

Science Laboratories Infrastructure

Funding Profile by Subprogram

(dollars in thousands)

	FY 2010 Current Appropriation	FY 2012 Request
Science Laboratories Infrastructure		
Infrastructure Support	6,599	6,878
Construction	121,001	104,922
Total, Science Laboratories Infrastructure	127,600	111,800

Public Law Authorizations:

Public Law 95–91, “Department of Energy Organization Act”, 1977

Public Law 109–58, “Energy Policy Act of 2005”

Public Law 110–69, “America COMPETES Act of 2007”

Public Law 111–358, “America COMPETES Act of 2010”

Program Overview

Mission

The Science Laboratories Infrastructure (SLI) program’s mission is to support scientific and technological innovation at the Office of Science (SC) laboratories by funding and supporting mission-ready infrastructure and fostering safe and environmentally responsible operations. Paramount among these is the provision of infrastructure necessary to ensure world leadership by the SC national laboratories in the area of basic scientific research now and in the future. SLI also supports SC stewardship responsibilities for the Oak Ridge Reservation and the Federal facilities in the city of Oak Ridge, and provides Payments in Lieu of Taxes to local communities around the Argonne, Brookhaven, and Oak Ridge National Laboratories.

Background

In FY 2009, SC began an initiative to revitalize its laboratories, with the goal of providing the modern laboratory infrastructure needed to deliver the advances in science the Nation requires in order to remain competitive in the 21st century. Through this initiative, SC is ensuring that its laboratories have state-of-the-art facilities and utilities that are flexible, reliable, and sustainable, with environmentally stable research space and high performance computing space needed to support scientific discovery. New and renovated buildings and utilities will include the latest temperature and humidity controls, clean power, and isolation from vibration and electromagnetic interference where needed. Facility designs will ensure collaborative and interactive work environments and allow for the integration of basic and applied research and development. Once modernized, SC laboratory infrastructure will also aid in the recruitment and retention of the “best and brightest” to work at world-class laboratories.

Despite past investments in infrastructure, many SC laboratory facilities and utility systems are not adequate to support the scientific mission because they do not meet the requirements of modern research described above. The Infrastructure Modernization Initiative will provide capital investment through the SLI program to make these needed improvements. The goals of the Infrastructure Modernization Initiative are to:

- Provide the modern laboratory infrastructure needed to deliver advances in science the Nation requires to remain competitive in the 21st century and

- Correct longstanding deficiencies, while ensuring laboratory infrastructure provides a safe and quality workplace.

The Infrastructure Modernization Initiative currently includes a portfolio of more than 30 projects across all ten SC laboratories. These projects will provide modern laboratory space, renovate space that does not meet research needs, replace facilities that are no longer cost-effective to renovate or operate, modernize utility systems to prevent failures and ensure efficiency, and remove excess facilities to allow safe and efficient operations. The completion of these projects is critical to ensuring the continued mission readiness of SC laboratories. Mission readiness of a laboratory's facilities and infrastructure is the capability of those assets to effectively support the scientific mission assigned to the laboratory. The current and future mission readiness of each SC laboratory is evaluated using a peer review process which focuses on the ability of each laboratory infrastructure element to meet the needs of scientific research.

Subprograms

The Infrastructure Support subprogram provides operating funds for SC stewardship of the Oak Ridge Reservation and for Payments in Lieu of Taxes (PILT). The Construction subprogram provides funding for line item projects under the Infrastructure Modernization Initiative.

Benefits

The SLI program provides state-of-the-art research space in modern, safe, and sustainable laboratory facilities. Subsequent research and development in these revitalized laboratories will facilitate scientific discoveries and the development of new technologies and concepts, which are expected to result in long-term economic growth and job creation in the American economy. Funding for stewardship of the Oak Ridge Reservation and for PILT supports the communities in which SC laboratories are located.

Program Planning and Management

To plan and manage the Infrastructure Modernization Initiative effectively, SLI relies on the SC Annual Laboratory Plans. These plans integrate scientific planning with infrastructure and operational planning by directly tying proposed investments to identified mission capability gaps. The plans provide a clear picture of the mission readiness of each laboratory, the capability gaps, and the investments necessary to fill those gaps. The investments proposed form the basis for projects included in the Initiative.

Projects included in the Initiative are rigorously managed in accordance with the requirements of DOE Order 413.3B, *Program and Project Management for the Acquisition of Capital Assets*, as well as the Office of Science policies and procedures, including Independent Project Reviews. The SLI program managers work closely with the SC Budget and Project Assessment offices during project planning and execution.

Budget Overview

The primary focus of the SLI budget is the on-going Infrastructure Modernization Initiative to ensure the mission readiness of SC Laboratories. Projects funded under the Infrastructure Modernization Initiative will, in many cases, include funds for removal of aged and outdated facilities that are being replaced by new ones. Other small facility decontamination and decommissioning and cleanup projects not included in the Infrastructure Modernization Initiative will be funded with laboratory overhead. The FY 2012 budget request will provide funds for the continuation of 5 previously initiated construction projects, of which 2 projects are scheduled to receive final funding. The projects expected to be fully funded in FY 2012 are the Seismic Life-Safety, Modernization, and Replacement of General Purpose Buildings, Phase II project at Lawrence Berkeley National Laboratory (LBNL) and the Technology and

Engineering Development Facility project at Thomas Jefferson National Accelerator Facility (TJNAF). There is also one new construction project start supported: the Science and User Support Building at SLAC National Accelerator Laboratory (SLAC). This project directly supports the science mission at SLAC.

Infrastructure Support

Funding Schedule by Activity

(dollars in thousands)

	FY 2010 Current Appropriation	FY 2012 Request
Infrastructure Support		
Oak Ridge Landlord	5,214	5,493
Payments in Lieu of Taxes	1,385	1,385
Total, Infrastructure Support	6,599	6,878

Description

The Infrastructure Support subprogram provides SC stewardship responsibilities for the Oak Ridge Reservation and the Federal facilities in the city of Oak Ridge, Tennessee, and Payments in Lieu of Taxes (PILT) to local communities around the Argonne, Brookhaven, and Oak Ridge National Laboratories. In the past, the subprogram also provided operating funds for the cleanup and removal of excess facilities at SC laboratories. This activity is now funded through laboratory overhead or embedded in line item construction projects.

Selected FY 2010 Accomplishments

- *Demolition of the Building 51 and Bevatron Demolition Project at Lawrence Berkeley National Laboratory.* The project is eliminating a legacy accelerator which ceased operation in 1993, freeing up approximately three acres of much needed land at the site for programmatic use, and was fully funded as of the FY 2009 appropriation. In FY 2010, the project removed and disposed of shielding blocks (approximately 13,000 tons of concrete) and completed removal of the Bevatron accelerator (approximately 12,000 tons of steel).

Detailed Justification

(dollars in thousands)

	FY 2010 Current Appropriation	FY 2012 Request
Oak Ridge Landlord	5,214	5,493
Funding supports landlord responsibilities, including infrastructure for the 24,000 acres of the Oak Ridge Reservation outside of the Y-12 plant, ORNL, and the East Tennessee Technology Park, and DOE facilities in the city of Oak Ridge. Supported activities include maintenance of roads, grounds and other infrastructure; support and improvement of environmental protection, safety, and health; and PILT to Oak Ridge communities. These activities maintain continuity of operations at the Oak Ridge Reservation and the DOE facilities in Oak Ridge and minimize interruptions due to infrastructure or other systems failures.		
Payments in Lieu of Taxes	1,385	1,385

The Department is authorized to provide discretionary payments to State and local government authorities for real property that is not subject to taxation because it is owned by the United States and

(dollars in thousands)

FY 2010 Current Appropriation	FY 2012 Request
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operated by the Department. Under this authorization, PILT is provided to communities around the Argonne and Brookhaven National Laboratories to compensate for lost tax revenues for land removed from local tax rolls. PILT payments are negotiated between the Department and local governments based on land values and tax rates.

Total, Infrastructure Support	6,599	6,878
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Explanation of Funding Changes

FY 2012 vs. FY 2010 Current Approp. (\$000)

Oak Ridge Landlord

Increase supports reservation road repairs and other critical maintenance needs.	+279
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Total Funding Change, Infrastructure Support	+279
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Construction

Funding Schedule by Activity

(dollars in thousands)

	FY 2010 Current Appropriation	FY 2012 Request
Construction		
Science and User Support Building at SLAC (12-SC-70)	0	12,086
Research Support Building and Infrastructure Modernization at SLAC (10-SC-70)	6,900	12,024
Energy Sciences Building at ANL (10-SC-71)	8,000	40,000
Renovate Science Laboratories, Phase II, at BNL (10-SC-72)	5,000	15,500
Seismic Life-Safety, Modernization, and Replacement of General Purpose Buildings, Phase II, at LBNL (09-SC-72)	34,027	12,975
Interdisciplinary Science Building, Phase I, at BNL (09-SC-73)	39,387	0
Technology and Engineering Development Facility at TJNAF (09-SC-74)	27,687	12,337
Total, Construction	121,001	104,922

Description

The SLI Construction subprogram funds line item construction projects to maintain and enhance the general purpose infrastructure at SC laboratories. Infrastructure Modernization Initiative investments are funded in this subprogram and are focused on the accomplishment of long-term science goals and strategies at each SC laboratory. Projects are selected using a collaborative approach involving SC Site Office Managers, laboratory Chief Operating Officers, the SC Deputy Directors for Field Operations and Science Programs, and the SC research program Associate Directors.

Selected FY 2010 Accomplishments

- In FY 2010, all five new structures were completed and accepted for occupancy for the Physical Sciences Facility (PSF) construction project at Pacific Northwest National Laboratory (PNNL), which received the last year of DOE funding in FY 2009 and final Department of Homeland Security funding in FY 2010. This project is necessary to ensure continued research capabilities at this laboratory as existing space is cleaned up and demolished by the Office of Environmental Management. Renovations of Building 325 are ongoing, and the project is on schedule to be completed in February 2011.
- In FY 2010, the ORNL Modernization of Laboratory Facilities project made significant progress, completing steel erection and exterior precast panel and window installation, as well as rough mechanical and electrical work. Final funding was provided in FY 2009 and the project is planned for completion in the first quarter of FY 2012.
- Construction began on the renovation portion of the Seismic Life-Safety, Modernization, and Replacement of General Purpose Buildings, Phase II project at LBNL. Specifically, early demolition work was commenced in the existing Life Sciences building in preparation for modernizing this facility.

- Early procurements and site preparation also began on the Technology and Engineering Development Facility (TEDF) at TJNAF.
- The Interdisciplinary Science Building at BNL completed relocation of site utilities and replacement of unsuitable soil. Final funding was provided in FY 2010 on this project and the project is planned for completion in FY 2013.

Detailed Justification

(dollars in thousands)

FY 2010 Current Appropriation	FY 2012 Request
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Science and User Support Building at SLAC (12-SC-70)

0 12,086

The SLAC Science and User Support building will serve as the main entrance to the laboratory, the first stop for all visitors and users at SLAC, and will bring together many of the laboratory's visitors, users, and administrative services. This will enhance scientific productivity and collaboration that supports the laboratory's cutting-edge discoveries and exceptional user research program.

Research Support Building and Infrastructure Modernization at SLAC (10-SC-70)

6,900 12,024

SLAC National Accelerator Laboratory has evolved from a single program to a multi-program laboratory. This transition, combined with the condition and age of SLAC facilities drives the need to consolidate core research groups and modernize key support buildings. The Research Support Building and Infrastructure Modernization project will replace substandard modular buildings and trailers that are well beyond their intended useful life with a new Research Support Building and will also modernize existing buildings onsite.

Energy Sciences Building at ANL (10-SC-71)

8,000 40,000

Argonne National Laboratory research capabilities are currently hampered by antiquated, scientifically inadequate, and inefficient research space. This project will provide environmentally stable, specialized, and flexible space by constructing the new Energy Sciences Building to replace some of the oldest and least effective research space for energy-related sciences.

Renovate Science Laboratories, Phase II, at BNL (10-SC-72)

5,000 15,500

A large number of scientists and researchers at Brookhaven National Laboratory are conducting science in laboratories built over forty years ago. Two such buildings are Building 510 (Physics) and Building 555 (Chemistry). Although their basic building core and shell construction is sound, the lab and office spaces and their utilities and environmental support systems are obsolete. This project will modernize unsuitable laboratory space in these two buildings, allowing them to continue supporting research in Basic Energy Sciences, Nuclear Physics, and High Energy Physics.

(dollars in thousands)

FY 2010 Current Appropriation	FY 2012 Request
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**Seismic Life-Safety, Modernization, and Replacement of
General Purpose Buildings, Phase II, at LBNL (09-SC-72)**

34,027

12,975

Lawrence Berkeley National Laboratory is located near the Hayward Fault. Building evaluations conducted in FY 2007 identified more than 30 buildings that would not survive a major earthquake without significant damage to the structure and appreciable life safety hazard to their occupants. This project will remedy high seismic life-safety risks by replacing seismically-poor buildings and trailers with a new general purpose laboratory/office building supporting Life Sciences. This project will also seismically upgrade the site-wide Hazardous Waste Handling Facility and modernize an existing Life Sciences building (Building 74).

**Interdisciplinary Science Building, Phase I, at BNL
(09-SC-73)**

39,387

0

This project at Brookhaven National Laboratory will provide high accuracy laboratories (e.g., equipped with precise temperature, humidity, and vibration controls), offices, and support space for energy-related research and development in a new interdisciplinary facility. It is part of a broader modernization plan for the laboratory that includes construction of new facilities where capabilities cannot be incorporated into existing buildings or where extensive life-extension work is not cost efficient, and renovation of existing building and utilities where the infrastructure can be made conducive to meet mission needs. This project includes demolition of offsetting space.

**Technology and Engineering Development Facility at
TJNAF (09-SC-74)**

27,687

12,337

The Technology and Engineering Development Facility project will ensure TJNAF facilities can reliably support production of advanced cryomodules with the quality required for ongoing and future projects and sustain the current high demand for mounting numerous unique large-scale particle detectors. It includes construction of new industrial assembly, laboratory, and office space to eliminate overcrowding and improve workflow and productivity by co-locating the engineering and technical functions currently spread across the laboratory. This project will also renovate existing space in the Test Lab Building, to provide efficient workflow, a safe and sustainable work environment, and functional efficiencies. Demolition of inadequate and obsolete work space is also included.

Total, Construction

121,001

104,922

Explanation of Funding Changes

FY 2012 vs. FY 2010 Current Approp. (\$000)

Science and User Support Building at SLAC (12-SC-70)

Project Engineering and Design and early construction activities are initiated. +12,086

Research Support Building and Infrastructure Modernization at SLAC (10-SC-70)

Increased project funding per the planned profile in the Project Execution Plan. +5,124

Energy Sciences Building at ANL (10-SC-71)

Increased project funding per the planned profile in the Project Execution Plan. +32,000

Renovate Science Laboratories, Phase II, at BNL (10-SC-72)

Increased project funding per the planned profile in the Project Execution Plan. +10,500

Seismic Life-Safety, Modernization, and Replacement of General Purpose Buildings, Phase II, at LBNL (09-SC-72)

Decreased project funding per the planned profile in the Project Execution Plan. -21,052

Interdisciplinary Science Building, Phase I at BNL (09-SC-73)

Decreased project funding per the Project Execution Plan. -39,387

Technology and Engineering Development Facility at TJNAF (09-SC-74)

Decreased project funding per the planned profile in the Project Execution Plan. -15,350

Total Funding Change, Construction -16,079

Supporting Information

Operating Expenses, Capital Equipment, and Construction Summary

(dollars in thousands)

	FY 2010 Current Appropriation	FY 2012 Request
Operating Expenses	6,499	6,778
General Plant Projects	100	100
Construction	121,001	104,922
Total, Science Laboratories Infrastructure	127,600	111,800

Construction Projects

(dollars in thousands)

	Prior Years	FY 2010 Current Approp.	FY 2011 ^a	FY 2012 Request	Outyears	Total
Science & User Support Building at SLAC (12-SC-70)						
TEC	0	0	0	12,086	46,914-51,914	59,000-64,000
OPC ^b	0	0	500	300	200	1,000
TPC	0	0	500	12,386	47,114-52,114	60,000-65,000 ^c
Research Support Building and Infrastructure Modernization at SLAC (10-SC-70)						
TEC	0	6,900	40,776	12,024	36,300	96,000
OPC ^b	700	0	150	100	450	1,400
TPC	700	6,900	40,926	12,124	36,750	97,400
Energy Sciences Building at ANL (10-SC-71)						
TEC	0	8,000	15,000	40,000	32,000	95,000
OPC ^b	956	44	0	0	0	1,000
TPC	956	8,044	15,000	40,000	32,000	96,000
Renovate Science Laboratories, Phase II, at BNL (10-SC-72)						
TEC	0	5,000	15,000	15,500	14,500	50,000
OPC ^b	737	63	0	0	0	800
TPC	737	5,063	15,000	15,500	14,500	50,800

^a The FY 2011 amounts reflect the FY 2011 funding under the FY 2011 Continuing Resolution.

^b Other Project Costs shown are funded through laboratory overhead.

^c This project has not yet established a performance baseline. Cost and schedule estimates are preliminary.

(dollars in thousands)

	Prior Years	FY 2010 Current Approp.	FY 2011 ^a	FY 2012 Request	Outyears	Total
Seismic Life-Safety, Modernization, and Replacement of General Purpose Buildings, Phase II, at LBNL (09-SC-72)						
TEC	27,495	34,027	20,103	12,975	0	94,600
OPC ^b	2,254	2	0	74	150	2,480
TPC	29,749	34,029	20,103	13,049	150	97,080
Interdisciplinary Science Building, Phase I, at BNL (09-SC-73)						
TEC	26,913	39,387	0	0	0	66,300
OPC ^b	500	0	0	0	0	500
TPC	27,413	39,387	0	0	0	66,800
Technology and Engineering Development Facility at TJNAF (09-SC-74)						
TEC	3,700	27,687	28,476	12,337	0	72,200
OPC ^b	823	177	0	0	0	1,000
TPC	4,523	27,864	28,476	12,337	0	73,200
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Total, Construction						
TEC		121,001	119,355	104,922		
OPC ^b		286	650	474		
TPC		121,287	120,005	105,396		

Indirect Costs and Other Items of Interest for the Office of Science

Institutional General Plant Projects (IGPP)

Institutional General Plant Projects are miscellaneous construction projects that have a total cost less than \$10,000,000 in FY 2012 and are of a general nature (cannot be allocated to a specific program). IGPPs support multi-programmatic and/or inter-disciplinary programs and are funded through site overhead. Examples of IGPPs include site-wide maintenance facilities and utilities, such as roads and grounds outside the plant fences or a telephone switch that serves the entire facility.

The following displays IGPP funding by site:

	(dollars in thousands)	
	FY 2010	FY 2012
IGPP		
Argonne National Laboratory	10,012	14,334
Brookhaven National Laboratory	10,891	8,732
Fermi National Accelerator Laboratory	0	0

^a The FY 2011 amounts reflect the FY 2011 funding under the FY 2011 Continuing Resolution.

^b Other Project Costs shown are funded through laboratory overhead.

(dollars in thousands)

	FY 2010	FY 2012
Lawrence Berkeley National Laboratory	5,147	5,500
Oak Ridge National Laboratory	20,382	15,000
Pacific Northwest National Laboratory	3,620	10,850
SLAC National Accelerator Laboratory	2,067	5,829
Total IGPP	52,119	60,245

Facilities Maintenance and Repair

General purpose infrastructure includes multiprogram research laboratories, administrative and support buildings, as well as cafeterias, power plants, fire stations, utilities, roads, and other structures. Together, the SC laboratories have over 1,400 operational buildings and real property trailers, with nearly 20 million gross square feet of space. The Department's facilities maintenance and repair activities are tied to its programmatic missions, goals, and objectives. Facilities Maintenance and Repair activities funded at SC laboratories are displayed in the following tables.

Indirect-Funded Maintenance and Repair

Facilities maintenance and repair activities funded indirectly through overhead charges at SC laboratories are displayed below. Since this funding is allocated to all work done at each laboratory, the cost of these activities is allocated to SC and other DOE organizations, as well as other Federal agencies and other entities doing work at SC laboratories. Maintenance reported to SC for non-SC laboratories is also shown. The FY 2010 figures are actual expenditures; the FY 2012 figure is projected expenditures.

(dollars in thousands)

	FY 2010	FY 2012
Indirect-Funded Maintenance and Repair		
Ames Laboratory	1,142	1,147
Argonne National Laboratory	40,451	45,136
Brookhaven National Laboratory	35,477	37,691
Fermi National Accelerator Laboratory	14,342	15,670
Lawrence Berkeley National Laboratory	21,558	17,008
Lawrence Livermore National Laboratory	2,614	2,719
Los Alamos National Laboratory	113	117
Oak Ridge Institute for Science and Education	634	343
Oak Ridge National Laboratory	59,768	53,840
Oak Ridge National Laboratory facilities at Y-12	897	614
Pacific Northwest National Laboratory	3,696	5,098
Princeton Plasma Physics Laboratory	6,739	6,698
Sandia National Laboratories	2,450	2,548

(dollars in thousands)

	FY 2010	FY 2012
SLAC National Accelerator Laboratory	8,997	13,970
Thomas Jefferson National Accelerator Facility	4,828	4,280
Total, Indirect-Funded Maintenance and Repair	203,706	206,879

Direct-Funded Maintenance and Repair

Generally, facilities maintenance and repair expenses are funded through an indirect overhead charge. In some cases, however, a laboratory may charge maintenance directly to a specific program. One example would be when maintenance is performed in a building used only by a single program. Such direct-funded charges are not directly budgeted.

(dollars in thousands)

	FY 2010	FY 2012
Direct-Funded Maintenance and Repair		
Brookhaven National Laboratory	4,907	5,491
Fermilab National Accelerator Facility	178	130
Notre Dame Radiation Laboratory	140	171
Oak Ridge National Laboratory	17,216	17,621
Oak Ridge Office	5,213	5,109
Office of Scientific and Technical Information	253	355
SLAC National Accelerator Laboratory	4,397	13,358
Thomas Jefferson National Accelerator Facility	71	63
Total, Direct-Funded Maintenance and Repair	32,375	42,298

Deferred Maintenance Backlog Reduction

The total deferred maintenance backlog at the end of FY 2010 at SC sites is estimated to be \$465,000,000. SC is working to reduce the backlog of deferred maintenance at its laboratories. The table below shows an estimate of deferred maintenance reduction funding. These funding amounts are included in the previous tables on direct and indirect funded maintenance.

(dollars in thousands)

	FY 2010	FY 2012
Deferred Maintenance Backlog Reduction		
Ames Laboratory	25	0
Argonne National Laboratory	3,955	8,074
Brookhaven National Laboratory	10,900	11,660
Fermi National Accelerator Laboratory	1,560	1,560
Lawrence Berkeley National Laboratory	2,000	2,500
Oak Ridge National Laboratory	9,000	2,000

(dollars in thousands)

	FY 2010	FY 2012
Oak Ridge Institute for Science and Education	40	40
Oak Ridge Office	1,000	250
Pacific Northwest National Laboratory	98	98
Princeton Plasma Physics Laboratory	340	0
SLAC National Accelerator Laboratory	1,300	2,000
Thomas Jefferson National Accelerator Facility	1,857	250
Total, Deferred Maintenance Backlog Reduction	32,075	28,432

The primary strategy for reducing deferred maintenance is SC's Infrastructure Modernization Initiative, which will modernize the general purpose infrastructure at SC laboratories. The initiative focuses on funding for line item construction projects which will result in significant additional reductions to the deferred maintenance backlog. These reductions are not included in the table above, nor does the table include reductions resulting from IGPP, GPP and programmatic line items.

**12-SC-70, Science and User Support Building
SLAC National Accelerator Laboratory, Menlo Park, California
Project Data Sheet is for PED/Construction**

1. Significant Changes

DOE O 413.3B Critical Decision (CD) CD-0 was approved August 26, 2010, with a preliminary Total Estimated Cost (TEC) range of \$59,000,000 to \$64,000,000. Total Project Cost is estimated to range between \$60,000,000 to \$65,000,000.

A Federal Project Director at the appropriate certification level will be assigned to this project prior to CD-1.

This Project Data Sheet is new for PED/Construction.

2. Design, Construction, and D&D Schedule

(dollars in thousands)

	CD-0	CD-1	PED Complete	CD-2/3	CD-4	D&D Start	D&D Complete
FY 2012 ^a	8/26/2010	2Q FY 2012	4Q FY 2013	TBD	TBD	TBD	TBD

CD-0 – Approve Mission Need

CD-1 – Approve Alternative Selection and Cost Range

CD-2/3 – Approve Performance Baseline; 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 ^b Except D&D	OPC, D&D	OPC, Total	TPC
FY 2012 ^c	5,000	59,000	64,000	1,000	TBD	1,000	65,000

4. Project Description, Justification, and Scope

SLAC National Accelerator Laboratory is an Office of Science laboratory that supports a large national and international community of scientific users performing cutting edge research in support of the Department of Energy mission. SLAC's state-of-the-art facilities for ultra-fast nanoscience result in the need for modern, collaborative infrastructure to support this research and the user community. Because of early LCLS success, new instruments at the SSRL, and future plans related to accelerator research,

^a This project is pre-CD-2 and the schedule is preliminary. Construction funds will not be executed without appropriate CD approvals.

^b Other Project Costs are funded through laboratory overhead.

^c This project is pre-CD-2 and cost estimates are preliminary. The preliminary Total Estimated Cost (TEC) range for this project is \$59,000,000 to \$64,000,000. The preliminary Total Project Cost (TPC) range for this project is \$60,000,000 to \$65,000,000.

the demand to use SLAC's unique research facilities is increasing rapidly. This has resulted in a critical gap in SLAC's mission capability due to inadequate centralized support for its user community and lack of modern, collaborative infrastructure to support a world-class research program.

To close the mission capability gap and ensure that the world-class research conducted by SLAC scientific staff and users is supported by modern, mission-ready facilities, a Science and User Support Building (SUSB) is proposed, located at the entrance to the Laboratory. This facility will be the first stop for all users and visitors to SLAC, and will bring together many of the Laboratory's user, visitor, and administrative services to enhance productivity and collaboration.

The proposed building is estimated to range between \$60,000,000 and \$65,000,000 in Total Project Cost. A range of alternatives will be considered; however, the current proposed approach is to construct a building that will house a centrally located user support hub; the visitor's center; a new cafeteria; office space needed to centralize SLAC communications, security, and laboratory administration; and a state-of-the-art auditorium and conference space.

FY 2012 PED funding will be used for design of the project, including project management and all associated support functions. FY 2012 construction funding will support early procurement and construction activities on this project, such as site preparation, including project management and all associated support functions.

The project will be conducted in accordance with the project management requirements in DOE Order 413.3B, 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 Cost (TEC)			
PED			
FY 2012	5,000	5,000	4,500
FY 2013	0	0	500
Total, PED	5,000	5,000	5,000
Construction			
FY 2012	7,086	7,086	4,000
Outyears	TBD	TBD	TBD
Total, Construction	TBD	TBD	TBD

(dollars in thousands)

	Appropriations	Obligations	Costs
TEC^a			
FY 2012	12,086	12,086	8,500
Outyears	TBD	TBD	TBD
Total, TEC	TBD	TBD	TBD
Other Project Cost (OPC)^b			
OPC except D&D			
FY 2011	500	500	500
FY 2012	300	300	300
FY 2013	200	200	200
Total, OPC except D&D	1,000	1,000	1,000
Total Project Cost (TPC)^a			
FY 2011	500	500	500
FY 2012	12,386	12,386	8,800
Outyears	TBD	TBD	TBD
Total, TPC	TBD	TBD	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	4,150	N/A	N/A
Contingency	850	N/A	N/A
Total, PED	5,000	N/A	N/A
Construction			
Construction	5,669	N/A	N/A
Contingency	1,417	N/A	N/A
Total, Construction	7,086	N/A	N/A

^a This project is pre-CD-2 and cost estimates are preliminary. The preliminary TEC range for this project is \$59,000,000 to \$64,000,000. The preliminary TPC range for this project is \$60,000,000 to \$65,000,000.

^b Other Project Costs are funded through laboratory overhead.

(dollars in thousands)

	Current Total Estimate	Previous Total Estimate	Original Validated Baseline
Total, TEC	TBD	N/A	N/A
Contingency, TEC	2,267	N/A	N/A
OPC ^a			
Other OPC	500	N/A	N/A
Start-Up	300	N/A	N/A
Contingency	200	N/A	N/A
Total, OPC	1,000	N/A	N/A
Total, TPC	10,619 ^b	N/A	N/A
Total, Contingency	2,467	N/A	N/A

7. Funding Profile History

(dollars in thousands)

Request Year		FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	Total
FY 2012	TEC	0	12,086	TBD	TBD	TBD	TBD ^c
	OPC ^b	500	300	200	0	0	1,000
	TPC	500	12,386	TBD	TBD	TBD	TBD ^c

8. Related Operations and Maintenance Funding Requirements

Not applicable. Project does not yet have CD-2 approval.

9. Required D&D Information

Not applicable. Project does not yet have CD-2 approval.

10. Acquisition Approach

Design will be performed by an architect-engineer (A-E) with the subcontract managed by the SLAC operating contractor.

^a Other Project Costs are funded through laboratory overhead.

^b This project has not yet received approval of CD-2; therefore, construction, TEC, and TPC displayed in table 6 only include anticipated activities through FY 2012.

^c This project is pre-CD-2 and cost estimates are preliminary. The preliminary TEC range for this project is \$59,000,000 to \$64,000,000. The preliminary Total Project Cost (TPC) range for this project is \$60,000,000 to \$65,000,000.

**10-SC-70, Research Support Building and Infrastructure Modernization,
SLAC National Accelerator Laboratory, Menlo Park, California
Project Data Sheet is for PED/Construction**

1. Significant Changes

The most recent DOE O 413.3B Critical Decision (CD) is CD-2/3A, Approve Performance Baseline and Start of Construction, which was approved on December 20, 2010, with a Total Estimated Cost (TEC) of \$96,000,000.

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

This Project Data Sheet is for PED/Construction. This PDS is an update of the FY 2011 PDS. Since that submittal, the estimate for project engineering and design (PED) activities has been revised downward from \$8,900,000 to \$6,900,000. The construction estimate has been revised upward by an equal amount such that there is no net increase in the TPC.

2. Design, Construction, and D&D Schedule

(fiscal quarter or date)

	CD-0	CD-1	PED Complete	CD-2/3A	CD-3B	CD-4	D&D Start	D&D Complete
FY 2010	10/10/2008	1Q FY 2010	2Q FY 2011	TBD	TBD	TBD	TBD	TBD
FY 2011	10/10/2008	11/3/2009	4Q FY 2011	4Q FY 2010	4Q FY 2012	1Q FY 2015	4Q FY 2011	2Q FY 2015
FY 2012	10/10/2008	11/3/2009	4Q FY 2011	12/20/2010	2Q FY 2013	3Q FY 2015	2Q FY 2011	4Q FY 2014

CD-0 – Approve Mission Need

CD-1 – Approve Alternative Selection and Cost Range

CD-2/3A – Approve Performance Baseline; RSB (Building 52) and Building 28

CD-3B – Approve Start of Construction; Building 41

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 ^a Except D&D	OPC, D&D	OPC, Total	TPC
FY 2010	8,900	TBD	TBD	1,400	TBD	TBD	TBD
FY 2011	8,900	87,100	96,000	1,400	N/A	1,400	97,400
FY 2012	8,900	87,100	96,000	1,400	N/A	1,400	97,400

4. Project Description, Justification, and Scope

SLAC National Accelerator Laboratory is an Office of Science laboratory that supports a large national and international community of scientific users performing cutting edge research in support of the Department of Energy mission. Success of that mission is directly coupled to the general purpose

^a Other Project Costs are funded through laboratory overhead.

infrastructure necessary to conduct this research. At SLAC, accomplishment of that mission is currently at risk given substandard buildings that do not provide the appropriate environment to conduct world class science or mission support functions.

SLAC has moved from a single-program to a multi-program laboratory; this transition, combined with the condition and age of SLAC facilities, drives the need to better align core research functions and modernize key support buildings. The most pressing infrastructure gaps are the lack of appropriate space to house and co-locate accelerator scientists and key mission support staff who are currently spread across the laboratory in outdated and inefficient facilities.

To correct these deficiencies, a new building is proposed to house the laboratory’s accelerator scientists. This new building will replace numerous 40-year-old trailers that currently support these scientists. This will enable integration of the accelerator science and technology community across programmatic boundaries, allowing these scientists to better support the science missions at the laboratory. In addition, renovation of existing buildings is proposed. These buildings house key mission support functions and were part of the original construction of the laboratory in the mid-1960s. Although the basic core and shell construction are sound, their interior and exterior spaces and utility systems are obsolete. Overall, the proposed project will upgrade working conditions for over 20% of the laboratory staff in a way that supports the laboratory vision of a unified culture with a strong sense of community between all scientific and support functions across the laboratory.

The new building construction is anticipated to be in the range of 53,000 to 64,000 square feet; a minimum of 53,000 square feet of existing space will undergo renovation, and demolition of approximately 20,000 square feet will be completed to provide the site for the new construction. The remaining balance of gross square feet to be demolished to meet the one-for-one replacement will be from banked excess.

FY 2012 funding will be used for construction activities, including project management and all associated support functions.

The project is being conducted in accordance with the project management requirements in DOE O 413.3B, 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 Cost (TEC)			
PED			
FY 2010	6,900	6,900	4,800
FY 2011 ^a	0	0	2,100
Total, PED	6,900	6,900	6,900

^a The FY 2011 amounts reflect the FY 2011 funding under the FY 2011 Continuing Resolution.

(dollars in thousands)

	Appropriations	Obligations	Costs
Construction			
FY 2011 ^a	40,776	40,776	15,800
FY 2012	12,024	12,024	35,000
FY 2013	36,300	36,300	19,500
FY 2014	0	0	18,200
FY 2015	0	0	600
Total, Construction	89,100	89,100	89,100
TEC			
FY 2010	6,900	6,900	4,800
FY 2011 ^a	40,776	40,776	17,900
FY 2012	12,024	12,024	35,000
FY 2013	36,300	36,300	19,500
FY 2014	0	0	18,200
FY 2015	0	0	600
Total, TEC	96,000	96,000	96,000
Other Project Cost (OPC)^b			
OPC except D&D			
FY 2009	700	700	700
FY 2010	0	0	0
FY 2011 ^a	150	150	150
FY 2012	100	100	100
FY 2013	250	250	250
FY 2014	200	200	200
Total, OPC	1,400	1,400	1,400
Total Project Cost (TPC)			
FY 2009	700	700	700
FY 2010	6,900	6,900	4,800
FY 2011 ^a	40,926	40,926	18,050
FY 2012	12,124	12,124	35,100
FY 2013	36,550	36,550	19,750
FY 2014	200	200	18,400
FY 2015	0	0	600
Total, TPC	97,400	97,400	97,400

^a The FY 2011 amounts reflect the FY 2011 funding under the FY 2011 Continuing Resolution.

^b Other Project Costs are funded through laboratory overhead.

6. Details of Project Cost Estimate

(dollars in thousands)

	Current Total Estimate	Previous Total Estimate ^a	Original Validated Baseline
Total Estimated Cost (TEC)			
Design (PED)			
Design	6,306	6,675	6,306
Contingency	594	2,225	594
Total, PED	6,900	8,900	6,900
Construction			
Construction	72,494	69,900	72,494
Contingency	16,606	17,200	16,606
Total, Construction	89,100	87,100	89,100
Total, TEC	96,000	96,000	96,000
Contingency, TEC	17,200	19,425	17,200
OPC ^b			
Other OPC	700	900	700
Start-Up	514	300	514
Contingency	186	200	186
Total, OPC	1,400	1,400	1,400
Total, TPC	97,400	97,400	97,400
Total, Contingency	17,386	19,625	17,386

7. Funding Profile History

(dollars in thousands)

Request Year		FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	Total
FY 2010	TEC	0	8,900	TBD	TBD	TBD	TBD	TBD
	OPC	500	900	TBD	TBD	TBD	TBD	TBD
	TPC	500	9,800	TBD	TBD	TBD	TBD	TBD
FY 2011	TEC	0	6,900	33,100	19,700	36,300	0	96,000
	OPC	700	100	100	150	300	50	1,400
	TPC	700	7,000	33,200	19,850	36,600	50	97,400

^a Previous estimates shown only included partial funding.

^b Other Project Costs are funded through laboratory overhead.

Request Year		(dollars in thousands)						Total
		FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	
FY 2012	TEC	0	6,900	40,776	12,024	36,300	0	96,000
	OPC ^a	700	0	150	100	250	200	1,400
	TPC	700	6,900	40,926 ^b	12,124	36,550	200	97,400

8. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy	FY 2014
Expected Useful Life	50 years
Expected Future Start of D&D of this capital asset	FY 2064

(Related Funding requirements)

	(dollars in thousands)			
	Annual Costs		Life Cycle Costs	
	Current Total Estimate	Previous Total Estimate	Current Total Estimate	Previous Total Estimate
Operations	146	399	7,300	10,266
Maintenance	633	1,722	31,650	44,481
Total, Operations & Maintenance	779	2,121	38,950	54,747

9. Required D&D Information

This project will include demolition of approximately 20,000 square feet to clear the proposed site for the new construction. The remaining balance of gross square feet to be demolished to meet the one-for-one replacement will be from banked excess.

10. Acquisition Approach

Design is being performed by an architect-engineer (A-E) with the subcontract managed by the SLAC operating contractor. The A-E subcontractor was competitively selected based on demonstrated competence and qualifications to perform the required design services at a fair and reasonable price. A design-build approach will be used to procure construction of the new Research Support Building, and a traditional design-bid-build approach will be used for remaining portions of the construction. Competitive construction bids will be sought by the SLAC operating contractor.

^a Other Project Costs are funded through laboratory overhead.

^b The FY 2011 amounts reflect the FY 2011 funding under the FY 2011 Continuing Resolution.

**10-SC-71, Energy Sciences Building, Argonne National Laboratory, Argonne, IL
Project Data Sheet is for PED/Construction**

1. Significant Changes

The most recent DOE O 413.3B approved Critical Decision (CD) is CD-2, Approve Performance Baseline, which was approved on January 10, 2011, with a Total Estimated Cost (TEC) \$95,000,000.

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

This Project Data Sheet is for PED/Construction. This PDS is an update of the FY 2011 PDS.

2. Design, Construction, and D&D Schedule

(fiscal quarter or date)

	CD-0	CD-1	PED Complete	CD-2	CD-3A	CD-3B	CD-4
FY 2010	10/10/2008	4Q FY 2009	2Q FY 2011	TBD	TBD	TBD	TBD
FY 2011	10/10/2008	09/02/2009	2Q FY 2011	2Q FY 2011	2Q FY 2011	2Q FY 2012	4Q FY 2014
FY 2012	10/10/2008	09/02/2009	2Q FY 2011	01/20/2011	N/A	3Q FY 2011	4Q FY 2014

CD-0 – Approve Mission Need

CD-1 – Approve Alternative Selection and Cost Ranges

CD-2 – Approve Performance Baseline

CD-3A – Approve Start of Site Preparation – Updated tailoring strategy has eliminated CD-3A

CD-3B – Approve Start of Building Construction – Updated tailoring strategy has changed CD-3B to CD-3

CD-4 – Approve Start of Operations or Project Closeout

(fiscal quarter or date)

	D&D Start	D&D Complete
FY 2010	TBD	TBD
FY 2011	N/A	N/A
FY 2012	N/A	N/A

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 ^a Except D&D	OPC, D&D	OPC, Total	TPC
FY 2010	10,000	TBD	TBD	1,000	TBD	TBD	TBD
FY 2011	10,000	85,000	95,000	1,000	N/A	1,000	96,000
FY 2012	10,000	85,000	95,000 ^a	1,000	N/A	1,000	96,000

4. Project Description, Justification, and Scope

This project will provide between 125,000 and 165,000 gross square feet of new energy efficient and environmentally sustainable laboratory space at Argonne National Laboratory (ANL). The new facility

^a Other Project Costs are funded through laboratory overhead.

will provide modern, 21st century, high-accuracy laboratories for energy-related research and development (R&D) and associated space for support functions. The design will utilize modern, efficient laboratory planning benchmarks as the basis for determining the size and configuration of space types. The design of the space will also emphasize more open, collaborative environments and flexibility to respond to future mission changes. In addition to the research laboratories, the building will include office space for researchers, small group conference rooms, equipment areas, restrooms, circulation space, and supporting infrastructure.

The objective of the Energy Sciences Building (ESB) project is to provide high-accuracy, flexible, and sustainable laboratory and office space to support scientific theory/simulation, materials discovery, characterization, and application of new energy-related materials and processes. Efficient, high-accuracy heating, ventilation, and air conditioning systems will be installed to support cutting edge research and the operation of sensitive instrumentation. Comparable space is not available at ANL. The scope of the project includes design, construction, and necessary furniture and equipment for the new facility as well as extension of existing site utilities to the new building.

Key areas of energy research to be housed in the ESB include discovery synthesis, biomimetics, solar energy, catalysis, fuel cell research, and electrical energy storage. These research areas currently lack modern scientific space needed for seamless multi-disciplinary collaborative research, the hallmark of 21st century science and engineering.

ANL research buildings dedicated to the SC energy research mission are all more than 40 years old. They require constant repair and frequently compromise or halt scientific research and are unable to meet modern standards for high resolution apparatus requiring vibration, electromagnetic, and thermal stability. Electrical power in these facilities is unstable and insufficient for modern synthesis and measurement instruments to operate at rated performance levels. Temperature and humidity controls were designed for human comfort only and not for state-of-the-art experimental performance, resulting in erratic temperature and humidity fluctuations over a few hours requiring frequent recalibration of apparatus to achieve sufficient measuring accuracy. Several key laboratories can operate only at night because of excessive vibration, temperature, and power fluctuations in the daytime, significantly impeding productivity. In addition to the functional inadequacies described above, safety and building code non-compliances further compromise ANL's ability to support SC and the Department's long-term energy goals. Antiquated and outdated electrical, fire protection, and ventilation systems have resulted in numerous National Electric and National Fire Protection Association code deficiencies. The age of these facilities and systems as well as the inability to obtain replacement parts has limited ANL's ability to correct these deficiencies via replacement or capital improvements.

FY 2012 construction funding will support 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 413.3B, 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 Cost (TEC)			
PED ^a			
FY 2010	8,000	8,000	4,400
FY 2011 ^b	2,000	2,000	5,600
Total, PED	10,000	10,000	10,000
Construction			
FY 2011 ^b	13,000	13,000	6,000
FY 2012	40,000	40,000	42,000
FY 2013	32,000	32,000	TBD
FY 2014	0	0	TBD
Total, Construction	85,000	85,000	85,000
TEC			
FY 2010	8,000	8,000	4,400
FY 2011 ^b	15,000	15,000	11,600
FY 2012	40,000	40,000	42,000
FY 2013	32,000	32,000	TBD
FY 2014	0	0	TBD
Total, TEC	95,000	95,000 ^c	95,000
Other Project Cost (OPC) ^c			
OPC except D&D			
FY 2009	956	956	956
FY 2010	44	44	44
Total, OPC	1,000	1,000	1,000
Total Project Cost (TPC)			
FY 2009	956	956	956
FY 2010	8,044	8,044	4,400
FY 2011 ^b	15,000	15,000	11,600
FY 2012	40,000	40,000	42,000
FY 2013	32,000	32,000	TBD
FY 2014	0	0	TBD
Total, TPC	96,000	96,000	96,000

^a All design will be complete in less than 18 months.

^b The FY 2011 amounts reflect the FY 2011 funding under the FY 2011 Continuing Resolution.

^c Other Project Costs are funded through laboratory overhead.

6. Details of Project Cost Estimate

(dollars in thousands)

	Current Total Estimate	Previous Total Estimate ^a	Original Validated Baseline
Total Estimated Cost (TEC)			
Design (PED) ^b			
Design	8,334	8,334	N/A
Contingency	1,666	1,666	N/A
Total, PED	10,000	10,000	N/A
Construction			
Other Construction	70,707	70,707	N/A
Contingency	14,293	14,293	N/A
Total, Construction	85,000	85,000	N/A
Total, TEC	95,000	95,000	N/A
Contingency, TEC	15,959	15,959	N/A
Other Project Cost (OPC) ^c			
OPC except D&D			
Conceptual Planning	263	263	N/A
Conceptual Design	737	737	N/A
Contingency	0	0	N/A
Total, OPC	1,000	1,000	N/A
Total, TPC	96,000	96,000	N/A
Total, Contingency	15,959	15,959	N/A

7. Funding Profile History

(dollars in thousands)

Request Year		FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Total
FY 2010	TEC	0	10,000	TBD	TBD	TBD	TBD
	OPC ^c	1,000	0	0	0	0	TBD
	TPC	1,000	10,000	TBD	TBD	TBD	TBD
FY 2011	TEC	0	8,000	15,000	45,000	27,000	95,000
	OPC ^c	956	44	0	0	0	1,000
	TPC	956	8,044	15,000	45,000	27,000	96,000

^a Previous estimates shown only included partial funding.

^b All design will be complete in less than 18 months.

^c Other Project Costs are funded through laboratory overhead.

Request Year		(dollars in thousands)					Total
		FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
FY 2012	TEC	0	8,000	15,000	40,000	32,000	95,000
	OPC ^a	956	44	0	0	0	1,000
	TPC	956	8,044	15,000 ^b	40,000	32,000	96,000

8. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy	FY 2014
Expected Useful Life	50 years
Expected Future Start of D&D of this capital asset	FY 2064

(Related Funding requirements)

	(dollars in thousands)			
	Annual Costs		Life Cycle Costs	
	Current Total Estimate	Previous Total Estimate	Current Total Estimate	Previous Total Estimate
Operations	733	733	96,182	96,182
Maintenance	1,153	1,153	37,363	37,363
Total, Operations & Maintenance	1,886	1,886	133,545	133,545

9. Required D&D Information

This project has secured “banked space” from prior Nuclear Footprint Reduction efforts at Argonne as well as demolition projects at other Office of Science facilities to meet the one for one requirement for offsetting space.

10. Acquisition Approach

The ESB project Acquisition Strategy was approved on January 7, 2009.

The M&O contractor, Argonne University of Chicago, LLC, will have prime responsibility for oversight of both the design and construction subcontracts.

Various acquisition alternatives were considered for this project. After considering all alternatives in relation to the schedule, size, and risk, the use of a tailored design-bid-build approach with design by an architectural/engineering firm, construction management services through the industrial partnership, and construction by a general contractor, all led by the M&O contractor integrated project team, was deemed to provide the best construction delivery method and the lowest risk. In addition, the M&O contractor’s standard procurement practice is to use firm fixed-priced contracts, and the M&O contractor has extensive experience in project management, construction management, and ES&H management systems in the acquisition of scientific facilities.

^a Other Project Costs are funded through laboratory overhead.

^b The FY 2011 amounts reflect the FY 2011 funding under the FY 2011 Continuing Resolution.

**10-SC-72, Renovate Science Laboratories, Phase II, Brookhaven National Laboratory (BNL),
Upton, New York
Project Data Sheet is for PED/Construction**

1. Significant Changes

The most recent DOE O 413.3B approved Critical Decision (CD) is CD-2/3a, Approve Performance Baseline and Start of Site Preparation, which was approved on December 20, 2010, with a Total Estimated Cost (TEC) of \$50,000,000.

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

This Project Data Sheet is for PED/Construction. This PDS is an update of the FY 2011 PDS. Since that submittal, the estimate for project engineering and design (PED) activities has been revised downward from \$7,000,000 to \$6,000,000. The construction estimate has been revised upward by an equal amount such that there is no net change to the TPC.

2. Design, Construction, and D&D Schedule

(fiscal quarter to date)

	CD-0	CD-1 (Design Start)	PED Complete	CD-2/3a	CD-3b	CD-4
FY 2010	10/10/2008	4Q FY 2009	3Q FY 2011	TBD	TBD	TBD
FY 2011	10/10/2008	9/2/2009	2Q FY 2011	1Q FY 2011	4Q FY 2011	2Q FY 2014
FY 2012	10/10/2008	9/2/2009	2Q FY 2011	12/20/2010	4Q FY 2011	3Q FY 2014

CD-0 – Approve Mission Need

CD-1 – Approve Alternative Selection and Cost Range

CD-2/3a – Approve Performance Baseline and Start of Site Preparation

CD-3b – Approve Start of Construction

CD-4 – Approve Start of Operations or Project Closeout

3. Baseline and Validation Status

(dollars in thousands)

	TEC, PED	TEC, Construction	TEC, Total	OPC Except D&D ^a	OPC, D&D	OPC, Total	TPC
FY 2010	7,000	TBD	TBD	800	TBD	TBD	TBD
FY 2011	7,000	43,000	50,000	800	TBD	800	50,800
FY 2012	6,000	44,000	50,000	800	N/A	800	50,800

4. Project Description, Justification, and Scope

A large number of scientists and researchers at BNL are conducting science in laboratories built over forty years ago. Although their basic building core and shell construction is sound, the lab and office spaces and their utilities and environmental support systems are totally obsolete.

The laboratories in Building 510 for the Physics Department were constructed in 1962 and are desperately in need of renovation and modernization in order to keep pace with the highly complex and

^a Other Project Costs are funded through laboratory overhead.

rapidly changing technologies required for work on advanced new detectors. This work involves sophisticated electronics, high precision mechanical assemblies, and extremely clean work areas for detectors such as silicon or gas filled devices. A task force conducted a condition assessment of the laboratories and developed a list of deficiencies that included damaged floors and ceilings, roof and ceiling leaks, old and unused plumbing, poor lighting levels, decrepit lab facilities, poor temperature control and ventilation, significant particulate discharge from heating, ventilation, and air conditioning systems, high electromagnetic interference noise on electrical power in certain laboratories, and lack of fire sprinkler protection.

Building 555 has a robust design for chemical sciences research, but was constructed in 1966 and now has a number of substantial limitations for current research needs. While Building 555 has an effective design for wet chemistry, it needs to be renovated to address very serious infrastructure quality issues that have grown over the years. Its design can also accommodate the evolving need for laser and instrumentation space for many of the physical methods in use, but an upgrade of facilities for air, water, and electrical is critical, and selective lab reconfiguration is needed to best meet advanced instrumentation needs.

The Renovate Science Laboratories, Phase II project will upgrade and rehabilitate existing, obsolete, and unsuitable BNL laboratory facilities into modern, efficient laboratory spaces compatible with world-class scientific research. This project will revitalize and modernize laboratories and support space located in each of 2 buildings, Building 510 Physics and Building 555 Chemistry.

FY 2012 construction funds will be used to continue construction.

The project is being conducted in accordance with the project management requirements in DOE O 413.3B and all appropriate project management requirements have been met.

5. Financial Schedule

	(dollars in thousands)		
	Appropriations	Obligations	Costs
Total Estimated Cost (TEC)			
PED			
FY 2010	5,000	5,000	3,000
FY 2011 ^a	1,000	1,000	3,000
Total, PED	6,000	6,000	6,000
Construction			
FY 2011 ^a	14,000	14,000	2,000
FY 2012	15,500	15,500	19,000
FY 2013	14,500	14,500	22,500
FY 2014	0	0	500
Total, Construction	44,000	44,000	44,000

^a The FY 2011 amounts reflect the FY 2011 funding under the FY 2011 Continuing Resolution.

	(dollars in thousands)		
	Appropriations	Obligations	Costs
TEC			
FY 2010	5,000	5,000	3,000
FY 2011 ^a	15,000	15,000	5,000
FY 2012	15,500	15,500	19,000
FY 2013	14,500	14,500	22,500
FY 2014	0	0	500
Total, TEC	50,000	50,000	50,000
Other Project Cost (OPC)^b			
OPC except D&D			
FY 2009	737	737	737
FY 2010	63	63	63
Total, OPC	800	800	800
Total Project Cost (TPC)			
FY 2009	737	737	737
FY 2010	5,063	5,063	3,063
FY 2011 ^a	15,000	15,000	5,000
FY 2012	15,500	15,500	19,000
FY 2013	14,500	14,500	22,500
FY 2014	0	0	500
Total, TPC	50,800	50,800	50,800

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	5,007	6,200	5,007
Contingency	993	800	993
Total, PED	6,000	7,000	6,000

^a The FY 2011 amounts reflect the FY 2011 funding under the FY 2011 Continuing Resolution.

^b Other Project Costs are funded through laboratory overhead

(dollars in thousands)

	Current Total Estimate	Previous Total Estimate	Original Validated Baseline
Construction			
Other Construction	36,363	34,400	36,363
Contingency	7,637	8,600	7,637
Total, Construction	44,000	43,000	44,000
Total, TEC	50,000	50,000	50,000
Contingency, TEC	8,630	9,400	8,630
Other Project Cost (OPC) ^a			
OPC except D&D			
Conceptual Planning	150	150	150
Conceptual Design	650	650	650
Contingency	0	0	0
Total, OPC	800	800	800
Total, TPC	50,800	50,800	50,800
Total, Contingency	8,630	9,400	8,630

7. Funding Profile History

Request Year		(dollars in thousands)					Total
		FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
FY 2010	TEC	0	7,000	TBD	TBD	TBD	TBD
	OPC ^a	800	0	0	0	0	800
	TPC	800	7,000	TBD	TBD	TBD	TBD
FY 2011	TEC	0	5,000	15,000	22,000	8,000	50,000
	OPC	737	63	0	0	0	800
	TPC	737	5,063	15,000	22,000	8,000	50,800
FY 2012	TEC	0	5,000	15,000	15,500	14,500	50,000
	OPC	737	63	0	0	0	800
	TPC	737	5,063	15,000 ^b	15,500	14,500	50,800

^a Other Project Costs are funded through laboratory overhead.

^b The FY 2011 amounts reflect the FY 2011 funding under the FY 2011 Continuing Resolution.

8. Related Operations and Maintenance Funding Requirements

Project is a renovation of existing space within existing buildings.

Start of Operation or Beneficial Occupancy (fiscal quarter or date)	3Q FY 2014
Expected Useful Life (number of years)	30
Expected Future Start of D&D of this capital asset (fiscal quarter)	N/A

9. Required D&D Information

The project will not require demolition of a sufficient amount of excess facilities to meet space offsetting requirements for a new building at the BNL site. The project is a renovation of existing space. No new space will be constructed.

10. Acquisition Approach

Design will be performed by an architect-engineer (A-E) with the subcontract managed by the BNL operating contractor. The A-E will be competitively selected based on qualifications. After completion of the design, the BNL operating contractor will solicit offers from prospective large and small business general construction firms, and award a firm fixed price construction subcontract. Evaluation of offers will include consideration of each offeror's relative experience, safety record, past performance in successfully completing similar construction projects, and cost. Award will then be made to one qualified responsible, responsive offeror.

**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 413.3B approved Critical Decision (CD) is CD-2C, Approve Performance Baseline for Remainder of Project, which was approved on August 30, 2010. This project has a Total Estimated Cost (TEC) of \$94,600,000.

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

This Project Data Sheet (PDS) is for PED/Construction. This PDS is an update of the FY 2011 PDS.

The Project has added supporting space for a connected utility building to facilitate the approved location of the General Purpose Laboratory facility.

2. Design, Construction, and D&D Schedule

(fiscal quarter or date)

	CD-0	CD-1	(PED Complete)	CD-2A/B	CD-2C	CD-3A	CD-3B	CD-3C
FY 2009	9/18/2007	2Q FY 2009	3Q FY 2010	N/A	TBD	N/A	N/A	TBD
FY 2010	9/18/2007	9/23/2008	4Q FY 2010	N/A	TBD	N/A	N/A	TBD
FY 2011	9/18/2007	9/23/2008	1Q FY 2011	8/21/2009	4Q FY 2010	8/21/2009	2Q FY 2010	4Q FY 2011
FY 2012	9/18/2007	9/23/2008	10/29/2010	8/21/2009	8/30/2010	8/21/2009	3/15/2010	4Q FY 2011

CD-0 – Approve Mission Need

CD-1 – Approve Alternative Selection and Cost Range

CD-2A/2B – Approve Performance Baseline for Building 74 Demolition and Long Lead Procurement; and for Building 74 Modernization and Building 25 Demolition

CD-2C – Approve Performance Baseline for Remainder of Project

CD-3A – Approve Start of Building 74 Demolition and Long Lead Procurement

CD-3B – Approve Start of Construction for Building 74 Modernization and Building 25 Demolition

CD-3C – Approve Start of Construction for Remainder of Project

(fiscal quarter or date)

	CD-4A/B	CD-4C	D&D Start	D&D Complete
FY 2009	TBD	TBD	TBD	TBD
FY 2010	TBD	TBD	TBD	TBD
FY 2011	1Q FY 2013	2Q FY 2015	4Q FY 2010	3Q FY 2014
FY 2012	1Q FY 2013	3Q FY 2015	9/30/2010	1Q FY 2014

CD-4A/4B – Complete Building 74 Demolition and Long Lead Procurement, and Approve Start of Operations for Building 74 Modernization and Building 25 Demolition

CD-4C – Approve Start of Operations

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

D&D Complete – Completion of D&D work for Remainder of Project

3. Baseline and Validation Status

(dollars in thousands)

	TEC, PED	TEC, Construction	TEC, Total	OPC ^a Except D&D	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
FY 2011	9,680	84,920	94,600	2,480	N/A	2,480	97,080
FY 2012	9,680	84,920	94,600	2,480	N/A	2,480	97,080

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 laboratory/office space; construction of a General Purpose Laboratory (GPL) and supporting space for a utility building; 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.

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, through the provision of the new GPL and the upgrades to the existing building systems, will provide safe, modern, and energy efficient laboratories for multidisciplinary science. 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 2012 funding will be used to complete construction.

^a Other Project Costs are funded through laboratory overhead.

The project is being conducted in accordance with the project management requirements in DOE O 413.3B, 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 Costs				
PED				
FY 2009	8,680	8,680	0	2,673
FY 2010	1,000	1,000	0	5,444
FY 2011 ^a	0	0	0	1,563
Total Design	9,680	9,680	0	9,680
Construction				
FY 2009	3,815	3,815	0	0
FY 2009 Recovery	15,000	15,000	1	0
FY 2010	33,027	33,027	3,656	1,908
FY 2011 ^a	20,103	20,103	11,344	8,444
FY 2012	12,975	12,975	0	37,396
FY 2013	0	0	0	20,888
FY 2014	0	0	0	1,284
Total Construction	84,920	84,920	15,000	69,920
TEC				
FY 2009	12,495	12,495	0	2,673
FY 2009 Recovery	15,000	15,000	0	0
FY 2010	34,027	34,027	3,656	7,352
FY 2011 ^a	20,103	20,103	11,344	10,007
FY 2012	12,975	12,975	0	37,396
FY 2013	0	0	0	20,888
FY 2014	0	0	0	1,284
Total, TEC	94,600	94,600	15,000	79,600
Other Project Cost (OPC) ^b				
OPC except D&D				
FY 2008	1,945	1,945	0	1,945
FY 2009	309	309	0	309

^a The FY 2011 amounts reflect the FY 2011 funding under the FY 2011 Continuing Resolution.

^b Other Project Costs are funded through laboratory overhead.

(dollars in thousands)

	Appropriations	Obligations	Recovery Act Costs	Costs
FY 2010	2	2	0	2
FY 2011 ^a	0	0	0	0
FY 2012	74	74	0	74
FY 2013	150	150	0	150
Total, OPC	2,480	2,480	0	2,480
<hr/>				
Total Project Cost (TPC)				
FY 2008	1,945	1,945	0	1,945
FY 2009	12,804	12,804	0	2,982
FY 2009 Recovery	15,000	15,000	1	0
FY 2010	34,029	34,029	3,656	7,354
FY 2011 ^a	20,103	20,103	11,344	10,007
FY 2012	13,049	13,049	0	37,470
FY 2013	150	150	0	21,038
FY 2014	0	0	0	1,284
Total, TPC	97,080	97,080	15,000	82,080

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	9,481	8,311	9,481
PED Contingency	199	1,369	199
Total, PED	9,680	9,680	9,680
Construction			
Site Preparation	10,367	9,394	10,367
Other Construction	61,608	60,758	61,608
Construction Contingency	12,945	14,768	12,945
Total Construction	84,920	84,920	84,920
Total TEC	94,600	94,600	94,600
Contingency, TEC	13,144	16,137	13,144

^a The FY 2011 amounts reflect the FY 2011 funding under the FY 2011 Continuing Resolution.

(dollars in thousands)

	Current Total Estimate	Previous Total Estimate	Original Validated Baseline
Other Project Cost (OPC) ^a			
OPC except D&D			
Conceptual Planning and Design	2,256	2,300	2,256
Startup and Testing	150	150	150
Contingency	74	30	74
Total, OPC	2,480	2,480	2,480
Contingency, OPC	74	30	74
Total, TPC	97,080	97,080	97,080
Total Contingency	13,218	16,167	13,218

7. Funding Profile History

(dollars in thousands)

Request Year		Prior Years	FY 2009	FY 2009 Recovery Act	FY 2010	FY 2011	FY 2012	FY 2013	Total
FY 2009	TEC	0	12,495	0	TBD	TBD	TBD	TBD	TBD
	OPC	2,250	50	0	TBD	TBD	TBD	TBD	TBD
	TPC	2,250	12,545	0	TBD	TBD	TBD	TBD	TBD
FY 2010	TEC	0	12,495	15,000	34,027	TBD	TBD	TBD	TBD
	OPC	2,250	50	0	0	TBD	TBD	TBD	TBD
	TPC	2,250	12,545	15,000	34,027	TBD	TBD	TBD	TBD
FY 2011	TEC	0	12,495	15,000	34,027	20,103	12,975	0	94,600
	OPC	1,945	309	0	2	104	0	120	2,480
	TPC	1,945	12,804	15,000	34,029	20,207	12,975	120	97,080
FY 2012	TEC	0	12,495	15,000	34,027	20,103	12,975	0	94,600
	OPC ^a	1,945	309	0	2	0	74	150	2,480
	TPC	1,945	12,804	15,000	34,029	20,103 ^b	13,049	150	97,080

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

^a Other Project Costs are funded through laboratory overhead.

^b The FY 2011 amounts reflect the FY 2011 funding under the FY 2011 Continuing Resolution.

(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	640	19,203	19,203
Maintenance	1,407	1,407	42,219	42,219
Total, Operations & Maintenance	2,047	2,047	61,422	61,422

9. Required D&D Information

	Square Feet
Area of new construction	35,000
Area of existing facility(s) being replaced	20,663 ^a
Area of additional D&D space to meet the “one-for-one” requirement ^b	14,337

10. Acquisition Approach

A building program and design criteria has been developed by the LBNL Facilities Department incorporating detailed functional requirements for all phases (A, B, and C) of the project. An architect and engineering firm with appropriate multidisciplinary design experience was selected, based on qualifications, for design services. A lump sum construction management/general contracting (CM/GC) subcontract has been negotiated and awarded by the University of California. Independent reviews of the structural design and construction cost estimate have been arranged by LBNL.

^a Building 25 (20,303 SF) and Building 25B (360 SF) will be demolished to make way for the new General Purpose Laboratory.

^b This project includes demolition of appropriate offsetting space to meet this requirement prior to CD-4.

**09-SC-74, Technology and Engineering Development Facility,
Thomas Jefferson National Accelerator Facility, Newport News, Virginia
Project Data Sheet is for PED/Construction**

1. Significant Changes

The most recent DOE O 413.3B approved Critical Decision (CD) is CD-3B, Approve Start of General Construction, which was approved on August 4, 2010, with the Total Estimated Cost (TEC) of \$72,200,000.

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

Project Data Sheet (PDS) is for PED/Construction. This PDS is an update of the FY 2011 PDS.

2. Design, Construction, and D&D Schedule

(fiscal quarter or date)

	CD-0	CD-1	PED Complete	CD-2	CD-3A	CD-3B
FY 2009	09/18/2007	09/23/2008	TBD	TBD	N/A	TBD
FY 2010	09/18/2007	09/23/2008	3Q FY 2010	TBD	N/A	TBD
FY 2011	09/18/2007	09/23/2008	3Q FY 2010	11/12/2009	2Q FY 2010	4Q FY 2010
FY 2012	09/18/2007	09/23/2008	05/31/2010	11/12/2009	03/26/2010	08/04/2010

CD-0 – Approve Mission Need

CD-1 – Approve Alternative Selection and Cost Range

CD-2 – Approve Performance Baseline

CD-3A – Approve Start of Early Construction and Long Lead Procurements

CD-3B – Approve Start of General Construction

(fiscal quarter to date)

	CD-4A	CD-4B
FY 2009	N/A	TBD
FY 2010	N/A	TBD
FY 2011	2Q FY 2012	2Q FY 2014
FY 2012	2Q FY 2012	2Q FY 2014

CD-4A – Approve Start of Operations for New Construction

CD-4B – Approve Start of Operations for Renovation

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 ^a Except D&D	OPC, D&D	OPC, Total	TPC
FY 2009	3,700	TBD	TBD	1,000	TBD	TBD	TBD
FY 2010	3,700	TBD	TBD	1,000	N/A	TBD	TBD

^a Other Project Costs are funded through laboratory overhead.

(dollars in thousands)

	TEC, PED	TEC, Construction	TEC, Total	OPC ^a Except Except D&D	OPC, D&D	OPC, Total	TPC
FY 2011	3,700	68,500	72,200	1,000	N/A	1,000	73,200
FY 2012	3,700	68,500	72,200	1,000	N/A	1,000	73,200

4. Project Description, Justification, and Scope

The proposed project renovates Building 58—the Test Lab, removes an estimated inadequate and obsolete work space in and adjacent to the Test Lab, and allows for removal of dilapidated trailers that are characterized as inefficient poor quality work environments that do not meet current commercial standards. The project also includes new construction which will add needed workspace for critical technical support functions including mechanical and electrical engineering; cryogenics engineering and fabrication; and environment, safety, and health.

The project will significantly improve the efficiency of workflow and provide a safer and sustainable work environment for multi-program functions such as superconducting radio frequency (SRF) R&D, multi-program cryomodule assembly and testing, and large accelerator and experimental equipment assembly. The project will implement functional efficiencies in areas such as clean rooms, chemistry facilities, high bays, laboratories, and office space. It also corrects numerous safety and building codes to ensure compliance and will reduce energy consumption of the existing building by approximately 30%. The design will incorporate all current applicable codes, standards, and best management practices. The design will meet sustainability principles and environmental, safety, and health features, and will implement Integrated Safety Management at all levels per DOE Policy 225.1.

The approved Thomas Jefferson National Accelerator Facility (TJNAF) Secretarial Waiver (9/15/2006) provides offsetting space for the Technology and Engineering Development Facility (TEDF) project. The removal of inadequate and obsolete work space in and next to the 42-year-old Test Lab plus removal of dilapidated trailers will offset the space added by this project.

TJNAF has identified projects needed as a platform for the science and technology mission of the laboratory. SRF research and production is located in the Test Lab building, making correction of the performance gap in this building a high priority. The related engineering and support facilities to incorporate this technology into accelerator operations are equally important.

To enable further advancement of TJNAF state-of-the-art production processes, it is necessary to reconfigure the layout of all the laboratory, shop, clean room, and office areas to provide efficient and effective work flow and assure safe working conditions throughout the building. The Test Lab Rehabilitation along with construction of additional technical space under this project will address many of these limitations by streamlining the production process, renovating or replacing obsolete infrastructure, relocating critical production and testing facilities to more appropriate locations, and consolidating emerging and development functions.

It is anticipated that, as a result of TJNAF's reputation and as a National SRF Center of Excellence, TJNAF will be used in the design and construction of cryomodules for future Office of Science accelerator projects. Renovation of the Test Lab will ensure that TJNAF facilities can reliably support production of advanced cryomodules with the quality required for future projects.

^a Other Project Costs are funded through laboratory overhead.

Mechanical and electrical systems over 40 years old contribute to the deteriorated condition of the Test Lab. Numerous components in these current systems are no longer commercially available. The building has never undergone a major rehabilitation of its systems or components. The three main air handlers serving the High Bay area are well past the end of their design life and a number of other air handlers that were installed in 1987 are nearing the end of their life cycles. The HVAC renovation included in this project will replace these systems and upgrade all systems to full electronic control, improving maintainability and energy management capabilities. The electrical systems are of the same vintage. As this equipment degrades and becomes unreliable, it poses increasing risk of fire or arc flash hazards. Renovation of the electrical distribution system as part of this project will increase safety and enable improved load distribution and flexibility for future power utilization.

Environmental management functions such as waste water treatment, waste acid neutralization, and air handling are complicated by the piecemeal evolution of the facilities with multiple systems of differing vintage trying to work together to maintain safe and environmentally responsible conditions. A significant portion of plumbing in the Test Lab remains from the original construction and needs rehabilitation to ensure future reliability of services and to assure integrity for dependable environmental protection.

Numerous work items are required to bring the Test Lab building up to current codes and standards. Many aspects of the building, while meeting code at the time of construction, do not meet current safety code standards, regulations, and practices. Currently, in order to comply with code requirements, administrative controls are required in certain work areas. To bring the building up to current safety and accessibility standards a number of upgrades to stairways, walkways, guardrails, the fire alarm system, fire doors, fire walls, door hardware, and signage will be implemented as part of this project.

The improvements to the work environment this project provides will improve the morale of staff currently in areas not intended as work space such as in service buildings or in offices built on large concrete shielding enclosures with access by suspended walkways. This project will also enhance the laboratory's ability to attract and retain world-class scientists by providing a quality work environment. In addition, mechanical and electrical upgrades will result in reduced energy cost.

FY 2012 funds will be used to complete the construction and renovation.

The project is being conducted in accordance with the project management requirements in DOE O 413.3B, 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 Cost (TEC)			
PED			
FY 2009	3,700	3,700	1,900
FY 2010	0	0	1,800
Total PED	3,700	3,700	3,700

(dollars in thousands)

	Appropriations	Obligations	Costs
Construction			
FY 2010	27,687	27,687	8,000
FY 2011 ^a	28,476	28,476	35,000
FY 2012	12,337	12,337	20,000
FY 2013	0	0	5,500
Total, Construction	68,500	68,500	68,500
TEC			
FY 2009	3,700	3,700	1,900
FY 2010	27,687	27,687	9,800
FY 2011 ^a	28,476	28,476	35,000
FY 2012	12,337	12,337	20,000
FY 2013	0	0	5,500
Total, TEC	72,200	72,200	72,200
Other Project Cost (OPC)^b			
OPC except D&D			
FY 2008	314	314	314
FY 2009	509	509	509
FY 2010	177	177	177
Total OPC except D&D	1,000	1,000	1,000
Total Project Cost (TPC)			
FY 2008	314	314	314
FY 2009	4,209	4,209	2,409
FY 2010	27,864	27,864	9,977
FY 2011 ^a	28,476	28,476	35,000
FY 2012	12,337	12,337	20,000
FY 2013	0	0	5,500
Total, TPC	73,200	73,200	73,200

^a The FY 2011 amounts reflect the FY 2011 funding under the FY 2011 Continuing Resolution.

^b Other Project Costs are funded through laboratory overhead.

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	3,350	3,350	3,350
Contingency	350	350	350
Total, PED	3,700	3,700	3,700
Construction			
Site Preparation/Early Proc.	4,411	4,411	4,411
Equipment	1,966	1,966	1,966
Other Construction	50,295	50,295	50,295
Contingency	11,828	11,828	11,828
Total Construction	68,500	68,500	68,500
Total, TEC	72,200	72,200	72,200
Contingency, TEC	12,178	12,178	12,178
Other Project Cost (OPC) ^a			
OPC except D&D			
Conceptual Planning	200	200	200
Conceptual Design	800	800	800
Contingency	0	0	0
Total, OPC	1,000	1,000	1,000
Total, TPC	73,200	73,200	73,200
Total, Contingency	12,178	12,178	12,178

7. Funding Profile History

(dollars in thousands)

Request Year		Prior Years	FY 2009	FY 2010	FY 2011	FY 2012	Total
FY 2009	TEC	0	3,700	TBD	TBD	TBD	TBD
	OPC	1,000	0	0	0	0	1,000
	TPC	1,000	3,700	TBD	TBD	TBD	TBD

^a Other Project Cost are funded through laboratory overhead.

(dollars in thousands)

Request Year		Prior Years	FY 2009	FY 2010	FY 2011	FY 2012	Total
FY 2010	TEC	0	3,700	27,687	TBD	TBD	TBD
	OPC	1,000	0	0	0	0	1,000
	TPC	1,000	3,700	27,687	TBD	TBD	TBD
FY 2011	TEC	0	3,700	27,687	20,800	20,013	72,200
	OPC	287	509	204	0	0	1,000
	TPC	287	4,209	27,891	20,800	20,013	73,200
FY 2012	TEC	0	3,700	27,687	28,476	12,337	72,200
	OPC ^a	314	509	177	0	0	1,000
	TPC	314	4,209	27,864	28,476 ^b	12,337	73,200

8. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy

New Construction

2Q FY 2012

Renovation

2Q FY 2014

Expected Useful Life

50 years

Expected Future Start of D&D of this capital asset

1Q FY 2064

(Related Funding requirements)

(dollars in thousands)

	Annual Costs		Life Cycle Costs	
	Current Total Estimate	Previous Total Estimate	Current Total Estimate	Previous Total Estimate
Operations	478	478	23,900	23,900
Maintenance	1,120	1,120	56,000	56,000
Total, Operations & Maintenance	1,598	1,598	79,900	79,900

9. Required D&D Information

The approved TJNAF Secretarial Waiver (9/15/2006) provides offsetting space for the TEDF Project. The removal of inadequate and obsolete work space in and next to the 42-year-old Test Lab plus removal of dilapidated trailers will help offset the space added by this project.

10. Acquisition Approach

Design is being performed by an architect-engineer (A-E) with the subcontract managed by the TJNAF operating contractor, Jefferson Science Associates (JSA). The A-E subcontractor was competitively selected based on demonstrated competence and qualifications to perform the required design services at a fair and reasonable price.

^a Other Project Costs are funded through laboratory overhead.

^b The FY 2011 amounts reflect the FY 2011 funding under the FY 2011 Continuing Resolution.

A construction management/general contractor (CM/GC) subcontract will be awarded by JSA during the final phase of design. The CM/GC subcontractor will be competitively selected based on the demonstrated competence and qualifications of potential firms to perform the required CM/GC services at a fair and reasonable price. The subcontract with the CM/GC will be for two phases of fixed-price work. The base contract will be for the CM/GC to provide support services to the A-E, including input regarding material selection, equipment, construction feasibility, and factors relating to construction and cost estimates including cost estimates of alternative designs or materials. The CM/GC will also provide TJNAF with cost and schedule validation services and provide recommendations of actions designed to minimize the impact of labor or material shortages, and time duration estimates for scheduling procurements and construction activities. The contract option will be to execute the construction project, including the management, ES&H oversight, and the administration of construction subcontracts. The option will be inclusive of all material, labor, equipment, etc. necessary to perform the work in accordance with the contractual requirements in order to meet the defined scope and schedule.

All work performed by the CM/GC will be monitored by TJNAF personnel, with support from the A-E. The site office will provide oversight to ensure safety and quality performance.