

**09-SC-72, Seismic Life-Safety, Modernization, and Replacement of General Purpose Buildings,  
Phase II, Lawrence Berkeley National Laboratory (LBNL), Berkeley, California  
Project Data Sheet is for PED/Construction**

**1. Significant Changes**

The most recent DOE O 413.3A approved Critical Decision (CD) is CD-0, which was approved on September 18, 2007 with a preliminary Total Estimated Cost range of \$91,900,000–\$96,000,000.

A Federal Project Director with certification level II has been assigned to this project.

This Project Data Sheet is new for PED/construction. The FY 2009 Request for construction is only for early procurement of mechanical and electrical systems for Building 74.

**2. Design, Construction, and D&D Schedule**

(fiscal quarter or date)

	CD-0	CD-1 (Design Start)	(Design/PED Complete)	CD-2	CD-3 (Construction Start)	CD-4 (Construction Complete)	D&D Start	D&D Complete
FY 2009	9/18/2007	2Q FY2009	3Q FY 2010	TBD	TBD	TBD	TBD	TBD

CD-0 – Approve Mission Need

CD-1 – Approve Alternative Selection and Cost Range

CD-2 – Approve Performance Baseline

CD-3 – Approve Start of Construction

CD-4 – Approve Start of Operations or Project Closeout

D&D Start – Start of Demolition & Decontamination (D&D) work

D&D Complete – Completion of D&D work

**3. Baseline and Validation Status**

(dollars in thousands)

	TEC, PED	TEC, Construction	TEC, Total	OPC Except D&D	OPC, D&D	OPC, Total	TPC
FY 2009	8,680	TBD	TBD	2,300 <sup>a</sup>	TBD	TBD	TBD

**4. Project Description, Justification, and Scope**

Lawrence Berkeley National Laboratory (LBNL) supports a growing national and international community of scientific users performing cutting edge research in support of the DOE mission. However, mission requirements are currently at risk in buildings with antiquated structural systems. More than 70 percent (or 1,200,000 gross square feet [gsf]) of the Lawrence Berkeley Laboratory's total current space was constructed prior to 1970. Recent building evaluations have revealed that many of these structures are seismically unsafe, and would not be able to survive a major earthquake without significant damage to the structure and are an appreciable life safety hazard to their occupants. A major seismic event is likely to render these buildings unusable for an extended period of time, causing significant impact to the programs occupying these buildings. Therefore, LBNL proposes the Seismic

<sup>a</sup> Other Project Costs are funded through laboratory overhead.

Life-Safety & Modernization of General Purpose Buildings, Phase II project to correct structural deficiencies in existing structures.

This project will remedy high seismic life-safety risks in general purpose research facilities and lab-wide resource buildings. It will replace three seismically “very poor” and “poor” (University of California classification) buildings and five failing trailers that cannot be cost-effectively upgraded (43,060 gsf; \$1,300,000 in deferred maintenance reduction) with one new approximately 43,000 gsf general-purpose laboratory/office building. Construction of the efficient new building will allow LBNL to vacate 36,000 gsf of off-site leased space (costing an estimated \$1.9 million per year). This project will also seismically upgrade Building 85, the site wide Hazardous Waste Handling Facility, and modernize Building 74, a 45,382 gsf general purpose laboratory/office building eliminating an additional \$4,800,000 in deferred maintenance. Demolition costs are included in the project.

This project scope includes modernization of Building 74; seismic upgrade of Building 85; construction of a new about 43,000 gsf replacement building; and the demolition of three old buildings and five trailers that do not have the economics of scale for seismic rehabilitation.

A stated intent of LBNL's Seismic Safety Policy is to ensure that all Laboratory buildings, structures, program equipment, and heavy shielding are designed to resist a magnitude-7+ earthquake on the Hayward Fault or a magnitude-8.3 earthquake on the San Andreas Fault without collapse, and that all structural and nonstructural elements of normally occupied structures must be adequately designed for life safety. The building upgrades and replacement building will provide a safe workspace, enabling valuable facilities to be used to their full potential, improving the level of support for current DOE programs and ensuring a high level of support for the next generation of science.

FY 2009 PED funding will be used for design of the Building 74 Modernization, the Building 85 Seismic Upgrade, and the New General Laboratory Building. FY 2009 construction funding will support early procurement of mechanical and electrical systems for Building 74 including project management and all associated support functions.

The project is being conducted in accordance with the project management requirements in DOE O 413.3A and DOE M 413.3-1, Program and Project Management for the Acquisition of Capital Assets, and all appropriate project management requirements have been met.

## 5. Financial Schedule

(dollars in thousands)

	Appropriations	Obligations	Costs
Total Estimated Costs			
PED <sup>a</sup>			
FY 2009	8,680	8,680	3,000
FY 2010	1,000	1,000	6,680
Total, Design	9,680	9,680	9,680

<sup>a</sup> All design will be completed in less than 18 months.

(dollars in thousands)

	Appropriations	Obligations	Costs
<b>Construction</b>			
FY 2009 <sup>a</sup>	3,815	3,815	1,000
Outyears	TBD	TBD	TBD
<b>Total, TEC</b>	<b>TBD</b>	<b>TBD</b>	<b>TBD</b>
<b>Other Project Cost (OPC)<sup>b</sup></b>			
OPC except D&D			
FY 2008	2,300	2,300	2,300
<b>Total Project Cost (TPC)</b>			
FY 2008	2,300	2,300	2,300
FY 2009	12,495	12,495	4,000
Outyears	TBD	TBD	TBD
<b>Total, TPC</b>	<b>TBD</b>	<b>TBD</b>	<b>TBD</b>

## 6. Details of Project Cost Estimate

(dollars in thousands)

	Current Total Estimate	Previous Total Estimate	Original Validated Baseline
<b>Total Estimated Cost (TEC)</b>			
<b>Design (PED)</b>			
Design	8,234	N/A	N/A
Contingency	1,446	N/A	N/A
<b>Total, PED</b>	<b>9,680</b>	<b>N/A</b>	<b>N/A</b>
<b>Construction<sup>c</sup></b>			
Other Construction	3,815	N/A	N/A
<b>Total TEC</b>	<b>12,495</b>	<b>N/A</b>	<b>N/A</b>
Contingency, TEC	1,446	N/A	N/A

<sup>a</sup> The FY 2009 construction request and the TEC displayed are only for early procurement of mechanical and electrical systems for Building 74. Construction funds will not be executed without CD-2 and CD-3 approvals.

<sup>b</sup> Other Project Costs are funded through laboratory overhead.

<sup>c</sup> The FY 2009 construction request and the TEC displayed are only for early procurement of mechanical and electrical systems for Building 74.

(dollars in thousands)

	Current Total Estimate	Previous Total Estimate	Original Validated Baseline
Other Project Cost (OPC)			
OPC except D&D			
Conceptual Planning	104	N/A	N/A
Conceptual Design	2,003	N/A	N/A
Contingency	193	N/A	N/A
Total, OPC	2,300	N/A	N/A
Contingency, OPC	193	N/A	N/A
Total, TPC	16,395	N/A	N/A
Total Contingency	1,639	N/A	N/A

### 7. Schedule of Project Costs

For schedule of project costs, see Section 5, "Financial Schedule."

### 8. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy (fiscal quarter or date)	2Q FY 2015
Expected Useful Life (number of years)	50
Expected Future Start of D&D of this capital asset (fiscal quarter)	2Q FY 2065

#### (Related Funding requirements)

(dollars in thousands)

	Annual Costs		Life Cycle Costs	
	Current Total Estimate	Previous Total Estimate	Current Total Estimate	Previous Total Estimate
Operations	TBD	TBD	TBD	TBD
Maintenance	TBD	TBD	TBD	TBD
Total, Operations & Maintenance	TBD	TBD	TBD	TBD

### 9. Required D&D Information

	Square Feet
Area of new construction	43,000
Area of existing facility(s) being replaced	43,060
Area of additional D&D space to meet the "one-for-one" requirement	—

Names of existing facilities to be replaced:

	Square Feet
Building 25	20,304
Building 25B	360
Building 55	19,048
Trailer 71C	511
Trailer 71D	520
Trailer 71G	517
Trailer 71J	1,289
Trailer 71P	511
Total, Square Feet	43,060

### **10. Acquisition Approach**

A building program and design criteria will be developed by the LBNL Facilities Department incorporating detailed functional requirements. An architect and engineering firm with appropriate multidisciplinary design experience will be selected, based on qualifications, for design services. A lump sum Construction Manager/General Contractor subcontract will be negotiated and awarded by the University of California. Independent reviews of the structural design and construction cost estimate will be arranged by LBNL.