Science Laboratories Infrastructure

Funding Profile by Subprogram

(dollars in thousands)

	FY 2003 Comparable Appropriation	FY 2004 Original Appropriation	FY 2004 Adjustments	FY 2004 Comparable Appropriation	FY 2005 Request
Science Laboratories Infrastructure					
Laboratories Facilities Support	32,194	33,456	-186[a]	33,270	17,911
Excess Facilities Disposition	7,900	6,055	-35[a]	6,020	6,100
Oak Ridge Landlord	5,015	5,079	-30[a]	5,049	5,079
Health & Safety Improvements	0	10,000	-59[a]	9,941	0
Subtotal, Science Laboratories Infrastructure	45,109	54,590	-310[a]	54,280	29,090
Use of Prior Year Balances	0	-1,998	0	-1,998	0
Total, Science Laboratories Infrastructure	45,109[b]	52,592	-310[a]	52,282	29,090

Public Law Authorizations:
Public Law 95-91, "Department of Energy Organization Act"
Public Law 103-62, "Government Performance and Results Act of 1993"

Mission

The mission of the Science Laboratories Infrastructure (SLI) program is to enable the conduct of Departmental research missions at the ten Office of Science (SC) laboratories and the Oak Ridge Institute for Science and Education (ORISE) by funding line item construction to maintain the general purpose infrastructure (GPI) and the clean-up and removal of excess facilities. The program also supports SC landlord responsibilities for the 36,000 acre Oak Ridge Reservation; provides Payments in Lieu of Taxes (PILT) to local communities around Argonne National Laboratory-East (ANL-E), Brookhaven National Laboratory (BNL), and Oak Ridge National Laboratory (ORNL); and provides for the correction of Occupational Safety & Health Administration (OSHA) and Nuclear Regulatory Commission (NRC) identified deficiencies and implementation of recommendations for improved health and safety practices at SC laboratories.

Benefits

This program supports the conduct of Departmental research missions at the ten SC laboratories and the Oak Ridge Reservation, including the Federal facilities in the town of Oak Ridge, primarily by addressing general purpose facilities and infrastructures needs.

[a] Excludes $310,110 for a rescission in accordance with the Consolidated Appropriations Act, 2004, as reported in conference report H.Rpt. 108-401, dated November 25, 2003.

[b] Excludes $296,000 for a rescission in accordance with the Consolidated Appropriations Resolution, FY 2003.

Significant Program Shifts

Progress in Line Item Projects – One project was completed in FY 2003: ORNL Electrical Systems Upgrades. Six projects are scheduled for completion in FY 2004: BNL Groundwater and Surface Water Protection Upgrades; BNL Electrical Systems Modifications, Phase II; LBNL Site-wide Water Distribution System Upgrades; ORNL Laboratory Facilities HVAC Upgrade; ORNL Fire Protection System Upgrades; and the ANL-E Fire Safety Improvements, Phase IV. In FY 2005, two projects are scheduled for completion: ORNL Research Support Center; and the ANL-E Mechanical and Control Systems Upgrades-PH I.

In FY 2004, Congress appropriated $10,000,000 to address the OSHA and NRC identified health and safety deficiencies and recommendations for improved health and safety practices at SC laboratories. This $10,000,000 is sufficient to address the most significant health and safety issues at the laboratories. If the Administration determines that health and safety issues remain, resources will be requested in future years as necessary.

Laboratories Facilities Support

Funding Schedule by Activity

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	$ Change	% Change
Laboratory Facilities Support					
General Purpose Facilities	18,868	24,619	9,283	-15,336	-62.3%
Environment, Safety and Health	12,319	7,140	7,108	-32	-0.5%
Payment in Lieu of Taxes (PILT)	1,007	1,511	1,520	+9	+0.6%
Total, Laboratories Facilities Support	32,194	33,270	17,911	-15,359	-46.2%

Description

The Laboratories Facilities Support (LFS) subprogram improves the mission readiness of Office of Science (SC) laboratories by funding line item construction projects to refurbish or replace general purpose facilities and the site-wide infrastructure.

Benefits

This subprogram improves the mission readiness of SC laboratories by funding line item construction projects to refurbish or replace general purpose facilities and site-wide infrastructure. The subprogram also provides Payments in Lieu of Taxes (PILT) assistance as required by law for communities surrounding Brookhaven National Laboratory and Argonne National Laboratory –East.

Supporting Information

General purpose and site-wide infrastructure includes administrative, research laboratory, user support and testing space as well as cafeterias, power plants, fire stations, electrical, gas and other utility distribution systems, sanitary sewers, roads, and other associated structures. The 10 SC laboratories have over 2,400 buildings (including 787 trailers and 150 excess buildings) with a total square footage of over 21,000,000 square feet. The LFS subprogram also provides Payments in Lieu of Taxes (PILT) assistance for communities surrounding Brookhaven National Laboratory and Argonne National Laboratory-East.

Capital investment requirements for SC laboratories are identified in laboratory Strategic Facilities Plans. These plans assume the full modernization/revitalization of the infrastructure of the laboratories will be completed over a ten-year period and include priority lists of proposed facilities and infrastructure needs. The backlog of line item construction modernization needs as summarized in SC's 2003 Update of the "*Infrastructure Frontier Report: A Quick Look Survey of the Office of Science Laboratory Infrastructure*," is on the order of $1 billion. Nearly 85% of this total is to rehabilitate or replace buildings.

The large backlog of line item construction needs is attributable to:

- the age of the facilities (over 69% of the buildings are 30 years old or older, and 43% are 40 years old or older);

- the use of wood and other non-permanent building materials in the original construction of the laboratories in the 40's and 50's;
- changing research needs that require:
    - different kinds of space (e.g., nuclear facilities including hot cells are in less demand while facilities that foster interaction and team-based research are in high demand); and
    - higher quality of space (e.g., reduced vibration sensitivity and temperature variability, and increased air quality and power demand for computers and other electronic equipment);
- obsolescence of existing building systems and components and changing technology (e.g., digital controls for heating and ventilation systems, fire alarms, security);
- increased requirements for continuity of utility operations to support large user population at SC user research facilities; and
- changing environmental, safety and health regulations and security needs.

For each budget, all candidate construction projects for funding by the LFS subprogram are scored using the DOE Life Cycle Asset Management (LCAM) Cost-Risk-Impact Matrix that takes into account risk, impacts, and mission need. The projects that have ES&H as the principal driver are further prioritized using the Risk Prioritization Model from the DOE ES&H and Infrastructure Management Plan process. Based on these scores, the LFS subprogram prioritizes the projects. The prioritized list is further evaluated for SC science program mission impact by an integrated infrastructure management team composed of the LFS subprogram and SC research program offices. Projects are then proposed from this list consistent with budget availability.

The LFS subprogram ensures that the funded projects are managed effectively and completed within the established cost, scope and schedule baselines. Performance will be measured by the number of all SLI projects completed within the approved baseline for cost (at or below the appropriated Total Estimated Cost), scope (within 10%), and schedule (within six months). One project scheduled for completion in FY 2003 was completed within the approved baselines for cost, scope, and schedule.

Detailed Justification

(dollars in thousands)

	FY 2003	FY 2004	FY 2005
General Purpose Facilities	**18,868**	**24,619**	**9,283**

Provides funding to support the continuation of two FY 2003 subprojects under the Science Laboratories Infrastructure (MEL-001) Project Engineering and Design (PED) and construction project data sheets. These are summarized below. More details are provided in the data sheets presented later.

Ongoing :

- LBNL Building 77 Rehabilitation of Structures and Systems, Phase II ($4,825,000)
- BNL Research Support Building, Phase I ($4,458,000)

(dollars in thousands)

	FY 2003	FY 2004	FY 2005
Environment, Safety and Health	**12,319**	**7,140**	**7,108**

Provides funding to support the continuation of one FY 2004 subproject under the Science Laboratories Infrastructure (MEL-001) construction project data sheet. It is summarized below. More details are provided in the data sheet presented later.

Ongoing:

- SLAC Safety and Operational Reliability Improvements ($7,108,000)

PILT	**1,007**	**1,511**	**1,520**

Provide Payments in Lieu of Taxes (PILT) to support assistance requirements for communities surrounding Brookhaven National Laboratory and Argonne National Laboratory-East. PILT payments are negotiated between the Department and local governments based on land values and tax rates.

Total, Laboratories Facilities Support	**32,194**	**33,270**	**17,911**

Explanation of Funding Changes

	FY 2005 vs. FY 2004 ($000)
General Purpose Facilities (GPF)	
▪ Reduction in the General Purpose Facilities (GPF) area reflects the cancellation of the PNNL Laboratory Systems Upgrades subproject. The facilities to be rehabilitated under this subproject are now scheduled for removal under the River Corridor clean-up project and further investment is unnecessary. The remaining funds are redirected to two ongoing subprojects: TJNAF CEBAF Center Addition – Phase I and the BNL Research Support Building – Phase I, in FY 2004. This reduced the funding required for FY 2005 mortgages for these projects. Also, funding for two on-going subprojects, the BNL Research Support Building and the LBNL Building 77 Rehab, is reduced, extending funding schedules for both into FY 2006.	-15,336
Environmental Safety & Health (ES&H)	
▪ Reduction in the ES&H area reflects the completion of several ES&H projects resulting from significant past ES&H investment and shifting of SC program priorities. Funding is included for the SLAC Safety and Operational Reliability Improvements project.	-32

	FY 2005 vs. FY 2004 ($000)
PILT	
▪ PILT is continued close to the FY 2004 level.	+9
Total Funding Change, Laboratories Facilities Support	**-15,359**

Excess Facilities Disposition

Funding Schedule by Activity

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	$ Change	% Change
Excess Facilities Disposition	7,900	6,020	6,100	+80	+1.3%

Description

The Excess Facilities Disposition (EFD) subprogram removes excess facilities at the SC laboratories to reduce long-term costs and liabilities in support of programmatic initiatives (e.g., making land available for new programs). In addition to removal of excess facilities, the subprogram will also clean-up facilities for reuse where such reuse is economical and can provide needed functionality.

Benefits

This subprogram reduces the long-term costs, risks and liabilities at the SC laboratories associated with excess facilities by removing them and cleaning them up for reuse or transfer. It also supports programmatic initiatives by making land available for new programs and reducing expenditures on surveillance and maintenance of excess facilities.

Supporting Information

The EFD subprogram evaluates and prioritizes the backlog based on footprint reduction, risk reduction (e.g., removal of hazards), availability of space/land for research activities, and cost savings (e.g., elimination of surveillance and maintenance costs). The prioritized list is further evaluated for mission impact by an integrated infrastructure management team composed of the EFD subprogram and SC research program offices. The estimated backlog of non-contaminated or slightly contaminated facilities at the beginning of FY 2005 will be approximately $12,000,000.

The EFD subprogram does not fund projects that replace currently active and occupied buildings (e.g., old, deteriorated and marginally functional ones that are still used but are to be replaced by new modern buildings). Such building replacement projects are funded under the previously described LFS subprogram and would include removal of the old buildings as part of the justification for the project.

It should be noted that the EFD subprogram does not include projects involving cleanout and stabilization of contaminated facilities proposed for transfer to the Office of Environmental Management (EM) for ultimate disposition. At issue are 29 process-contaminated facilities at SC laboratories with an estimated decontamination and decommissioning (D&D) cost of $175,000,000. The Department is currently reviewing its existing facility transfer policies.

Detailed Justification

(dollars in thousands)

	FY 2003	FY 2004	FY 2005
Excess Facilities Disposition	**7,900**	**6,020**	**6,100**

In FY 2003, funding of $7,900,000 supports the 8 projects listed below and allows for the clean-up/removal of an estimated 460,000 square feet of space:

- ANL-E ($1,100,000) – Decontamination of Building 306 C132A&B; Decontamination of Building 306 Room D-001 and D-002 Cell; Partial Disposal of Building 202 (Kennels) (approximately 9,000 sq. ft.)
- BNL ($1,025,000) – Demolition of Buildings 89, 90, 91, 158, 184 and 206 (approximately 57,000 sq. ft.)
- FNAL ($362,000) – Demolition of four muon enclosures, Laser Building and Laboratory G trailer and slab, and Shed B at Site 50 (approximately 7,800 sq. ft.)
- LBNL ($2,450,000) – Removal of B51A beamline and demolition of Structure 51B External Proton Beam (EPB) Hall (approximately 48,000 sq. ft.) which are part of the retired Bevatron accelerator complex.
- LLNL ($250,000) – Demolition of the Magnetic Fusion Energy bridge and utility lines (approximately 1,000 sq. ft.)
- ORNL ($2,155,000) – Cleanout of Buildings 9204-1, 9999-3, 2011 and 9204-1 Scrap Yard; Demolition of Buildings 0961, 2093 and 3013 (approximately 270,000 sq. ft.)
- SLAC ($13,000) – Cleanout of Lauritsen Laboratory at California Institute of Technology (approximately 55,000 sq. ft.)
- PPPL ($545,000) – Removal of Princeton Beta Experiment Modification (PBX) Princeton Large Torus (PLT) control room and initial subsystems (approximately 12,000 sq. ft.)

In FY 2004, funding of $6,020,000 will support the 9 projects listed below and allows for the clean-up/removal of an estimated 84,000 square feet of space:

- Ames ($150,000) - Waste Handling Facility Closeout and Demolition, Phase 1
- ANL-E ($749,000) – Building 202 (N&P Kennels) Partial Disposal, Building 202,D-149 Lead Vault Demolition, and Building 205 G101 Junior Cave Remediation (approximately 4,400 sq. ft.)
- BNL ($725,000) – Demolition of Buildings 206/207/208/457/458 (approximately 34,000 sq. ft.)
- FNAL ($233,000) – Bubble Chamber Demolition (approximately 3,000 sq. ft.)
- LBNL ($500,000) – Remove Upper Layer Roof Concrete Shielding Blocks & Beamline Components from Building 51 of the retired Bevatron accelerator complex.
- LLNL ($250,000) – Demolition of Magnetic Fusion Energy Legacy Facilities at Building 445, Phase I (approximately 8,000 sq. ft.)

(dollars in thousands)

FY 2003	FY 2004	FY 2005

- ORNL ($760,000) – Demolition of Buildings 2069 and 7009 (approximately 17,000 sq. ft.)
- PPPL ($980,000) – Princeton Beta Experiment Modification (PBX)/Princeton Large Torus (PLT) final subsystem removals and cooling tower demolition (approximately 18,200 sq. ft.)
- SLAC ($150,000) - Demolish Portion of Sector 17 "Boneyard" (approximately 4 acres)
- Unallocated ($1,523,000) – To be allocated to other priority projects in FY 2004. $1,000,000 of the reserve is designated for the 88" cyclotron at LBNL in accordance with the FY 2004 appropriation committee report language. Because the 88" cyclotron will continue to operate in FY 2004 and FY 2005, a request has been submitted to Congress to apply these funds for the continued clean-out of retired Bevatron accelerator complex at LBNL.

In FY 2005, funding of $6,100,000 will support at least the 9 projects listed below and allow for the clean-up/removal of more than 61,000 square feet of space:

- Ames ($150,000) - Waste Handling Facility Closeout and Demolition, Phase 2 (approximately 9,000 sq. ft.)
- ANL-E ($2,120,000) - Building 40 (Instrument Calibration) Disposal and Partial Facility Demolitions (approximately 8,000 sq. ft.)
- BNL ($300,000) - Demolition of Buildings 428 and 492, and partial demolition of Buildings 197 and 244 (approximately 6,000 sq. ft.)
- FNAL ($125,000) – Demolition of two muon enclosures (approximately 2,000 sq. ft.)
- LBNL ($1,360,000) - Removal of portions of the retired Bevatron accelerator complex including a trailer, small building and injector (approximately 7,000 sq. ft.)
- LLNL ($300,000) - Demolition of Magnetic Fusion Energy Legacy Facilities at Building 445, Phase 2 (approximately 7,000 sq. ft.)
- ORISE ($565,000) – Demolition of Building SC-2, Isotope Laboratory (approximately 550 sq. ft.)
- ORNL ($780,000) - Demolition of Buildings 5000, 2018, 7010, 2016, 3008 and 3111 (approximately 19,000 sq. ft.)
- SLAC - ($400,000) – Demolition of HRS Detector in Building 660 (approximately 2,000 sq. ft.)

Individual projects and amounts are subject to revision based on evolving program priorities including risk reduction (e.g., removal of hazards), footprint reduction, cost savings (e.g., elimination of surveillance and maintenance costs), and availability of space/land for new research activities.

Total, Excess Facilities Disposition	**7,900**	**6,020**	**6,100**

Explanation of Funding Changes

	FY 2005 vs. FY 2004 ($000)
Excess Facilities Disposition	
▪ Excess Facilities Disposition is continued close to the FY 2004 level.	+80

Oak Ridge Landlord

Funding Schedule by Activity

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	$ Change	% Change
Oak Ridge Landlord	5,015	5,049	5,079	+30	+0.6%

Description

The Oak Ridge Landlord subprogram supports activities to maintain continuity of operations at the Oak Ridge Reservation (ORR) and the Oak Ridge Operations Office (ORO).

Benefits

This subprogram maintains continuity of operations at the Oak Ridge Reservation and the Oak Ridge Operations Office by minimizing interruptions due to infrastructure and/or other systems failures. The subprogram also provides Payments in Lieu of Taxes (PILT) assistance as required by law for communities surrounding Oak Ridge.

Supporting Information

The subprogram supports landlord responsibilities, including infrastructure for the 24,000 acres of the ORR outside of the Y-12 plant, ORNL, and the East Tennessee Technology Park, plus DOE facilities in the town of Oak Ridge. This includes roads and grounds and other infrastructure maintenance, Environment, Safety and Health (ES&H) support and improvements, PILT for Oak Ridge communities, and other needs related to landlord requirements. These activities maintain continuity of operations at the Oak Ridge Reservation and the ORO and minimize interruptions due to infrastructure and/or other systems failures.

Detailed Justification

(dollars in thousands)

	FY 2003	FY 2004	FY 2005
Roads, Grounds and Other Infrastructure and ES&H Support and Improvements	**2,424**	**2,458**	**1,602**
Road maintenance, reservation mowing, bridge inspections, and records management.			
General Purpose Equipment	**0**	**0**	**150**
Replacement of two aging high maintenance fuel tanker trucks.			
General Plant Projects	**0**	**0**	**736**
Major road repair and renovation of the Federal Building including electrical systems, restrooms, and exterior shell.			
Payments in Lieu of Taxes (PILT)	**2,300**	**2,300**	**2,300**
Payments in Lieu of Taxes (PILT) to the City of Oak Ridge, and Anderson and Roane Counties.			

	(dollars in thousands)		
	FY 2003	FY 2004	FY 2005
Reservation Technical Support	**291**	**291**	**291**
Includes recurring activities such as site mapping, National Archives Records Administration, support for legacy legal cases, and real estate activities.			
Total, Oak Ridge Landlord	**5,015**	**5,049**	**5,079**

Explanation of Funding Changes

	FY 2005 vs. FY 2004 ($000)
Oak Ridge Landlord	
▪ Landlord activities are continued close to the FY 2004 level.	+30

Health and Safety Improvement

Funding Schedule by Activity

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	$ Change	% Change
Health and Safety Improvement.....	0	9,941	0	-9,941	-100%

Description

The Health and Safety Improvements subprogram corrects health and safety deficiencies at SC laboratories to ensure consistency with Occupational Safety and Health Administration (OSHA) and Nuclear Regulatory Commission (NRC) requirements.

Benefits

This subprogram improves health and safety practices at SC laboratories to ensure consistency with Occupational Safety and Health Administration and Nuclear Regulatory Commission safety requirements.

In FY 2003, Congress directed the OSHA and NRC to perform inspections at the 10 SC laboratories. The purpose of these inspections was to document those deficiencies that would be identified if the Department were regulated by the OSHA and NRC, and to provide recommendations for improved health and safety practices.

Detailed Justification

(dollars in thousands)

	FY 2003	FY 2004	FY 2005
Health and Safety Improvements	**0**	**9,941**	**0**

The deficiencies include: electrical hazards, machine guarding, legacy material removal, material handling, ladder compliance, inadequate building egress, crane hazards, exhaust ventilation, and eyewash station availability and operability.

Explanation of Funding Change

	FY 2005 vs. FY 2004 ($000)
Health and Safety Improvements	
It is expected that the FY 2004 funding will address the most significant health and safety issues at the laboratories. If the Administration determines that health and safety issues remain, resources will be requested in future years as necessary.	-9,941

Capital Operating Expenses & Construction Summary

Capital Operating Expenses

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	$ Change	% Change
General Plant Projects (ORO Landlord)	0	0	736	+736	--
Capital Equipment (ORO Landlord)	0	0	150	+150	--
Capital Equipment (Excess Facilities Disposition)	75	0	0	0	--
Total, Capital Operating Expenses	75	0	886	+886	--

Construction Projects

(dollars in thousands)

	Total Estimated Cost (TEC)	Prior Year Approp-riations	FY 2003	FY 2004	FY 2005	Unapprop. Balance
Project – 03-SC-001 Laboratories Facilities Support Project						
FY 2003 PED Datasheet	N/A	N/A	3,313	0	0	0
Project – 04-SC-001 Laboratories Facilities Support Project						
FY 2004 PED Datasheet	N/A	N/A	0	1,988	0	0
Project - MEL-001 Laboratories Facilities Support Project						
FY 2005 Construction Datasheet	N/A	N/A	27,874	29,771	16,391	15,869
Total, LFS Construction	N/A	N/A	31,187	31,759	16,391	15,869