete	August 2010
Delivery of all Recovery Act funded detector components complete	December 2011
<u>Section C: Contractor Recovery Act Deliverables</u>	
All NOvA Recovery Act funded components are available for installation for the project.	December 2011

NOvA MIE

Program/Project Activity: NOvA MIE (Project code: 2005120)

Program Office: Office of High Energy Physics (HEP)

POC: Dennis Kovar, dennis.kovar@science.doe.gov, 301-903-3624

1. What are you going to accomplish with the stimulus funding?

Accelerate the completion of the NOvA Major Item of Equipment by accelerating building construction and detector fabrication by 9–12 months. The NOvA detector will study the oscillations of muon neutrinos over long distances to search for the oscillation into electron neutrinos, determine the hierarchy of neutrino masses and measure CP violation in the neutrinos sector if it is large enough.

The University of Minnesota, responsible for constructing the building under a cooperative agreement with DOE, will be provided all of the funds needed to place contracts for the complete building rather than incrementally. The bulk of the funding to Fermi National Accelerator Laboratory for detector fabrication, planned for FY 2013, will be provided in FY 2009, so that detector fabrication can be advanced to match the earlier completion of the building and allow for completion of the entire project 9–12 months early. The project amount is \$55M; no SBIR/STTR backout. This project is partially R&D funded. HEP applied the overall SBIR/STTR assessments against the Superconducting RF R&D and Advanced Plasma Acceleration Facility MIE projects.

2. Description of Milestones:

Please see associated excel file for milestones and schedule information.

3. Procurement Plan:

The NOvA Project is being managed according to DOE O413.3A. The project has an approved baseline with a TPC is \$278 million and out year funding will be reduced to maintain that TPC.

The detector fabrication is being carried out by Fermi National Accelerator Laboratory under the existing M&O contract. The project is already underway and funding can be obligated as soon as it is available. Current plans call for \$14.936 million to be supplied to Fermilab.

The construction of the far detector hall is being funded through a cooperative agreement with the University of Minnesota, ER41471. The University of Minnesota plans to subcontract the work to build the far detector hall. Competitive bids are being sought. The NOvA Project Execution Plan specifies that, the University will manage these activities using the same methods and personnel it uses for its other civil construction activities, with a leading role taken by the University Capital Planning and Project Management Office.

Current plans call for \$40.064 million to be provided to the university. The procurement request has already been processed by the Office of Science, and the request is at the Chicago Office awaiting release of funding to support it. If bids require less than the supplied funds, then the excess will be deobligated from the university and supplied to Fermilab for the detector fabrication.

An H Clause modification has been put in place in the Fermilab contract Modification M035, on March 10, 2009 to ensure that expenditure of Recovery Act funds meets the requirements established by the Act. An Approved Funding Program (AFP) guidance memorandum will be issued to each M&O receiving Recovery Act funds; this AFP guidance memorandum will serve as the work authorization for

Recovery Act/Science/HEP

executing project scope, and will also include minimum reporting requirements and guidance on meeting additional Recovery Act requirements. In the field, appropriate funding modifications will be enacted to implement the AFP and segregate the Recovery Act funds for reporting purposes.

These existing M&O contracts include goals for small business utilization, and this funding will therefore be subject to those overall goals.

DOE Order 413.3A has been applied to this project. The project has an approved Project Execution Plan formally established at Critical Decision-2, and that contains project-specific milestones against which performance will be measured. There is also an approved Acquisition Strategy that documents the choice of Fermilab to build the detector and the University of Minnesota to build and operate the far detector hall. Acceptable M&O performance on these projects will also be measured using cost and schedule performance indicators (cost performance index and schedule performance index) according to DOE-approved Earned Value Management Systems at each laboratory.

4. Program Goals:

The NOvA Project is a next major element in the Nation's program at the Intensity Frontier, which is one of the three major thrusts in the HEP strategic plan. NOvA will begin running approximately one year earlier.

5. Support of President's Technology Goals:

This activity supports investment in basic scientific infrastructure and development of the next generation of scientists for the nation.

6. Major Implementation Issues:

None.

7. Future Budget Needs:

Total funding for the NOvA project is unchanged. Funding in the outyears will be reduced to compensate for additional funds provided by the stimulus and some funds (i.e.; \$9,234,000) will be used in FY 2009 to offset the reduction in the NOvA funding in the FY 2009 Omnibus Bill compared to the FY 2009 President's request. The reduced out year funding requirements for this project allow other high priority projects and underfunded efforts within the Office of Science to be addressed.

(dollars in thousands)				
Impact Description	FY 2010	FY 2011	FY 2012	FY 2013
Reduce outyear funding for NOvA	(9,000)	(25,000)	(10,000)	(1,766)

8. Leads:

Lead manager:

Michael Procaro, Office of High Energy Physics, 301-903-2890,
michael.procaro@science.doe.gov

Lead basic science implementation officer:

N/A

Lead national laboratory: Fermi National Accelerator Laboratory

Recovery Act/Science/HEP

Major Milestones

For Grants, Contracts, and Hiring Actions associated with implementing Recovery Act, provide dates for the major milestones. For NEPA reviews, provide the type of review expected and the associated major milestones with dates. Include dollar amounts where appropriate. Add duplicate lines as needed. Provide comments as needed to highlight and clarify milestones.

	Grants	DATE	Amount (\$M)	Comments
1	Post synopsis on grants.gov/recovery.gov			
2	Post full announcement on grants.gov			
3	Close Date for proposals			
4	Complete proposal reviews			
5	Select Grant(s) for Award(s)			
6	Award Grant(s)			
7	Initial Funds Distribution			
8	Intermediate Funds Distribution(s) (i.e. expected draw schedule)			
9	Final Funds Distribution			

	Use of Existing Grants	DATE	Amount (\$M)	Comments
1	Request a Revised Budget/Terms and Conditions			Planned award is within current funding plan no revised budget is needed.
2	Negotiate Revised Budget/Terms and Conditions			
3	Award Revised Budget/Terms and Conditions	6-Mar		
4	Initial Recovery Act Funds Distribution	13-May	40.064	AFP and Allotment issued; guidance letter sent 5/14/09
5	Intermediate Recovery Act Funds Distribution(s)			
6	Final Recovery Act Funds Distribution			

	Use of Existing Contracts	DATE	Amount (\$M)	Comments
1	Request a Revised Proposal/Contract			
2	Negotiate Revised Proposal/Contract			
3	Award Modification after Signature	6-Mar		Entire amount will be distributed in first available fin plan.
4	Initial Recovery Act Funds Distribution	13-May	9.436	AFP & Allotment issued; guidance letter and Work Authorization sent 5/14/09. \$5.500M held for Risk Assessment
5	Intermediate Recovery Act Funds Distribution(s)			
6	Final Recovery Act Funds Distribution	28-Jul	5.500	Release of Risk Assessment

	Contracts	DATE	Amount (\$M)	Comments
1	Post synopsis at FBO/Recovery.gov			
2	Post RFP on DOE website			
3	Close Date for RFP Submissions			
4	Complete RFP Evaluations (technical and cost/price)			
5	Select Source(s)			
6	Award instrument after Signature			
7	Initial Funds Distribution			
8	Intermediate Funds Distribution(s) (i.e. monthly disbursements)			
9	Final Funds Distribution			

	NEPA Anticipated level of NEPA review, i.e., CX, EA or EIS (for CX, cite which one is applicable.)	DATE	Amount (\$M)	Comments
1	Begin DOE NEPA Review			
2	Initial Determination on CX, EA, or EIS			
3	if CX, cite which one is applicable.			
4	if EA, complete EA (including state/tribal review)	6/11/08		NOVA Experiment EA (DOE/EA-1570), June 2008. All environmental reviews and documents are complete.
5	if EA demonstrates no significant impact, issue FONSI			
6	if EA identifies potentially significant impact, initiate EIS			
7	if EIS, publish Notice of Intent in Federal Register with minimum 30-day comment period			
8	if EIS, publish Draft EIS with minimum 45-day comment period			
9	if EIS, conduct public hearing(s) for Draft EIS			
10	if EIS, publish Final EIS			
11	Complete NEPA Review/Issue Record of Decision			

	HR	DATE	Amount (\$M)	Comments
1	Identify hiring requirement			No hiring is anticipated.
2	Develop position description and crediting plan			
3	Announce position			
4	Close announcement			
5	Issue Selection Certificates			
6	Complete interviews			
7	Select new hire(s)			
8	Negotiate employee start date			
9	New employee(s) begins work			

Major Milestones

For Grants, Contracts, and Hiring Actions associated with implementing Recovery Act, provide dates for the major milestones. For NEPA reviews, provide the type of review expected and the associated major milestones with dates. Include dollar amounts where appropriate. Add duplicate lines as needed. Provide comments as needed to highlight and clarify milestones.

Weekly/Monthly Milestones Provide weekly milestones through May 8th and Monthly milestones thereafter through Sept. 2011 (add lines as necessary)		DATE	Amount (\$M)	Comments
1	Award Revised Budget/Terms and Conditions for University of Minnesota	3/6/2009		
2	Award Revised Budget/Terms and Conditions for Femilab	3/6/2009		
3		3/27/2009		
4	Proposal meeting between University of Minnesota and contractors	4/3/2009		Minnesota had a bid process in place before Recovery Act was passed, based on existing cooperative agreement. We have an opportunity to utilize it to speed use of Recovery Act funds.
5	University of Minnesota Contractor Qualification Submission	4/10/2009		
6	University of Minnesota Notifies Qualified Contractors; Solicit pricing proposal	4/17/2009		
9	Pricing Proposals due to the University of Minnesota	4/24/2009		Require bids to be returned before exact value is known.
11	Interviews; Notify Successful Contractor; Groundbreaking with Congressman Oberstar	5/1/2009		Planned before Recovery Act, need to get funds to UM to claim credit for Recovery Act
13		5/1/2009		
15		5/8/2009		
17	CFO Releases Recovery Act Funds (5/13/09)	5/15/2009	49.500	\$5.500M held pending Risk Reserve
19	Guidance and Work Authorization provided (5/14/09)	5/15/2009		
21	Cooperative Agreement award (\$40.064M) processed by CH (5/15/2009) & obligated (5/19/09); Femilab obligation of \$9.436M (5/18/09)	5/22/2009		
23	Place purchase order for wavelength shifting powder (6/8/09)	6/12/2009	2.110	Value should not be put on recovery.org until bid is received.
25	Site preparation mobilization complete (building) (6/30/09)	7/3/2009		
27				
29				
31	Place purchase order for magnet and instrumentation cable (FNAL)	Jul-09	20.100	
	Final Recovery Act Funds Distribution (7/28/09)	7/31/2009	5.500	Release of Risk Reserve
	Guidance letter distributed (8/4/09)	8/7/2009		
33	Place purchase order for Beam Position Monitor Cables & Electronics (FNAL)	Aug-09	0.500	
35	Place purchase order for damper amplifiers (FNAL)	Aug-09	0.225	
37	Delivery of first 15% of wavelength shifting powder (FNAL)	Oct-09		
39	Receive magnet and instrumentation cable (FNAL)	Oct-09		
41	Rock Excavation complete	Dec-09		
	Receive damper amplifiers (FNAL)	Jan-10		
	Place purchase order for kicker cable (FNAL)	Jan-10		
43	Receive kicker cable (FNAL)	Mar-10		
45	Receive Beam Position Monitor Cables & Electronics (FNAL)	Apr-10		
47	Begin procurement of PVC resin	Apr-10	5.000	
49	Begin production of PVC extrusions	Jun-10	5.000	Extrusion production requires resin purchase
51	Delivery of wavelength shifting powder complete (FNAL)	Aug-10		
61	Concrete Base slab complete (building)	Aug-10		
81	Far detector service building shell complete (building)	Sep-10		
61	Access Road complete	Oct-10		
63	Pavement complete (building)	Oct-10		
61	Far detector building concrete walls complete (building)	Oct-10		
61	Far detector building roof shielding complete (building)	Nov-10		
61	Far detector beneficial occupancy complete (building)	Dec-10		
61	Far detector enclosure/assembly area electrical complete (building)	Jan-11		
61	Far detector service building electrical complete (building)	Jan-11		
61	Far detector enclosure/assembly area mechanical complete (building)	Jan-11		
61	Far detector service building mechanical complete (building)	Jan-11		
61	Far detector building roof system complete (building)	Jan-11		
61		Feb-11		
61		Mar-11		
61		Apr-11		
61		May-11		
61		Jun-11		
61		Jul-11		
61		Aug-11		
61		Sep-11		

**U.S. DEPARTMENT OF ENERGY
CONTRACT WORK AUTHORIZATION
AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009: 89-09/10-0227**

1a. Project Title: High Energy Physics – Long Baseline Neutrino Experiment (2005175)		1b. Work Proposal Number (if applicable): Various	
2. Headquarters Program Point of Contact. Name: Dennis Kovar Organization Code: SC-25 Telephone No.: (301) 903-3624			
3. Headquarters Budget Point of Contact. Name: Denise Allen Organization Code: SC-41 Telephone No.: (301) 903-5599			
4. Responsible Program: High Energy Physics		5. Responsible Secretarial Officer: Under Secretary for Science	
6. Responsible Field Organization: Fermi Site Office			
7a. Site and Facility Management Contractor: Fermi Research Alliance, LLC – Fermi National Accelerator Laboratory		7b. Contractor Point of Contact. Name: Telephone No.:	
8. Work Authorization Number: KA/CH14/9/ARRA-4		9. Revision Number: 01	
10. Funds Authorized (\$ in thousands) B&R Code: KA Previous: \$5,000 Change: +\$4,000 Current: \$9,000*			
11. Performance Period Covered by Funds. From: 02/17/09 To: 09/30/10		12. Work Start Date: 7/2009	13. Expected Completion Date: 12/2010
14. Statement of Work: see attached <p>This Work Authorization is issued for the sole purpose of authorizing work in support of the American Recovery and Reinvestment Act of 2009, (Pub. L. 111-5) (Recovery Act). All contract terms and conditions apply to the work identified herein, in particular contract provision H.999 applies. The work described in this work authorization shall be performed using funds obligated under the contract, appropriated under the Recovery Act and as such is subject to special statutory conditions.</p> <p>The Office of Science (SC) is committed to conducting all work authorized herein, in a manner that ensures protection of the workers, the public, and the environment. Protecting the workers, the public, and the environment is a direct and individual responsibility of all SC managers and SC-supported contractors. Funds provided by SC will be applied as necessary to ensure that all supported activities are conducted safely and in an environmentally conscientious manner. Only work conducted in this manner will be supported.</p> <p><u>Specific Recovery Act Statement of Work:</u></p> <p>\$3,000,000 is provided from the risk assessment reserve and an additional \$1,000,000 is provided under KA-11-02-03-3 (bringing the total amount to \$8,000,000). Previous guidance providing \$1,000,000 under KA-11-02-03-4 remains unchanged. The total project funding of \$9,000,000 is provided to support the Long Baseline Neutrino Experiment (LBNE) at Fermi National Accelerator Laboratory for preconceptual R&D and the contributions to the conceptual design of the Long Baseline Neutrino Experiment required for Critical Decision-1. This work is subject to the detailed reporting requirements under Recovery Act.</p>			

15. Reporting Requirements (Status reports, scientific and technical information or similar): The recipient of funding in this Work Authorization is responsible for meeting all reporting requirements established by the Department of Energy for activities funded by the American Recovery and Reinvestment Act of 2009.		
16. Work Authorization Program Official. Name (typed): Dennis Kovar	Signature: 	Date: 8/4/09
17. DOE Field Organization Official. Name (typed): Mark E. Dollinger	Signature: 	Date: 8/5/09
18. Contractor's Authorized Representative. Name (typed): PIER ODDONE	Signature: 	Date: 8/5/09
19. DOE Contracting Officer (or delegated representative). Name (typed):	Signature: 	Date: 08/05/09

* Includes Operating \$9,000,000.

RORY S. SIMPSON
CONTRACTING OFFICER, FSO
U.S. DEPARTMENT OF ENERGY
OFFICE OF SCIENCE

ATTACHMENT A – CONTRACTOR RECOVERY ACT PERFORMANCE REQUIREMENTS
Long Baseline Neutrino Experiment (2005175) — Fermilab
KA/CH14/9/ARRA-4, Rev 01

<u>Section A: Contractor Recovery Act Schedule or Milestone Requirements</u>	
LBNE Project Office at Fermilab Established	August 2009
Preliminary Cost Range for Neutrino Beam Conventional Facilities Estimated	September 2009
Initiate Development of Far Detector Configuration Documents	October 2009
Initiate Conceptual Design Report Studies	November 2009
Initiate Near Detector Technology Studies	December 2009
Conduct Internal Review of Progress on Liquid Argon Detector Design	February 2010
<u>Section B: Contractor Recovery Act Performance Outcomes and Measures</u>	
Neutrino Beam Requirements Document	January 2010
Near Detector Requirements Document	February 2010.
<u>Section C: Contractor Recovery Act Deliverables</u>	
Neutrino Beam Requirements Document	January 2010
Near Detector Requirements Document	February 2010

Long Baseline Neutrino Experiment

Program/Project Activity: Long Baseline Neutrino Experiment (LBNE) (Project code: 2005175)

Program Office: High Energy Physics (HEP)

POC: Dennis Kovar, dennis.kovar@science.doe.gov, 301-903-3624

1. What are you going to accomplish with the stimulus funding:

The Office of High Energy Physics prepared a Mission Need Statement, currently under internal DOE review, for a Long Baseline Neutrino Experiment, based on the strategic plan developed by the HEP Federal Advisory Committee Act panel in 2008¹. This experiment would be comprised of a large (> 100,000 tons) neutrino detector and a neutrino beamline that are separated by more than 1000 kilometers. The instrumentation will be used to study the oscillation of neutrinos from one type to another as they travel over long distances and determine whether these oscillations violate charge-parity conservation. The experiment would provide an order of magnitude greater sensitivity than current neutrino oscillation experiments, and the increased research capabilities will enable a world-class program in neutrino physics that can measure fundamental physical parameters, explore physics beyond the Standard Model, and shed light on the nature of matter and antimatter.

The total project cost for this experiment is expected to be in the range of \$500-\$900 million dollars, and the conceptual design is expected to cost at least \$25 million. The Recovery Act funding will support some pre-conceptual R&D, and once CD-0 has been approved it will be used to partially support the conceptual design. The conceptual design must address a number of challenging technical issues, such as the appropriate technology for the neutrino detector, the optimal distance the neutrino beam should travel, and the energy of the neutrinos. The detector may be underground to shield it from cosmic rays and the neutrino beam will be generated in an underground tunnel. Geological studies will be required to determine the feasibility of and proper techniques for underground construction. In addition, a work breakdown structure for the eventual construction project and a cost estimate range must be developed.

The funding will be used to support work at Fermi National Accelerator Laboratory (FNAL) and Brookhaven National Laboratory (BNL). FNAL will be responsible for overall coordination of the conceptual design and the design of the neutrino beamline, while BNL will lead the design of the neutrino detector.

OHEP's existing plan to carry out this work is funding limited and would have reached completion in about three years. The use of Recovery Act funds should accelerate the work to 18 months and positions the project for CD-1 approval in early 2011. The project amount is \$15.000M; no SBIR/STTR backout. HEP applied the overall SBIR/STTR assessments against the Superconducting RF R&D and Advanced Plasma Acceleration Facility MIE projects.

2. Description of Milestones:

Please see associated excel file for milestones and schedule information.

3. Procurement Plan:

Work at BNL and FNAL will be funded under existing M&O contracts. The pre-conceptual R&D is already underway and funding can be obligated as soon as it is available.

¹ http://www.science.doe.gov/hep/files/pdfs/P5_Report%2006022008.pdf

An H Clause modification has been put in place for the affected M&O contracts to ensure that expenditure of Recovery Act funds meets the requirements established by the Act. An Approved Funding Program (AFP) guidance memorandum will be issued to each M&O receiving Recovery Act funds; this AFP guidance memorandum will serve as the work authorization for executing project scope, and will also include minimum reporting requirements and guidance on meeting additional Recovery Act requirements. In the field, appropriate funding modifications will be enacted to implement the AFP and segregate the Recovery Act funds for reporting purposes.

These existing M&O contracts include goals for subcontracting to small business. The goals apply to the entire laboratory, so depending on the nature of the work some of these funds may or may not go to small business.

The goal of this project is support the pre-conceptual R&D needed for documenting the mission need, and once CD-0 is approved to partially support the conceptual design, Once Critical Decision 0 has been approved, DOE Order 413.3A will be applied to this project, tailored appropriately to the specific project risks. Progress towards CD-1 will be tracked in PARS.

4. Program Goals:

The LBNE advances the HEP strategic plan by extending, expanding, and increasing the sensitivity of neutrino measurements, which will maintain U.S. leadership in neutrino science. The world-leading experiment will attract and train students and physicists for the nation.

5. Support of President’s Technology Goals:

This project supports investment in scientific infrastructure and development of the next generation technology and scientists for the nation.

6. Major Implementation Issues:

None.

7. Future Budget Needs:

Sufficient funding exists in the planned HEP out-year profile to support Project Engineering and Design (PED) starting in FY 2011 and construction of the project based upon the preliminary estimate of costs.

(dollars in thousands)						
Impact Description	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015
Reduce outyear obligations	—	—	—	—	—	—

8. Leads:

- Lead manager – TBD
- Lead basic science implementation officer – Michael Procario
Michael.Procario@science.doe.gov, 301-903-3233
- Lead national laboratory – Fermi National Accelerator Laboratory

Major Milestones

For Grants, Contracts, and Hiring Actions associated with implementing Recovery Act, provide dates for the major milestones. For NEPA reviews, provide the type of review expected and the associated major milestones with dates. Include dollar amounts where appropriate. Add duplicate lines as needed. Provide comments as needed to highlight and clarify milestones.

Grants		DATE	Amount (\$M)	Comments
1	Post synopsis on grants.gov/recovery.gov			
2	Post full announcement on grants.gov			
3	Close Date for proposals			
4	Complete proposal reviews			
5	Select Grant(s) for Award(s)			
6	Award Grant(s)			
7	Initial Funds Distribution			
8	Intermediate Funds Distribution(s) (i.e. expected draw schedule)			
9	Final Funds Distribution			

Use of Existing Grants		DATE	Amount (\$M)	Comments
1	Request a Revised Budget/Terms and Conditions			
2	Negotiate Revised Budget/Terms and Conditions			
3	Award Revised Budget/Terms and Conditions			
4	Initial Recovery Act Funds Distribution			
5	Intermediate Recovery Act Funds Distribution(s)			
6	Final Recovery Act Funds Distribution			

Use of Existing Contracts		DATE	Amount (\$M)	Comments
1	Request a Revised Proposal/Contract			
2	Negotiate Revised Proposal/Contract			
3	Award Modification after Signature			
4	Initial Recovery Act Funds Distribution	7/20/2009	12.000	pre-conceptual and conceptual design work in the first available fin plan; request to CFO 7/9; \$3M Held for Risk Reserve
5	Intermediate Recovery Act Funds Distribution(s)			
6	Final Recovery Act Funds Distribution	7/28/2009	3.000	Release of Risk Reserve

Contracts		DATE	Amount (\$M)	Comments
1	Post synopsis at FBO/Recovery.gov			
2	Post RFP on DOE website			
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NEPA Anticipated level of NEPA review, i.e., CX, EA or EIS (for CX, cite which one is applicable.)		DATE	Amount (\$M)	Comments
1	Begin DOE NEPA Review			Activities will be vetted per Office of Science Management System procedures. Anticipate CX determination (B3.6) for this scope of work (preconceptual R&D and conceptual design through CD-1). Note: SC anticipates preparing an EA for the Long Baseline Neutrino Project prior to CD-2.
2	Initial Determination on CX, EA, or EIS			
3	if CX, cite which one is applicable.			
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8	if EIS, publish Draft EIS with minimum 45-day comment period			
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10	if EIS, publish Final EIS			
11	Complete NEPA Review/Issue Record of Decision			

HR		DATE	Amount (\$M)	Comments
1	Identify hiring requirement			No hiring anticipated.
2	Develop position description and crediting plan			
3	Announce position			
4	Close announcement			
5	Issue Selection Certificates			
6	Complete interviews			
7	Select new hire(s)			
8	Negotiate employee start date			
9	New employee(s) begins work			

Major Milestones

For Grants, Contracts, and Hiring Actions associated with implementing Recovery Act, provide dates for the major milestones. For NEPA reviews, provide the type of review expected and the associated major milestones with dates. Include dollar amounts where appropriate. Add duplicate lines as needed. Provide comments as needed to highlight and clarify milestones.

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12	DOE/CFO approves project CD-0 Approval for LBNE	6/4/2009		
13	Initial Recovery Act Funds Distribution	7/10/2009		Request to CFO 7/9/09 for \$12M (\$3M held for Risk Reserve)
14	CFO processes AFP allotment (7/20/09); guidance letter distributed (7/23/09)	7/24/2009	12,000	
	Final Recovery Act Funds Distribution (7/28/09)	7/31/2009	3,000	Release of Risk Reserve
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15	Establish project office at Fermilab which handles the beamline and overall project	Aug-09		Expect to spend approximately 50% of the total funds on the beamline design
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21	First review of CD-1 Progress	M-10		
22	Complete of first draft of the Alternatives Analysis document	A-10		
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34		M-11		
35		A-11		
36		M-11		
37		J-11		
38		J-11		
39		A-11		
40		S-11		



Department of Energy

Washington, DC 20585

JUL 23 2009

MEMORANDUM FOR: DISTRIBUTION
(See Attached List)

FROM: DENNIS KOVAR 
ASSOCIATE DIRECTOR OF SCIENCE
FOR HIGH ENERGY PHYSICS

SUBJECT: American Recovery and Reinvestment Act Approved
Funding Program Guidance (Approval Date of July 20, 2009 –
Long Baseline Neutrino Experiment, Project Code 2005175)

This guidance is for funding made available by the American Recovery and Reinvestment Act of 2009. This act includes specific reporting requirements upon receipt of this funding. Further guidance will be provided as to the means recipients will use when reporting data for these requirements, but be aware that, at a minimum, the following data will be required.

1. The total amount of recovery funds received from that agency.
2. The amount of recovery funds received that were obligated and expended to projects or activities. This reporting will also include unobligated Allotment balances to facilitate reconciliations.
3. A detailed list of all projects or activities for which recovery funds were obligated and expended, including:
 - (A) The name of the project or activity;
 - (B) A description of the project or activity;
 - (C) An evaluation and milestones of the progress toward completion of the project or activity and a list of metrics that will be used to measure the performance of work; and
 - (D) An estimate of the number of jobs created and the number of jobs retained by the project or activity.
4. Detailed information on any subcontracts or subgrants awarded by the recipient to include the data elements required to comply with the Federal Funding Accountability and Transparency Act of 2006 (P.L. 109-282), allowing aggregate reporting on awards below \$25,000 or to individuals, as prescribed by the Director of OMB.

Reporting requirements only apply to the prime non-Federal recipients of Federal funding, including reporting of the sub-awards (e.g., sub-grants and subcontracts) made by these prime recipients as indicated in point 4 above. Each subsequent sub-recipient is not required to report.

Reporting requirements can be found under the H Clause, entitled "H.999 Special provisions relating to work funded under American Recovery and Reinvestment Act of 2009 (Feb 2009)."

All modifications will specify schedule, milestone, and deliverable requirements. The modifications must also specify performance outcomes and measures that will be used to assess performance of the Recovery Act funds.

Recovery Act funds may be used in conjunction with other funding as necessary to complete projects, but tracking and reporting must be separate to meet the reporting requirements of the Recovery Act and this guidance. Obligations of Recovery Act funding must occur no later than September 30, 2010; expenditures must occur no later than September 30, 2015.

All funds provided under the Recovery Act must be obligated and expended consistent with the provisions of the Act, the text of which can be found at http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111_cong_bills&docid=f:h1enr.pdf. Additional details related to the Recovery Act can be found at www.recovery.gov. OMB's Updated Implementing Guidance for the American Recovery and Reinvestment Act of 2009 can be found at http://www.whitehouse.gov/omb/assets/memoranda_fy2009/m09-15.pdf.

The Office of High Energy Physics is committed to conducting work in a manner that ensures protection of the workers, the public, and the environment. Protecting the workers, the public and the environment is a direct and individual responsibility of all HEP managers and HEP-supported researchers and their staff. Funds provided by HEP will be applied as necessary to ensure that all HEP activities are conducted safely and in an environmentally conscientious manner. Only work conducted in this way will be supported.

The funds provided in this AFP should be used in accordance with the attached program guidance. There should not be any variance in performance from this guidance prior to changes being coordinated and approved by the appropriate headquarters program manager and documented by a program guidance letter from headquarters. This is essential to maintain accountability for the utilization of these funds.

In addition, attached are a high-level summary document and a Major Milestone table for the Recovery Act project. Weekly reporting against the milestones is required to be submitted by the Site Office POC to the SC Program Office POC, with a copy to the SC Budget Office POC, by 8:00 PM (ET) on Thursday of each week according to the memorandum (Reporting American Recovery and Reinvestment Act activities by Management and Operating [M&O] Contractors) from Patricia Dehmer and George Malosh dated April 21, 2009.

Also attached, in accordance with DOE Order 412.1A, are the Work Authorizations for the Management and Operating (M&O) contractors under your cognizance.

If you have questions regarding the attached, please call Denise Allen on 301-903-5599 or the appropriate program manager at headquarters.

Attachments:

As stated

ADDRESSEE LIST – RECOVERY ACT FY 2009 HEP PROGRAMMATIC GUIDANCE

Michael D. Holland, Manager
Brookhaven Site Office

cc: S. Aronson, BNL (samaronson@bnl.gov)
R. Melucci, BNL (melucci@bnl.gov)
J. Hauser, BNL (hauser@bnl.gov)
F. Crescenzo, SC-BHSO (crescenzo@bnl.gov)
R. Purucker, CH (Roxanne.purucker@ch.doe.gov)
M. Sunderland, CH (mary.sunderland@ch.doe.gov)
V. Kaatz, CH (Valerie.kaatz@ch.doe.gov)

Joanna Livengood, Manager
Fermi Site Office

cc: P. Oddone, Fermilab (pjoddone@fnal.gov)
C. Trimby, Fermilab (ctrimby@fnal.gov)
R. Simpson, Fermi Site Office (rory.simpson@ch.doe.gov)
R. Purucker, CH (Roxanne.purucker@ch.doe.gov)
M. Sunderland, CH (mary.sunderland@ch.doe.gov)
V. Kaatz, CH (Valerie.kaatz@ch.doe.gov)

RPT7, RPT
 E&R: KA 9100227
 Lab: All
 SETASIDES: Exclude -- Reserve/Hold
 Current Stage: 2009-09-91
 Proposed Stage: 2009-10-92
 \$: Whole

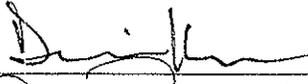
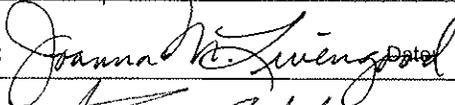
FY 2009 July Program Guidance Attachment
 High Energy Physics

	Current	Approved Obligations Change	Proposed	Current	Approved Costs Change	Proposed
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Chicago Office						
FERMI NATL ACCEL LAB						
Operating Expenses						
KAL1						
Proton Accelerator-Based Physics						
KAL102023	Other					
	GPP	22,500,000	0	22,500,000	0	22,500,000
	Total KAL102023	22,500,000	0	22,500,000	0	22,500,000
KAL102033	Current Facility Projects					
	OPE	0	4,000,000	4,000,000	0	4,000,000
	EQU 71RF	9,436,000	0	9,436,000	0	9,436,000
	Total KAL102033	9,436,000	4,000,000	13,436,000	4,000,000	13,436,000
KAL102034	Future Facility R&D					
	OPE	0	1,000,000	1,000,000	0	1,000,000
	Total KAL102034	0	1,000,000	1,000,000	0	1,000,000
	Total KAL1	31,936,000	5,000,000	36,936,000	5,000,000	36,936,000
KAL15	Advanced Technology R&D					
KAL1502011	General Accelerator Development					
	OPE	1,521,000	0	1,521,000	0	1,521,000
	Total KAL1502011	1,521,000	0	1,521,000	0	1,521,000
	Total KAL15	1,521,000	0	1,521,000	0	1,521,000
	Total Operating Expenses	33,457,000	5,000,000	38,457,000	5,000,000	38,457,000
	Total FERMI NATL ACCEL LAB	33,457,000	5,000,000	38,457,000	5,000,000	38,457,000

**U.S. DEPARTMENT OF ENERGY
CONTRACT WORK AUTHORIZATION
AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009: 89-09/10-0227**

1a. Project Title: High Energy Physics – Long Baseline Neutrino Experiment (2005175)		1b. Work Proposal Number (if applicable): Various	
2. Headquarters Program Point of Contact. Name: Dennis Kovar Organization Code: SC-25 Telephone No.: (301) 903-3624			
3. Headquarters Budget Point of Contact. Name: Denise Allen Organization Code: SC-41 Telephone No.: (301) 903-5599			
4. Responsible Program: High Energy Physics		5. Responsible Secretarial Officer: Under Secretary for Science	
6. Responsible Field Organization: Fermi Site Office			
7a. Site and Facility Management Contractor: Fermi Research Alliance, LLC – Fermi National Accelerator Laboratory		7b. Contractor Point of Contact. Name: Telephone No.:	
8. Work Authorization Number: KA/CH14/9/ARRA-4		9. Revision Number: 00	
10. Funds Authorized (\$ in thousands) B&R Code: KA Previous: \$0 Change: +\$5,000 Current: \$5,000*			
11. Performance Period Covered by Funds. From: 02/17/09 To: 09/30/10		12. Work Start Date: 7/2009	13. Expected Completion Date: 12/2010
14. Statement of Work: see attached <p>This Work Authorization is issued for the sole purpose of authorizing work in support of the American Recovery and Reinvestment Act of 2009, (Pub. L. 111-5) (Recovery Act). All contract terms and conditions apply to the work identified herein, in particular contract provision H.999 applies. The work described in this work authorization shall be performed using funds obligated under the contract, appropriated under the Recovery Act and as such is subject to special statutory conditions.</p> <p>The Office of Science (SC) is committed to conducting all work authorized herein, in a manner that ensures protection of the workers, the public, and the environment. Protecting the workers, the public, and the environment is a direct and individual responsibility of all SC managers and SC-supported contractors. Funds provided by SC will be applied as necessary to ensure that all supported activities are conducted safely and in an environmentally conscientious manner. Only work conducted in this manner will be supported.</p> <p><u>Specific Recovery Act Statement of Work:</u></p> <p>\$4,000,000 under KA-11-02-03-3 and \$1,000,000 under KA-11-02-03-4 is provided to support the Long Baseline Neutrino Experiment (LBNE) at Fermi National Accelerator Laboratory for preconceptual R&D and the contributions to the conceptual design of the Long Baseline Neutrino Experiment required for Critical Decision-1. The distribution above is a preliminary estimate; necessary adjustments will be made in subsequent Approved Funding Programs. Also, an additional \$3,000,000 is anticipated following the risk assessment process. This work is subject to the detailed reporting requirements under Recovery Act.</p>			

15. Reporting Requirements (Status reports, scientific and technical information or similar): The recipient of funding in this Work Authorization is responsible for meeting all reporting requirements established by the Department of Energy for activities funded by the American Recovery and Reinvestment Act of 2009.		
16. Work Authorization Program Official. Name (typed): Dennis Kovar	Signature: 	Date: 7/23/09
17. DOE Field Organization Official. Name (typed): Joanna M. Livengood	Signature: 	Date: 7/29/09
18. Contractor's Authorized Representative. Name (typed):	Signature: 	Date: 8/3/09
19. DOE Contracting Officer (or delegated representative). Name (typed):	Signature: 	Date: 08/09/09

* Includes Operating \$5,000,000.

RORY S. SIMPSON
CONTRACTING OFFICER, FSO
U.S. DEPARTMENT OF ENERGY
OFFICE OF SCIENCE

ATTACHMENT A – CONTRACTOR RECOVERY ACT PERFORMANCE REQUIREMENTS
Long Baseline Neutrino Experiment (2005175) — Fermilab
KA/CH14/9/ARRA-4, Rev 00

Section A: <u>Contractor Recovery Act Schedule or Milestone Requirements</u>	
LBNE Project Office at Fermilab Established	August 2009
Preliminary Cost Range for Neutrino Beam Conventional Facilities Estimated	September 2009
Initiate Development of Far Detector Configuration Documents	October 2009
Initiate Conceptual Design Report Studies	November 2009
Initiate Near Detector Technology Studies	December 2009
Conduct Internal Review of Progress on Liquid Argon Detector Design	February 2010
Section B: <u>Contractor Recovery Act Performance Outcomes and Measures</u>	
Neutrino Beam Requirements Document	January 2010
Near Detector Requirements Document	February 2010
Section C: <u>Contractor Recovery Act Deliverables</u>	
Neutrino Beam Requirements Document	January 2010
Near Detector Requirements Document	February 2010

Long Baseline Neutrino Experiment

Program/Project Activity: Long Baseline Neutrino Experiment (LBNE) (Project code: 2005175)

Program Office: High Energy Physics (HEP)

POC: Dennis Kovar, dennis.kovar@science.doe.gov, 301-903-3624

1. What are you going to accomplish with the stimulus funding:

The Office of High Energy Physics prepared a Mission Need Statement, currently under internal DOE review, for a Long Baseline Neutrino Experiment, based on the strategic plan developed by the HEP Federal Advisory Committee Act panel in 2008¹. This experiment would be comprised of a large (> 100,000 tons) neutrino detector and a neutrino beamline that are separated by more than 1000 kilometers. The instrumentation will be used to study the oscillation of neutrinos from one type to another as they travel over long distances and determine whether these oscillations violate charge-parity conservation. The experiment would provide an order of magnitude greater sensitivity than current neutrino oscillation experiments, and the increased research capabilities will enable a world-class program in neutrino physics that can measure fundamental physical parameters, explore physics beyond the Standard Model, and shed light on the nature of matter and antimatter.

The total project cost for this experiment is expected to be in the range of \$500-\$700 million dollars, and the conceptual design is expected to cost at least \$25 million. The Recovery Act funding will support some pre-conceptual R&D, and once CD-0 has been approved it will be used to partially support the conceptual design. The conceptual design must address a number of challenging technical issues, such as the appropriate technology for the neutrino detector, the optimal distance the neutrino beam should travel, and the energy of the neutrinos. The detector may be underground to shield it from cosmic rays and the neutrino beam will be generated in an underground tunnel. Geological studies will be required to determine the feasibility of and proper techniques for underground construction. In addition, a work breakdown structure for the eventual construction project and a cost estimate range must be developed.

The funding will be used to support work at Fermi National Accelerator Laboratory (FNAL) and Brookhaven National Laboratory (BNL). FNAL will be responsible for overall coordination of the conceptual design and the design of the neutrino beamline, while BNL will lead the design of the neutrino detector.

OHEP's existing plan to carry out this work is funding limited and would have reached completion in about three years. The use of Recovery Act funds should accelerate the work to 18 months and positions the project for CD-1 approval in early 2011. The project amount is \$15.000M; no SBIR/STTR backout. HEP applied the overall SBIR/STTR assessments against the Superconducting RF R&D and Advanced Plasma Acceleration Facility MIE projects.

2. Description of Milestones:

Please see associated excel file for milestones and schedule information.

3. Procurement Plan:

Work at BNL and FNAL will be funded under existing M&O contracts. The pre-conceptual R&D is already underway and funding can be obligated as soon as it is available.

¹ http://www.science.doe.gov/hep/files/pdfs/P5_Report%2006022008.pdf

An H Clause modification has been put in place for the affected M&O contracts to ensure that expenditure of Recovery Act funds meets the requirements established by the Act. An Approved Funding Program (AFP) guidance memorandum will be issued to each M&O receiving Recovery Act funds; this AFP guidance memorandum will serve as the work authorization for executing project scope, and will also include minimum reporting requirements and guidance on meeting additional Recovery Act requirements. In the field, appropriate funding modifications will be enacted to implement the AFP and segregate the Recovery Act funds for reporting purposes.

These existing M&O contracts include goals for subcontracting to small business. The goals apply to the entire laboratory, so depending on the nature of the work some of these funds may or may not go to small business.

The goal of this project is support the pre-conceptual R&D needed for documenting the mission need, and once CD-0 is approved to partially support the conceptual design, Once Critical Decision 0 has been approved, DOE Order 413.3A will be applied to this project, tailored appropriately to the specific project risks. Progress towards CD-1 will be tracked in PARS.

4. Program Goals:

The LBNE advances the HEP strategic plan by extending, expanding, and increasing the sensitivity of neutrino measurements, which will maintain U.S. leadership in neutrino science. The world-leading experiment will attract and train students and physicists for the nation.

5. Support of President’s Technology Goals:

This project supports investment in scientific infrastructure and development of the next generation technology and scientists for the nation.

6. Major Implementation Issues:

None.

7. Future Budget Needs:

Sufficient funding exists in the planned HEP out-year profile to support Project Engineering and Design (PED) starting in FY 2011 and construction of the project based upon the preliminary estimate of costs.

(dollars in thousands)						
Impact Description	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015
Reduce outyear obligations	—	—	—	—	—	—

8. Leads:

- o Lead manager – TBD
- o Lead basic science implementation officer – Michael Procario
Michael.Procario@science.doe.gov, 301-903-3233
- o Lead national laboratory – Fermi National Accelerator Laboratory

Major Milestones

For Grants, Contracts, and Hiring Actions associated with implementing Recovery Act, provide dates for the major milestones. For NEPA reviews, provide the type of review expected and the associated major milestones with dates. Include dollar amounts where appropriate. Add duplicate lines as needed. Provide comments as needed to highlight and clarify milestones.

Grants		DATE	Amount (\$M)	Comments
1	Post synopsis on grants.gov/recovery.gov			
2	Post full announcement on grants.gov			
3	Close Date for proposals			
4	Complete proposal reviews			
5	Select Grant(s) for Award(s)			
6	Award Grant(s)			
7	Initial Funds Distribution			
8	Intermediate Funds Distribution(s) (i.e. expected draw schedule)			
9	Final Funds Distribution			

Use of Existing Grants		DATE	Amount (\$M)	Comments
1	Request a Revised Budget/Terms and Conditions			
2	Negotiate Revised Budget/Terms and Conditions			
3	Award Revised Budget/Terms and Conditions			
4	Initial Recovery Act Funds Distribution			
5	Intermediate Recovery Act Funds Distribution(s)			
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Use of Existing Contracts		DATE	Amount (\$M)	Comments
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2	Negotiate Revised Proposal/Contract			
3	Award Modification after Signature			
4	Initial Recovery Act Funds Distribution	7/24/2009	15.000	pre-conceptual and conceptual design work in the first available fin plan; request to CFO 7/8; \$3M Held for Risk Reserve
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2	Initial Determination on CX, EA, or EIS			
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5	if EA demonstrates no significant impact, Issue FONSI			
6	if EA identifies potentially significant impact, initiate EIS			
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33		F-11		
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35		A-11		
36		M-11		
37		J-11		
38		J-11		
39		A-11		
40		S-11		