

**09-SC-72, Seismic Life-Safety, Modernization, and Replacement of General Purpose Buildings,  
Phase 2, 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-1, Approve Alternative Selection and Cost Range, which was approved on September 23, 2008 with a preliminary Total Estimated Cost (TEC) range of \$91,900,000–\$94,600,000.

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

This Project Data Sheet (PDS) is an update of the FY 2009 PDS.

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

(fiscal quarter or date)

	CD-0	CD-1	(Design/PED Complete)	CD-2A	CD-2B/3A	CD-4	D&D Start	D&D Complete
FY 2009	9/18/2007	2Q FY 2009	3Q FY 2010	2Q FY 2010	TBD	TBD	TBD	TBD
FY 2010	9/18/2007	9/23/2008 <sup>a</sup>	4Q FY 2010	2Q FY 2010	TBD	TBD	TBD	TBD

CD-0 – Approve Mission Need

CD-1 – Approve Alternative Selection and Cost Range

CD-2A, Approve the Performance Baseline and Long-Lead Procurement for Building 74 Modernization

CD-2B/3A, Approve the Performance Baseline, and Approve Start of Construction for Building 74 Modernization.

**3. Baseline and Validation Status**

(dollars in thousands)

	TEC, PED	TEC, Construction	TEC, Total	OPC Except D&D <sup>b</sup>	OPC, D&D	OPC, Total	TPC
FY 2009	8,680	TBD	TBD	2,300	TBD	TBD	TBD
FY 2010	9,680	TBD	TBD	2,300	TBD	TBD	TBD

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

The objective of this project is to replace seismically unstable, high maintenance facilities at the Lawrence Berkeley National Laboratory (LBNL) with modern, seismically stable, state of the art laboratory space in support of the mission requirements of the Office of Science.

This project includes the modernization of Building 74, including upgrades to building systems and approximately 28,000 to 45,000 gross square feet (GSF) of laboratory/office space; construction of a 35,000 - 43,000 GSF General Purpose Laboratory (GPL); seismic upgrades and slope stabilization for Building 85, the site-wide Hazardous Waste Handling Facility; and demolition of offsetting space. The project includes all necessary design and construction activities and start-up of operations for both the new facility and Building 74.

<sup>a</sup> The Department of Energy was under a continuing resolution for more than 5 months in FY 2009. As a result, this project did not receive PED funds and was not able to begin preliminary design until April 2009.

<sup>b</sup> Other Project Costs of \$2,300,000 are funded through laboratory overhead.

Lawrence Berkeley National Laboratory (LBNL) is an Office of Science multi-program national laboratory with a mission to perform leading multidisciplinary research in the fields of energy sciences, general sciences, and life sciences. The laboratory's research makes use of multidisciplinary collaboration and advanced engineering, computation, communications, fabrication, and other support facilities characteristic of a national laboratory. The laboratory's facilities are planned, constructed, and maintained to support the research programs and scientific goals, while maintaining compatibility with the university community and the surrounding physical setting. Research at LBNL is directly tied to the quality of its facilities and site improvements through a proactive building and utility maintenance program.

LBNL completed seismic evaluations of all permanently owned and occupied LBNL buildings in FY 2007. These evaluations have revealed that several buildings are seismically unsafe, and would not be able to survive a major earthquake without significant damage to the structure and appreciable life safety hazard to their occupants. The U.S. Geological Survey has estimated the probability of a major seismic event in the San Francisco Bay Area at 67% in the next 30 years. LBNL is located less than one kilometer from the Hayward Fault and will be subjected to severe shaking during a major seismic event on this fault.

This project will provide safe, modern, and energy efficient laboratories for multidisciplinary biology which directly benefit science at the interface of physical, life, and computational sciences. The research performed in these facilities will support and enhance work conducted at LBNL user facilities including the Advanced Light Source, the National Center for Electron Microscopy, and the Molecular Foundry. Additionally, a number of scientific areas of research will benefit from being co-located as a result of this project.

FY 2009 PED funding will be used for design of the project, including project management and all associated support functions. FY 2009 construction funding will support early procurement of mechanical and electrical systems for Building 74 including project management and all associated support functions. FY 2010 construction funding will be used for continued construction activities on this project, 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, 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	Recovery Act Costs	Costs
Total Estimated Cost (TEC)				
PED <sup>a</sup>				
FY 2009	8,680	8,680	—	2,360
FY 2009 Recovery Act	1,000	1,000	1,000	—
FY 2010	—	—	—	6,050
Outyears	—	—	—	270
<b>Total, PED</b>	<b>9,680</b>	<b>9,680</b>	<b>1,000</b>	<b>8,680</b>
Construction				
FY 2009	3,815	3,815	—	120
FY 2009 Recovery Act	14,000	14,000	560	—
FY 2010	34,027	34,027	6,360	1,290
Outyears	TBD	TBD	7,080	TBD
<b>Total Construction</b>	<b>TBD</b>	<b>TBD</b>	<b>14,000</b>	<b>TBD</b>
<b>Total, TEC</b>	<b>TBD</b>	<b>TBD</b>	<b>15,000</b>	<b>TBD</b>
Other Project Cost (OPC) <sup>b</sup>				
OPC except D&D				
FY 2008	2,250	2,250	—	2,250
FY 2009	50	50	—	50
Outyears	TBD	TBD	—	TBD
<b>Total, OPC</b>	<b>TBD</b>	<b>TBD</b>	<b>—</b>	<b>TBD</b>

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

<sup>b</sup> Other Project Costs of \$2,300,000 are funded through laboratory overhead.

(dollars in thousands)

	Appropriations	Obligations	Recovery Act Costs	Costs
Total Project Cost (TPC)				
FY 2008	2,250	2,250	—	2,250
FY 2009	12,545	12,545	—	2,530
FY 2009 Recovery Act	15,000	15,000	1,560	—
FY 2010	34,027	34,027	6,360	7,340
Outyears	TBD	TBD	7,080	TBD
Total, TPC <sup>a</sup>	TBD	TBD	15,000	TBD

## 6. Details of Project Cost Estimate

(dollars in thousands)

	Current Total Estimate	Previous Total Estimate	Original Validated Baseline
Total Estimated Cost (TEC)			
Design (PED)			
Design	8,027	8,234	N/A
PED Contingency	1,653	1,446	N/A
Total, PED	9,680	9,680	N/A
Construction <sup>a</sup>			
Construction	43,202	3,815	N/A
Construction Contingency	8,640	—	N/A
Total Construction	51,842	3,815	N/A
Total TEC	61,522	12,495	N/A
Contingency, TEC	10,293	1,446	N/A
Other Project Cost (OPC)			
OPC except D&D			
Conceptual Planning and Design	2,142	2,107	N/A
Contingency	158	193	N/A
Total, OPC	2,300	2,300	N/A
Contingency, OPC	158	193	N/A
Total, TPC <sup>a</sup>	TBD	16,395	N/A
Total Contingency	TBD	1,639	N/A

<sup>a</sup> This project has not yet received approval of CD-2; therefore, construction, TEC, and OPC estimates displayed only include PED, related other project costs, and initial construction costs. Construction funds will not be executed without appropriate Acquisition Executive approval. The preliminary total estimated cost range for this project is \$91,900,000 to \$94,600,000.

## 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)	30
Expected Future Start of D&D of this capital asset (fiscal quarter)	2Q FY 2045

### (Related Funding requirements)

(dollars in thousands)

	Annual Costs		Life Cycle Costs	
	Current Total Estimate	Previous Total Estimate	Current Total Estimate	Previous Total Estimate
Operations	640	N/A	19,203	N/A
Maintenance	1,407	N/A	42,219	N/A
Total, Operations & Maintenance	2,047	N/A	61,422	N/A

## 9. Required D&D Information

	Square Feet
Area of new construction	35,000–43,000
Area of existing facility(s) being replaced <sup>a</sup>	1,560
Area of additional D&D space to meet the “one-for-one” requirement <sup>b</sup>	33,440–41,440

## 10. Acquisition Approach

A building program and design criteria will be developed by the LBNL Facilities Department incorporating detailed functional requirements. An architect-engineering firm with appropriate multidisciplinary design experience will be selected, based on qualifications, for design services. A lump-sum Construction Management /General Contracting (CM/GC) 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.

<sup>a</sup> Building 74F (1,560SF) will be demolished to make way for the new General Purpose Laboratory.

<sup>b</sup> This project includes demolition of appropriate offsetting space to meet this requirement prior to Critical Decision-4.