



Department of Energy
Office of Science
Washington, DC 20585

Office of the Director

March 29, 2004

The Honorable David L. Hobson
Chairman, Subcommittee on Energy
and Water Development
Committee on Appropriations
U. S. House of Representatives
Washington, DC 20515-6020

Dear Mr. Chairman:

In response to the House Report (107-112) accompanying the FY 2002 House Energy and Water Development Appropriations Bill, enclosed is the Department of Energy semi-annual report on the status of the facilities and infrastructure program at the Department's science laboratories. Though the report is specifically required to be submitted to the House Committee on Appropriations, we are providing it to all of the House and Senate authorization and appropriations committees with jurisdiction over the Office of Science. The enclosed report fulfills the requirement for the period ending September 30, 2003

If you have further questions regarding this matter, please contact me directly at (202) 586-5430 or Rick A. Dearborn, Assistant Secretary for Congressional and Intergovernmental Affairs, at (202) 586-5450.

Sincerely,

A handwritten signature in cursive script that reads "Raymond L. Orbach".

Raymond L. Orbach
Director

Enclosure

cc: The Honorable Peter J. Visclosky
Ranking Minority Member



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**REPORT ON THE STATUS OF THE FACILITIES AND INFRASTRUCTURE
PROGRAM AT SCIENCE LABORATORIES
AS OF SEPTEMBER 30, 2003**

Background

In the Conference Report (107-258) accompanying the Fiscal Year 2002 (FY 2002) Energy and Water Development Appropriations Act, Public Law 107-66, Congress established a new Facilities and Infrastructure (F&I) program to improve the facilities and infrastructure at the Department of Energy (DOE) science laboratories. It directed that at least 25 percent of this funding be used to dispose of excess facilities that will provide the greatest impact on reducing long-term costs and risks.

The House Report (107-112, page 116) accompanying the FY 2002 House Energy and Water Development Appropriations Bill requires that the Department provide a semi-annual report on the status of the F&I program to the Committee on Appropriations. Specifically, the report requires that:

The Department is to provide a semi-annual report to the Committee on the status of the facilities and infrastructure program. The report should include the current priority list of proposed facilities and infrastructure projects including cost and schedule requirements. For each site, the report is to include: a current ten-year site plan that demonstrates the reconfiguration of its facilities and infrastructure to meet its missions and to address its long-term operational costs and return on investment; the current budget for all facilities and infrastructure funding in this program, as well as all funding for maintenance and infrastructure upgrades funded through other parts of the budget; and the current status of each facilities and infrastructure project compared to the original baseline cost, schedule, and scope.

Reporting

This is the fourth semi-annual report required, as described above, on the status of the Office of Science (SC) F&I program. Because the genesis and development of the program have already been described in the semi-annual report for the first half of FY 2002, dated May, 2002, this report focuses primarily on the status of the program and related developments as of September 30, 2003, for the last half of FY 2003.

Current priority list of proposed facilities and infrastructure projects including cost and schedule requirements

The current priority list of excess facilities disposition projects is shown in Table 1. It lists the laboratory, the title of the facility eligible for cleanup for reuse or demolition, the estimated cost of the project (if known), the square footage that will be cleaned up or demolished, the annual surveillance and maintenance (S&M) savings from disposition of the facility, and the fiscal year in which the facility is expected to be cleaned up or demolished (if known).

Table 1 a current backlog of 52 projects, with an estimated disposal cost of approximately \$18M (based on very preliminary field estimates), an area of approximately 270,000 square feet, and an annual S&M cost of approximately \$0.4 million. In addition to projects at SC laboratories, the list includes two projects involving demolition of Magnetic Fusion Energy legacy facilities at the Lawrence Livermore National Laboratory whose construction was funded by SC.

The facilities in Table 1 are mostly those that were listed in the previous semi-annual report. The primary difference is inclusion of new projects and reordering of the priority of previous projects. As stated in previous reports, "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." They are also subject to change based on more detailed planning and experience gained from disposition of current projects (e.g., better estimates of costs and changes in project sequences).

Table 1 also shows the projects that have been selected for funding in FY 2004 based on the President's FY 2004 budget request of \$5.055 million for the Science Laboratory Infrastructure (SLI) Excess Facilities Disposition subprogram. The final set of projects will be selected, and the \$558,000 currently held in reserve will be disbursed, during FY 2004 execution.

It should be noted that Table 1 does not include projects involving cleanout and stabilization of contaminated facilities that SC has 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 million. The D&D of these facilities is currently not included in the SLI Excess Facilities Disposition subprogram, and the Department is currently reviewing which organization will be responsible for their disposition.

Current ten-year site plans

SC requires each laboratory to prepare a plan for modernizing its general purpose infrastructure to support its current and projected research mission over a ten-year period. These Strategic Facilities Plans (SFPs) are to be submitted in even years. Each plan addresses existing and expected infrastructure deficiencies; site layout and development problems (including site cleanup, as appropriate); recognition of the laboratory as a preferred working environment; removal, replacement, and upgrade of nonfunctional buildings and equipment to modern standards; and anticipated mission support needs during the next 10 years. In developing the Plan, each laboratory engages its senior program managers to help define the infrastructure goals and improvements needed to support current and anticipated program activities.

The FY 2002 SFPs, which cover the period FY 2004 to FY 2013, are summarized in the April, 2003, SC report, "Update of the Laboratory Modernization Plans in the April 2001 Report 'Infrastructure Frontier, A Quick Look Survey of the Office of Science Laboratory Infrastructure.'" This report, and the SFPs, can be viewed on the Web at <http://www.science.doe.gov/SC-80/sc-82/labs21>. In addition, the more detailed laboratory Site Master Plans, which form the bases for the SFPs, are available from the respective laboratories.

The SFPs identify \$2.48 billion of capital and excess facilities projects needed over the ten-year period. Capital projects are: Line Items (\$1.48 billion) and General Plant Projects (\$757 million). The bulk of the Line Item projects (84%) is for building rehabilitations and replacements. The ten SC research laboratories, and the Oak Ridge Institute for Science and Education (ORISE), together have more than 1,500 buildings and 750 trailers with 20 million gross square feet of space and are aging. Nearly 47% of the building space is 40 years old or older. Over 7,000 employees and users of SC research facilities are housed in wooden buildings, trailers and buildings more than 50 years old.

In addition, as part of the annual Institutional Planning Process, each laboratory develops a "Site, Facilities and Infrastructure Management" section for its Institutional Plan. This section identifies issues regarding general purpose/conventional facilities that affect, or may affect, mission accomplishment over the planning period of the Institutional Plan, including: suitability/functionality, cost effectiveness, worker and public health and safety, and environmental compliance, and describes the strategy for addressing the issues. The Institutional Plans are available at each SC laboratory's web site.

Current budget for all facilities and infrastructure funding

The enacted FY 2003 budget for SC facilities and infrastructure is shown in Table 2, including the funding under the Facilities and Infrastructure (Excess Facilities Disposition) subprogram. Please note that Table 2 includes funding for SC facilities at Lawrence

Livermore National Laboratory, Sandia National Laboratories and "All Others," in order to show the total SC budget for facilities and infrastructure.

Current status of On-going Excess Facilities Disposition Projects

The current status of the projects funded by the SC Excess Facilities Disposition subprogram in FY 2003 is summarized in Table 3. The projects listed in it are essentially those that were listed in the March, 2003, semi-annual report except for elimination of projects which were listed as completed, addition of new projects made possible by savings from other FY 2003 projects, and revision of three projects (03-ANL-3, 03-BNL-2 and 03-SLAC-01) because of the unexpected encounter of chemical and radiological contamination.

Table 3 shows that most of the FY 2003 projects are either completed or will be completed in early FY 2004. One project (03-LBNL-02) won't be completed until April, 2004, because of the delay in the final appropriations until February 2003. The table also shows that the total area expected to be cleaned up or demolished with FY 2003 funding is approximately 460,000 sq. ft. Adding the approximately 54,000 sq. ft. of area that was listed in Table 3 of the March, 2003, semi-annual report as cleaned up or demolished in FY 2003 with funds carried over from FY 2002, the total area which is expected to be cleaned up or demolished in FY 2003, or in early 2004, is approximately 510,000 sq. ft.

It should be noted that the House Energy and Water Development Appropriations Subcommittee directed that new and innovative D&D practices be implemented to reduce costs and expedite site cleanups, and cited an example of cost savings at the Rocky Flats site. Some of these practices have been described in the March 2003, semi-annual report. Generally, they involve salvage and recycling of materials generated in the cleanups and demolitions, and economies-of-scale achieved from bundling projects together, including projects funded from laboratory overhead.

Overall, the Office of Science is satisfied with the management systems that are in place, and project execution progress to date, and expects successful execution of the FY 2004 projects. Because of the inherent uncertainty in making estimates for disposal projects prior to detailed characterization of conditions and contaminants, it is anticipated that there may be additional changes to the baseline cost, scope, and schedule as work progresses, and the cost estimates may need to be refined. Also, projects may be re-prioritized based on the greatest reduction in long-term costs and risk.

Photographs of some of the cleanout and demolition projects funded in FY 2003 are attached.

**Demolition of Building 3013 at Oak Ridge National Laboratory
Built in 1946 - 644 Sq. Ft.**

Before Demolition

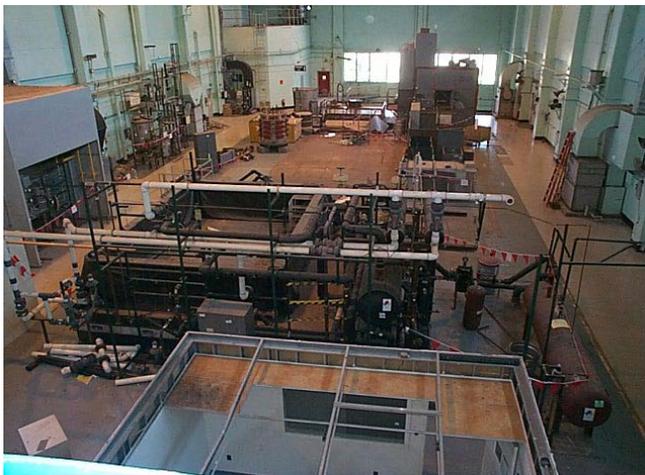


After Demolition



**Cleanout of Oak Ridge National Laboratory Building 9204-1 at the Y-12 Site
Built in 1944 - 210,491 Sq. Ft.**

High Bay East End Before Cleanout



High Bay After Cleanout



**Demolition of Building 91 at Brookhaven National Laboratory
Built in 1941 - 9,333 Sq. Ft.**

Before Demolition



After Demolition



Table 1 - Office of Science Facilities Disposition Projects - September 30, 2003

Lab	Tracking No.	Facility Eligible for Disposal	Estimate of Disposal Cost (TEC)-\$K*	Square Footage	Annual S&M Savings-\$K	Fiscal Year of Cleanup
AMES	1	Waste Handling Facility Closeout and Demolition	\$ 150			2004
AMES	2	Waste Handling Facility Closeout and Demolition-Cont'd	\$ 150	9,000	\$ 30	TBD**
		Total FY04	\$ 150	\$ 0	\$ -	
		Total	\$ 300	9,000	\$ 30	
ANLE	1	Bldg. 202 (N&P Kennels) Partial Disposal	\$ 230	4000	\$ 30	2004
ANLE	2	Bldg. 202.D-149 Lead Vault Demolition	\$ 230	192	\$ 9	2004
ANLE	3	Bldg. 205 G101 Junior Cave Remediation Project	\$ 289	200	\$ 18	2004
ANLE	4	Bldg. 202, Room Q-183 Former Animal Injection Laboratory Remediation	\$ 345	280	\$ 10	TBD
ANLE	5	Bldg. 40 Demolition Project	\$ 230	4896	\$ 31	TBD
ANLE	6	Bldg. 200 Heavy Isotopes Hood/Equipment Demolition Project, MA 202	\$ 75	1170	\$ 13	TBD
ANLE	7	Bldg. 205 F-111 Excess/Contaminated Media and Equipment Clean-up	\$ 800	1000	\$ -	TBD
ANLE	8	Bldg. 317 Baler Building Demolition	\$ 290	1100	\$ -	TBD
ANLE	9	Site Beryllium Clean-up (Misc./Equipment Decontamination)	\$ 187	7000	\$ -	TBD
ANLE	10	Bldg. 205 K-116 Floor Cleanup & Equipment Demolition	\$ 95	920	\$ -	TBD
ANLE	11	Bldg. 205 F-111 Vault Cleanup & Hood Demolition	\$ 230	870	\$ -	TBD
ANLE	12	Bldg. 203 Storage Hole Clean-Up	\$ 50	240	\$ -	TBD
ANLE	13	Bldg. 310 A-128 Assembly Room and RVACS room Decontamination	\$ 500	1200	\$ -	TBD
ANLE	14	Site Cleanup/Disposal of exterior equipment bone yards	\$ 300	4800	\$ -	TBD
ANLE	15	Bldg. 205 H-125/H-126 Cell Decontamination	\$ 350	2360	\$ -	TBD
ANLE	16	Bldg. 203 Service Floor Radium Cleanup	\$ 3,000	23964	\$ -	TBD
		Total FY 04	\$ 749	4,392	\$ 57	
		Total	\$ 7,201	54,192	\$ 111	
BNL	1	Bldg 206/207/208/457/458 Demolition	\$ 725	33,655	\$ 5	2004
BNL	2	Bldg 428 Demolition	\$ 120	1,642	\$ 1	TBD
BNL	3	Bldg 197 (Partial, Acid bath Area) Demolition	\$ 50	1,546	\$ 1	TBD
BNL	4	Bldg 244 (Partial, Fire Area-Old Paint Shop)	\$ 50	1,264	\$ 1	TBD
BNL	5	Bldg 492 Demolition	\$ 80	1,243	\$ 1	TBD
		Total FY04	\$ 725	33,655	\$ 5	
		Total	\$ 1,025	39,350	\$ 9	
FNAL	1	Bubble Chamber Demolition	\$ 233	3,000	\$ 35	2004
FNAL	2	Muon Enclosure Demolition-18 (Minus Pilot)	\$ 973	7,123	\$ 15	
		Total FY04	\$ 233	3,000	\$ 35	
		Total	\$ 1,206	10,123	\$ 50	
LBNL	1	Remove Upper Layer Roof Concrete Shielding Blocks & Beamline Components	\$ 500		\$ -	2004
LBNL	2	Remove Upper Layer Roof Concrete Shielding Blocks & Beamline Components-Continued	\$ 487	2,000		TBD
LBNL	3	Remove Lead Dust Filters and Fan Equipment	\$ 928	2,600		TBD
LBNL	4	Remove Local Injector	\$ 880	2,500		TBD
LBNL	5	Trailer and Small Building Removal	\$ 500	15,787	\$ -	TBD
LBNL	6	Remove Misc Metal Equipment from Accelerator	\$ 845	1,000	\$ -	TBD
		Total FY04	\$ 500	0	\$ -	
		Total	\$ 4,140	23,887	\$ -	
LLNL	1	Remove MFE Legacy Facilities at B445	\$ 250	8,000	\$ 3	2004
LLNL	2	Remove MFE Legacy Facilities at B445-Continued	\$ 300	7,000	\$ 3	TBD
		Total FY04	\$ 250	8,000	\$ 3	
		Total	\$ 550	15,000	\$ 6	
ORNL	1	Bldg. 2069 Demolition	\$ 295	7,386	\$ 40	2004
ORNL	2	Bldg. 5000 Demolition	\$ 174	4,360	\$ 33	TBD
ORNL	3	Bldg. 7009 Demolition	\$ 465	9,300	\$ 31	2004
ORNL	4	Bldg. 2018 Demolition	\$ 273	7,803	\$ 32	TBD
ORNL	5	Bldg. 7010 Demolition	\$ 118	3,366	\$ 1	TBD
ORNL	6	Bldg. 2016 Demolition	\$ 121	2,427	\$ 20	TBD
ORNL	7	Bldg. 3008 Demolition	\$ 71	565	\$ 2	TBD
ORNL	8	Bldg. 7055 Demolition	\$ 74	1,344	\$ 1	TBD
ORNL	9	Bldg. 7061 Demolition	\$ 58	1,060	\$ 1	TBD
ORNL	10	Bldg. 3111 Demolition	\$ 23	100	\$ 1	TBD
ORNL	11	Bldg. 7020 Demolition	\$ 48	960	\$ 1	TBD
ORNL	12	Bldg. 7058 Demolition	\$ 50	1,008	\$ 1	TBD
ORNL	13	Bldg. 7065 Demolition	\$ 48	960	\$ 1	TBD
ORNL	14	Bldg. 7066 Demolition	\$ 48	960	\$ 1	TBD
ORNL	15	Bldg. 7079 Demolition	\$ 17	172	\$ 1	TBD
		Total FY04	\$ 760	16,686	\$ 71	
		Total	\$ 1,884	41,771	\$ 167	
PPPL	1	PBX-M/PLT Subsystem Removals and C-site Cooling Tower Demolition	\$ 980	18,200	\$ 55	2004
		Total FY04	\$ 980	18,200	\$ 55	
		Total	\$ 980	18,200	\$ 55	
SLAC	1	Demolish HRS Detector in Bldg 660	\$ 400	55,396	\$ -	TBD
SLAC	2	Demolish Mark II Detector in Bldg 750	\$ 330	1,310	\$ -	TBD
SLAC	3	Demolish Portion of Sector 17 "Boneyard"	\$ 150		\$ -	2004
		Total FY04	\$ 150	0	\$ -	
		Total	\$ 880	56,706	\$ -	
HQ		Reserve	\$ 558			2004
		Total FY04	\$ 558			
		Total	\$ 558			
		FY 04 Totals	\$ 5,055	83,933	\$ 226	
		All Projects	\$ 18,166	268,229	\$ 428	
Grand Total: 52 52 Projects; 13 FY 2004 Projects						

* Cost estimates for projects beyond FY 2004 are very preliminary estimates based on field requests. These costs will be refined prior to the projects being funded.
 ** TBD - to be determined

Table 2 - Office of Science FY 2003 Facilities and Infrastructure Funding (\$1000s)

Laboratory	SLI Infrastructure Line Item Construction	GPP	Excess Facilities Disposition	Total SC Direct-Funded Infrastructure Investment*	Indirect Maintenance**	Institutional GPP***
Ames		\$ 515		\$ 515	\$ 859	
ANL-E	\$ 3,007	\$ 5,550	\$ 1,100	\$ 9,657	\$ 20,249	
BNL	\$ 7,466	\$ 6,060	\$ 1,025	\$ 14,551	\$ 20,865	
LBNL	\$ 4,599	\$ 3,540	\$ 2,450	\$ 10,589	\$ 10,735	
FNAL		\$ 1,753	\$ 338	\$ 2,091	\$ 7,417	
LLNL			\$ 250	\$ 250		
ORNL	\$ 10,684	\$ 5,399	\$ 2,155	\$ 18,238	\$ 29,978	\$ 6,000
ORISE		\$ 950		\$ 950	\$ 481	
PNNL	\$ 3,950	\$ 3,799		\$ 7,749	\$ 1,311	
PPPL		\$ 2,900	\$ 545	\$ 3,445	\$ 3,892	
Sandia		\$ 301		\$ 301		
SLAC		\$ 4,706	\$ 13	\$ 4,719	\$ 2,308	
TJNAF	\$ 1,481	\$ 816		\$ 2,297	\$ 2,252	
All Others		\$ 150	\$ 24	\$ 174	\$ 4,141	
Total SC Budget	\$ 31,187	\$ 36,439	\$ 7,900	\$ 75,526	\$ 104,488	\$ 6,000

* Total of SLI Infrastructure Line Item Construction, GPP and Excess Facilities Disposition.

** Maintenance reported for FY03 in the Quarterly Maintenance Report. This is indirect maintenance for conventional facilities.

*** Funded from laboratory overhead or space charges. IGPP is a pilot program currently under review.

**Table 3 - Status of Office of Science FY 2003 Excess Facilities Disposition Projects
Semi-Annual Report: September 30, 2003**

Project Number	Project	Estimated Cost - \$ Thousands	Square Footage to be Removed/Cleaned-Up	Status of Project	Cost/Scope/Schedule
03-ANL-1	Bldg. 306 C132A&B Decontamination	\$ 550	130	Completed	Within Baseline
03-ANL-2	Bldg. 306 Room D-001 and D-002 Cell Decontamination	\$ 250	550	Cleanout underway	On target for 11/03 completion
03-ANL-3	Bldg. 202 (Kennels M,N,O&P) Partial Disposal	\$ 300	8,000	Revised baseline completed	Baseline was changed to only kennels M&O because of discovery of extensive soil contamination. Kennels N&P will be cleaned out and soil remediated in FY04
03-ANL-4	Bldg. 379 Lead Decontamination	NA	4,155	Completed	Additional FY03 project funded with cost savings from other FY03 projects
03-BNL-01	Bldg. 89,90,91 Demolition	\$ 375	28,018	Completed	Within Baseline
03-BNL-02	Bldg. 158/118 Demolition	\$ 325	18,341	Completed	Bldg. 118 demolished instead of Bldg.206 because of lead and cadmium contamination. Bldg. 206 will be demolished in FY04*
03-BNL-03	Bldg. 184 Demolition	\$ 200	5,024	Completed	Within Baseline
03-BNL-04	Bldg. 324 Demolition	\$ 125	4,073	Completed	Additional FY03 project funded with cost savings from other FY03 projects
03-FNAL-01	Muon Enclosures Pilot Program-4	\$ 240	3,533	Underway	Completion expected first quarter of FY04
03-FNAL-02	Laser Building Demolition	\$ 67	912	Completed	Within Baseline
03-FNAL-03	Lab G Trailer Demolition	\$ 31	1,440	Completed	Within Baseline
03-FNAL-04	Site 50 - Shed B Demolition	\$ 24	774	In Procurement	Within Baseline
03-FNAL-05	Lab G Concrete Slab Removal	NA	1000	Completed	Additional FY03 project funded with cost savings from other FY03 projects
03-LBNL-01	Remove B51A Beamline	\$ 950	3,900	98% Complete	One month behind schedule
03-LBNL-02	Demolish Structure 51B EPB Hall	\$ 1,500	43,911	Planning-completion by 4/03	Within Baseline
03-LLNL-01	Demolish MFE Bridge and Utility Lines	\$ 250	1,130	Completed	Within Baseline
03-ORNL-01	Bldg. 9204-1 Cleanout	\$ 1,500	210,491	Cleanout underway-completion by 11/03	Within Baseline
03-ORNL-02	Bldg. 9204-1 Scrap Yard Cleanout**	\$ 320	41,736	Completed	Additional FY03 project funded with savings carried over from FY02 projects
03-ORNL-03	Bldg. 9999-3 Cleanout	\$ 100	2,400	Completed	Within Baseline
03-ORNL-04	Bldg. 2011 Cleanout and Stabilization	\$ 270	6,627	Completed	Within Baseline
03-ORNL-05	Bldg. 2093 Demolition	\$ 55	420	Completed	Within Baseline
03-ORNL-06	Bldg. 0961 Demolition	\$ 90	5,308	Completed	Within Baseline
03-ORNL-07	Bldg. 3013 Demolition	\$ 140	644	Completed	Within Baseline
03-ORNL-08	Bldg. 0954 Demolition**	\$ 38	441	Completed	Additional FY03 project funded with cost savings from other FY03 projects
03-PPPL-01	PBX-M/PLT Control Room Removal	\$ 545	12,000	Completed	Cost increased to \$679K
03-SLAC-01	Cleanout of Lauritsen Lab at Cal Tech***	NA	55,396	Project dropped	NA
03-SLAC-02	Demolish Bldgs.610, 253, 109 "Dry Room," and Various Pads, Structures and Utility Lines**	\$ 192		Completed	Within Baseline
03-SLAC-03	Remove Remaining Excess Utility Lines***	\$ 13		Removal underway-completion by 11/04	
Total FY 2003 Funding		\$ 7,900	460,354		

* Even though substitution of Bldg. 118 for Bldg. 206 in project 03-BNL-02 is a change from the March, 2003, semi-annual report, it is not a change in the original baseline because Bldg. 206 was to be demolished with savings from other projects. Thus, demolition of Bldg. 118 represents additional scope.

** FY 2003 project funded with FY 2002 or FY 2003 cost savings. Not included in Total FY 2003 Funding.

*** Due to environmental concerns identified by regulatory agencies associated with the cleanout and transfer of the Lauritsen Lab at CalTech, it was decided to use the \$13K from Project 03-SLAC-01 for new Project 03-SLAC-03.