

MEL-001 – Science Laboratories Infrastructure Project, Various Locations

1. Significant Changes

Funding for Subprojects 47 and 50 is completed in FY 2009. Subproject 24 has been cancelled and replaced by the new FY 2008 Modernization Laboratory Facilities project (08-SC-71). Subproject 49 is cancelled due to reduced FY 2008 construction funding. This will allow full funding of the two remaining FY 2007 new starts.

2. Design, Construction, and D&D Schedule

See subproject details.

3. Baseline and Validation Status

See subproject details.

4. Project Description, Justification and Scope

MEL-001 subprojects are typical conventional construction and as such can be engineered, designed, and ready for construction contract award within one year. Accordingly, these subprojects are submitted with both Project Engineering and Design (PED) and construction funding identified. In most cases these subprojects proceed (after normal reviews and approvals) directly from design into construction with no delay. DOE's December 2000 Report to Congress "The U.S. DOE Implementation Procedures for the Use of External Independent Reviews and Project Engineering and Design Funds" allows this approach under the Section "Simplified Process for a Design-Procure-Build or Design-Build Project", pages 15 to 18. The full report can be found at the following web site: <http://www.sc.doe.gov/sc-80/sc-82/documents/EIR-PED.pdf>.

This project funds two types of subprojects:

- Subprojects that renovate or replace inefficient and unreliable general purpose facilities including general use, service, and user support facilities such as administrative space, cafeterias, utility systems, and roads; and
- Subprojects to correct Environment, Safety, and Health (ES&H) deficiencies including deteriorated steam lines, environmental insult, fire safety improvements, seismic upgrades, sanitary system upgrades, and electrical system replacements.

They are grouped by these categories below:

General Purpose Facilities Projects:

- a. Subproject 49—Building Electrical Services Upgrade—Phase II, Argonne National Laboratory (ANL)

TEC	FY 2007	FY 2008	FY 2009	Outyear	Construction Start/ Completion Dates
17,000	3,000 ^a	—	—	—	3Q FY 2007–3Q FY 2008

^a Title I design funding of \$1,250,000 is provided under PED project no. 07-SC-0403.

As a result of reduced funding for construction in the FY 2008 Appropriation, the Building Electrical Services Upgrade, Phase II, subproject MEL-001-049 at ANL has been cancelled. This will allow the remaining two subprojects started in FY 2007, the Seismic Safety Upgrade of Buildings, Phase I, at LBNL, and the Renovate Science Laboratory, Phase I, at BNL to be fully funded and remain on schedule. The FY 2007 funding will be used to address the most critical electrical upgrades at ANL. The remaining scope of the subproject will be funded via laboratory overhead, if high priority, or via a future ANL modernization project.

b. Subproject 50—Renovate Science Laboratories—Phase I, Brookhaven National Laboratory (BNL)

TEC	FY 2007	FY 2008	FY 2009	Outyears	Construction Start/ Completion Dates
18,000	3,158 ^a	8,200	6,642	—	2Q FY 2009–1Q FY 2012

This project will upgrade and rehabilitate existing, obsolete, and unsuitable BNL facilities into modern, efficient laboratory spaces. This project will revitalize and modernize laboratories in two buildings. The scope will include HVAC, electrical, lighting, plumbing, laboratory service, support and work areas, and architectural surface upgrades.

It will provide flexible layouts to meet current research needs and processes with modern communication capabilities, safety systems, utility systems, plumbing, lighting and electrical, laboratory cabinets, furniture, and finishes.

The project is being conducted in accordance with the project management requirements in DOE Order 413.3A, Program and Project Management for the Acquisition of Capital Assets.

Baseline and Validation Status

(dollars in thousands)

	TEC	OPC, Except D&D Costs	Offsetting D&D Costs	Total Project Costs	Validated Performance Baseline	Preliminary Estimate
FY 2007	18,000	70	—	18,070	TBD	18,070

Compliance with Project Management Order

- Critical Decision-0: Approve Mission Need—2Q FY 2006
- Critical Decision-1: Approve Alternative Selection and Cost Range—4Q FY 2007
- Critical Decision-2: Approve Performance Baseline—3Q FY 2008
- Critical Decision-3: Approve Start of Construction—2Q FY 2009
- Critical Decision-4: Approve Start of Operations—1Q FY 2012

^a Title I and Title II Design funding of \$3,158,000 is provided under PED Project no. 07-SC-0404.

c. Subproject 24—Modernization of Laboratory, Building 4500N, Wing 4, Oak Ridge National Laboratory (ORNL)

TEC	Previous	FY 2007	FY 2008	FY 2009	Outyear	Construction Start/ Completion Dates
18,000	—	2,000 ^a	—	—	—	N/A

This project has been cancelled and replaced by the new FY 2008 Modernization of Laboratory Facilities project (08-SC-71).

Environment, Safety and Health Projects:

d. Subproject 36—Safety and Operational Reliability Improvements, Stanford Linear Accelerator Center (SLAC)

TEC	Previous	FY 2007	FY 2008	FY 2009	Outyear	Construction Start/ Completion Dates
15,600	9,830 ^b	5,770	—	—	—	4Q FY 2006–1Q FY 2010

This subproject has two components:

- Underground Utility Upgrades – this component will replace deteriorated sections of hot water, chilled water and cooling tower water piping. These upgrades are critical to the operation of the linear accelerator. There have been several pipe failures over the last several years and the failure rate is expected to increase in these 35 year-old systems as they continue to age. When the pipes fail, research is slowed or halted until repairs are completed.
- Seismic Upgrades – this component will install seismic upgrades necessary to bring various building structures into compliance with the seismic standards of the Uniform Building Code. The seismic hazard in the Bay Area is high. Those facilities that will minimize the time required for the Laboratory to recover from an earthquake will be retrofitted for a total of approximately 173,000 sq. ft.

Payback is 11.2 years for the entire subproject.

The project is being conducted in accordance with the project management requirements in DOE Order 413.3A, Program and Project Management for the Acquisition of Capital Assets.

Baseline and Validation Status

(dollars in thousands)

	TEC	OPC, Except D&D Costs	Offsetting D&D Costs	Total Project Costs	Validated Performance Baseline	Preliminary Estimate
FY 2005	15,600	100	—	15,700	—	15,700
FY 2006	15,600	100	—	15,700	—	15,700
FY 2007	15,600	100	—	15,700	—	15,700

^a \$2,000,000 in FY 2007 funding under PED 07-SC-0402, has been redirected to the Modernization of Laboratory Facilities project (08-SC-71).

^b Title I and Title II Design funding of \$1,988,000 is provided under PED Project No. 04-SC-001.

Compliance with Project Management Order

- Critical Decision-0: Approve Mission Need—2Q FY 2002
- Critical Decision-1: Approve Alternative Selection and Cost Range—1Q FY 2004
- Critical Decision-2: Approve Performance Baseline—3Q FY 2006
- Critical Decision-3: Approve Start of Construction—4Q FY 2006
- Critical Decision-4: Approve Start of Operations—1Q FY 2010

e. Subproject 47—Seismic Safety Upgrade of Buildings, Phase I, Lawrence Berkeley National Laboratory (LBNL)

TEC	FY 2007	FY 2008	FY 2009	Outyears	Construction Start/ Completion Dates
17,000	5,111 ^a	9,272	2,617	—	2Q FY 2009–4Q FY 2011

The proposed Seismic and Structural Safety Upgrades of Buildings, Phase I, project will correct existing structural deficiencies in LBNL Buildings 50 and 74, enhancing the safety of over 600 occupants of the seismically deficient buildings. Each of these buildings has been assigned a “Poor” seismic performance rating per the University of California Seismic Safety rating system. A “Poor” seismic performance rating applies to buildings and other structures whose performance during a major seismic disturbance is anticipated to result in significant structural and non-structural damage and/or falling hazards that would represent appreciable life safety hazards. Proposed upgrades vary by building and include: column reinforcement, new tube bracing, connection and anchorage upgrades, reinforcing interior shear walls, supplemental vertical supports, gap enlargement between structures, new footings, and upgrades to structural exterior walls.

The subproject is being conducted in accordance with the project management requirements in DOE Order 413.3A, Program and Project Management for the Acquisition of Capital Assets.

Baseline and Validation Status

(dollars in thousands)

	TEC	OPC, Except D&D Costs	Offsetting D&D Costs	Total Project Costs	Validated Performance Baseline	Preliminary Estimate
FY 2007	17,000	325	—	17,325	TBD	17,325

Compliance with Project Management Order

- Critical Decision-0: Approve Mission Need—3Q FY 2005
- Critical Decision-1: Approve Alternative Selection and Cost Range—1Q FY 2007
- Critical Decision-2: Approve Performance Baseline—2Q FY 2008
- Critical Decision-3: Approve Start of Construction—2Q FY 2009
- Critical Decision-4: Approve Start of Operations—4Q FY 2011

^a Title I and Title II Design funding of \$2,500,000 is provided under PED Project No. 07-SC-0401.

5. Financial Schedule

(dollars in thousands)

	Appropriations	Obligations	Costs
Design/Construction by Fiscal Year			
Design			
Prior Years ^a	1,988	1,988	1,468
FY 2007	8,908 ^b	8,908	1,806
FY 2008	—	—	7,622
Total, Design	10,896	10,896	10,896
Construction			
Prior Years ^a	7,842	7,842	2,405
FY 2007	10,131	10,131	2,437
FY 2008	17,472	17,472	27,131
FY 2009	9,259	9,259	9,000
FY 2010	—	—	3,731
Total, Construction	44,704	44,704	44,704
Total	55,600	55,600	55,600

6. Details of Project Cost Estimate

Not applicable.

7. Schedule of Project Costs

For schedule of project cost, see Section 5, “Financial Schedule.”

8. Related Operations and Maintenance Funding requirements

Not applicable.

9. Required D&D Information

Not applicable.

10. Acquisition Approach

Construction and procurement will be accomplished by fixed-price contracts awarded on the basis of competitive bids.

^a Includes funding for subprojects described in this datasheet. Excludes funding of MEL-001 funded subprojects that were completed prior to FY 2007.

^b Includes \$2,000,000 for PED Project No. 07-SC-0402, which was redirected to the Modernization of Laboratory Facilities project (08-SC-71).