

**REPORT ON THE STATUS OF THE FACILITIES AND INFRASTRUCTURE
PROGRAM AT SCIENCE LABORATORIES
AS OF SEPTEMBER 30, 2005**

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 requested that the Department of Energy (DOE) establish a new Facilities and Infrastructure (F&I) program to improve the facilities and infrastructure at 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 requests that the Department provide a semi-annual report on the status of the F&I program to the Committee on Appropriations. Specifically, the report states 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 eighth semi-annual report on the status of the Office of Science (SC) facilities and infrastructure (F&I) program as of September 30, 2005, for the second half of FY 2005.

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

The current list of excess facilities disposition projects at SC sites including the FY 2006 and FY 2007 projects is shown in Table 1. The list shows a backlog of 46 projects involving facility cleanup for reuse or demolition, with an estimated disposal cost of approximately \$107 million (based on very preliminary field estimates), an area of approximately 380,000 square feet, and an annual surveillance and maintenance cost of \$400,000. In addition to projects at SC laboratories, the list includes one project 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 elimination of projects which were funded in FY 2005, 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 2006 based on the FY 2006 Congressional appropriation of \$14,491,000 for the Excess Facilities Disposition (EFD) subprogram, and the new projects proposed in the President's budget request for FY 2007.

It should be noted that, except for the Bevatron, Table 1 does not include most of the projects involving cleanout and stabilization of contaminated facilities that SC has proposed for transfer to the Office of Environmental Management. At issue are approximately 25 process-contaminated facilities at SC laboratories with an estimated decontamination and decommissioning (D&D) cost of \$100 million. Also not included are other contaminated facilities which are expected to be declared excess in the future. The D&D of these facilities is currently not included in the SC EFD subprogram; however, the Department maintains an overall inventory of these facilities, and decisions regarding which organization within the Department will be responsible for their disposition are made on a case-by-case basis.

Current ten-year site plans

As required by DOE Order 430.1B, Real Property Asset Management, of September, 2003, SC has now transitioned from Strategic Facilities Plans (SFPs) to Ten Year Site Plans (TYSPs). The TYSPs identify and prioritize projects, activities, and mission resource requirements for real property assets. The TYSP's are available for viewing at <http://www.sc.doe.gov/sc-80/sc-82>.

In general, each TYSP assumes full modernization and revitalization of the site's infrastructure over a ten year period, and includes lists of proposed facilities and infrastructure needs.

As has been reported previously, the ten SC research laboratories, and the Oak Ridge Institute for Science and Education (ORISE), together have more than 1,400 buildings and 103 real property trailers with 20 million gross square feet of space that are aging. Over 6,000 employees and users of SC research facilities are housed in wooden buildings, trailers and buildings more than 50 years old. The average age of active SC buildings is 33 years. In terms of square footage, 44.6% (8.8 million sq. ft.) is forty years old, or older, while 23.7% (4.7 million sq. ft.) is over fifty years old.

Current budget for all facilities and infrastructure funding

The FY 2005 funding for SC facilities and infrastructure is shown in Table 2, including the funding under the Excess Facilities Disposition subprogram.

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 2005 is summarized in Table 3. As in previous years, some of the projects initially selected have been replaced by others, and some have been delayed, or deferred, – e.g., at Brookhaven National Laboratory. However, overall, the project changes have resulted in an increase in the area to be demolished or cleaned up with the FY 2005 appropriation from approximately 84,000 square feet, projected in the previous semi-annual report, to approximately 113,000 square feet.

The House Energy and Water Development Appropriations Subcommittee directed that new and innovative decontamination and decommissioning (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 previous semi-annual reports. Generally, they involve salvage and recycling of materials generated in the cleanups and demolitions, economies-of-scale achieved from bundling projects together, and execution of the projects through fixed price subcontracts in order to

ensure the best value. One example of such practices in FY 2005 projects involved the Building 202 W-Wing Demolition project at Argonne National Laboratory (ANL). Through the ANL Pollution Prevention Program, an end user was identified for the reuse of the Room W-135 Counting Vault. The vault was salvaged and shipped (at no cost to the project) to DOE/WIPP, resulting in a cost avoidance of \$60,000 to DOE/WIPP and the cost of disposal to the project. Another example involved the Waste Handling Facility Closeout and Demolition project at the Ames Laboratory. The characterization, decontamination and clearance survey activities in the facility have been completed, and the demolition was planned for the last quarter of FY 2005. However, by delaying the demolition until FY 2006 and redirecting some of the funds to the demolition of the Hydrogen Test Cell Facility, the demolition of both facilities can be done under one contract, allowing the demolition of the Hydrogen Test Cell Facility to be accomplished sooner and, hopefully, resulting in savings that can be applied to another project at Ames, or returned for use at another site.

Overall, SC is satisfied with the management systems that are in place, and project execution progress to date, and expects successful execution of the FY 2006 projects. Because of the inherent uncertainty in estimating costs of 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.

Photographs of some of the facilities which have been cleaned out or demolished in FY 2005 are attached.

Argonne National Laboratory – Building 325C Demolition Project

700 SF demolished, D&D Cost \$187K

BEFORE



AFTER



Oak Ridge National Laboratory – Building 1000 Demolition Project

57,752 SF demolished, D&D Cost \$1,679K



Brookhaven National Laboratory - Bldg. 197 Demolition Project

1,546 SF demolished, D&D Cost \$50K

BEFORE



AFTER



Argonne National Laboratory - Bldg. 317 Demolition Project
FY 2004 Project – Completed in FY 2005

1,007 SF demolished, D&D Cost \$192K



BEFORE



AFTER

Table 1 - Office of Science Facilities Disposition Projects - September 30, 2005

Lab	Facility Eligible for Disposal	Estimate of Disposal Cost (TEC)-\$K*	Square Footage	Annual S&M Savings-\$K	Fiscal Year Funded
AMES	Waste Handling Facility and Hydrogen Test Cell Facility Closeout and Demolition-Cont'd	\$45	9,000	\$30	2006
ANL	Building 374A Demolition Project	\$329	1,651	\$22	2006
ANL	Building 40 Demolition Project, Phase II	\$276	320	\$7	2006
ANL	Site Beryllium Remediation Project - Selected Rooms (Phase 1)	\$165	9,000	\$8	2006
BNL	Spring reseeded/site restoration B/933B,934,197	\$25			2006
BNL	Bldg 527 Demolition Phase II	\$45	2,869	\$4	2006
BNL	Bldg 86 Demolition	\$270	11,097	\$2	2006
BNL	Bldg 422 (Partial, Fire Area-Old Paint Shop)	\$60	1,264	\$2	2006
BNL	Bldg 650A Demolition	\$70	1,246	\$5	2006
BNL	Bldg 628 Demolition	\$30	403	\$2	2006
BNL	Bldg 492 Demolition	\$75	1,243	\$2	2006
BNL	Bldg 650 Demolition - Phase I	\$25			2006
FNAL	Muon Enclosure Demolition-2	\$125	790	\$2	2006
LBNL	Bevatron Demolition Project	\$82,853	126,527		2006
LLNL	Remove MFE Legacy Facilities at B445-Continued	\$150	7,000	\$3	2006
ORISE	Demolition of Bldg. SC-2, Isotope Laboratory, and Bldg. SC-5, Large Animal Containment Facility	\$768	6,593		2006
ORNL	Solway and Freels Bend Excess Facilities Demolition (XG1413, XF158X, XF1580, XH1402, XH1405, XG1412, XG1403, XG1405, XG1406, XG1407, XG1408, XG1409 and XG1411)	\$858	37,732	\$18	2006
ANL	Bldg. 205 F-111 Vault Cleanup & Hood Demolition (Phase 3 Vault/Corridor Cleanup)	\$1,000	870	\$0	2007
ORNL	Bldg. 3503 Cleanout and Deactivation	\$320	13,716	\$26	2007
ORNL	Bldg. 2001 Demolition	\$1,267	25,338	\$56	TBD
ANL	Bldg. 203 Clean-up of Radium Contamination	\$3,000	23,964	\$0	TBD
ORNL	Bldg. 2000 Demolition	\$1,133	22,660	\$0	TBD
BNL	Bldg 650 Demolition - Phase II	\$6,775	12,408	\$30	TBD
ORNL	Bldg. 2024 Demolition	\$412	10,300	\$15	TBD
ORNL	Bldg. 7009 Demolition	\$465	9,300	\$31	TBD
ORNL	Bldg. 2018 Demolition	\$273	7,803	\$32	TBD
PPPL	Experimental Subsystem Removals	\$202	6,840	\$55	TBD
ANL	Clean-up of Bone Yards at the Site (Multiple)	\$500	5,000	\$0	TBD
ANL	Bldg. 40 Demolition Project Phase III	\$315	3,588	\$0	TBD
FNAL	Muon Enclosure Demolition-16 (Minus Pilot and FY05)	\$598	3,543	\$9	TBD
ANL	Bldg. 205 H-125/H-126 Cell Decontamination	\$400	2,360	\$0	TBD
SLAC	Demolish Mark II Detector in Bldg 750	\$200	2,000		TBD
SLAC	Demolish HRS Detector in Bldg 660	\$400	2,000	\$0	TBD
ANL	Bldg. 200 Heavy Isotopes Hood/Equipment Demolition Project MA 202	\$120	1,568	\$13	TBD
ANL	Bldg. 205 F-111 Excess/Contaminated Media and Equipment Clean-up (Phase 2)	\$650	1,530	\$17	TBD

ANL	Bldg. 310 A-128 and A-114 Clean-up	\$525	1,200	\$0	TBD
ORNL	Bldg. 7061 Demolition	\$58	1,060	\$1	TBD
ORNL	Bldg. 7058 Demolition	\$50	1,008	\$1	TBD
ORNL	Bldg. 7020 Demolition	\$48	960	\$1	TBD
ORNL	Bldg. 7065 Demolition	\$48	960	\$1	TBD
ORNL	Bldg. 7066 Demolition	\$48	960	\$1	TBD
ORNL	Bldg. 3008 Demolition	\$71	565	\$2	TBD
ANL	Bldg. 203 Storage Hole Clean-Up	\$50	240	\$0	TBD
ORNL	Bldg. 7079 Demolition	\$17	172	\$1	TBD
ORNL	Bldg. 3111 Demolition	\$25	100	\$1	TBD
SLAC	Demolish Portion of Sector 17 "Boneyard"	\$1,500		\$0	TBD
All Projects		\$106,639	378,748	\$400	

Table 2 - Office of Science FY 2005 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		\$ 552	\$ 150	\$ 702	\$ 1,023	
ANL		\$ 9,735	\$ 1,457	\$ 11,192	\$ 26,413	
BNL	\$ 6,363	\$ 6,607	\$ 405	\$ 13,375	\$ 21,511	
LBNL	\$ 5,845	\$ 4,765	\$ 1,360	\$ 11,970	\$ 11,175	
FNAL		\$ 9,660	\$ 125	\$ 9,785	\$ 6,033	
LLNL			\$ 150	\$ 150	\$ 2,735	
ORNL		\$ 5,170	\$ 1,688	\$ 6,858	\$ 23,372	\$ 9,000
ORISE		\$ 1,476	\$ 565	\$ 2,041	\$ 546	
PNNL	\$ 4,960	\$ 4,608		\$ 9,568	\$ 1,868	\$ 2,000
PPPL		\$ 1,643	\$ 55	\$ 1,698	\$ 4,387	
Sandia		\$ 375		\$ 375	\$ 1,905	
SLAC	\$ 2,528	\$ 2,457		\$ 4,985	\$ 5,837	
TJNAF		\$ 1,100		\$ 1,100	\$ 2,676	
All Others		\$ 75	\$ 96	\$ 171	\$ 1,307	
Total SC Budget	\$ 19,696	\$ 48,223	\$ 6,051	\$ 73,970	\$ 110,788	\$ 11,000

* The total of \$6,051 shown is the result of a rescission from the FY 05 appropriated amount of \$6,100.

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

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

**Table 3 - Status of Office of Science FY 2005 Excess Facilities Disposition Projects
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Project Number	Project	Estimated Cost - \$ Thousands	Square Footage to be Removed/ Cleaned-Up	Status of Project	Cost/Scope/Schedule
05-AMES-1	Waste Handling Facility Closeout and Demolition-Cont'd	\$ 110	9,000	On-going	\$40k redirected to project 05-AMES-2 and completion delayed to FY 06
05-AMES-2	Demolish Hydrogen Test Cell Facility	\$ 40	900	On-going	
	Total FY05	\$ 150	9,900		
05-ANL-E-1	Bldg. 202, Room Q-183 Former Animal Injection Laboratory Remediation	\$ 50	280	Completed	Within baseline
05-ANL-E-2	Bldg. 202, W-Wing (W-036, W-123, W-127, W-135) Demolition Project	\$ 510	2,133	Completed	Within baseline
05-ANL-E-3	Bldg. 370 Alkali Metal Loop Demolition	\$ 120	315	Completed	Within baseline
05-ANL-E-4	Bldg. 40 Demolition Project Phase I	\$ 370		Completed	Within baseline
05-ANL-E-5	Bldg. 205 K-116 Remediation Project	\$ 185	150	Completed	Within baseline
05-ANL-E-6	Bldg. 325C Demolition	\$ 187	700	Completed	Within baseline
05-ANL-E	FY 05 Increase for Waste Disposal	\$ 35			
	Total FY05	\$ 1,457	3,578		
05-BNL-01	Bldg 527 Demolition, Phase I	\$ 73	2,869	On-going	Project downscoped*
05-BNL-02	Bldg 197 (Partial, Acid bath Area) Demolition	\$ 50	1,546	Completed	Within baseline
05-BNL-03	Bldg 422 (Partial, Fire Area-Old Paint Shop)			Deferred	Deferred to FY 06*
05-BNL-04	Bldg 492 Demolition			Deferred	Deferred to FY 06*
05-BNL-05	Bldg 933B Demolition	\$ 40	1,179	Completed	Within baseline
05-BNL-06	Bldg 650A Demolition			Deferred	Deferred to FY 06*
05-BNL-07	Bldg 934 Demolition	\$ 35	810	Completed	Within baseline
05-BNL	Bldg. 118 and 428 Demolition Back Bills	\$ 207			
	Total FY05	\$ 405	6,404		
05-FNAL-01	Muon Enclosure Demolition-2			Deferred	Funds redirected to projects 05-FNAL-03, 05-FNAL-04 and 05-FNAL-05
05-FNAL-02	Demolition of Bldg 261, T016, T128, T129	**	1,322	Completed	FY 2004 carryover funding
05-FNAL-03	Demolition of Bldg 903, 951, 993, T009, T023, T115, T158, T072	\$ 59	2,843	Completed	
05-FNAL-04	Demolition of Bldgs 144, 145, 146 & 147	\$ 54	4,368	On-going	To be completed in first quarter of FY 06
05-FNAL-05	Demolition of Bldg 947	\$ 12	656	On-going	To be completed in first quarter of FY 06
	Total FY05	\$ 125	9,189		
05-LBNL-01	Development of Conceptual Design, Environmental & CD-1 Docs for Bevatron Demolition Project	\$ 1,360		On-going	Within baseline
	Total FY05	\$ 1,360	0		
05-LLNL-01	Demolish Building 3629 and Remove MFE Legacy Facilities at B445-Continued	\$ 150	2,160	Completed	Within baseline
	Total FY05	\$ 150	2,160		
05-ORISE-01	Bldg. SC-2, Isotope Laboratory, Demolition			Deferred	Deferred to FY 06. Funds redirected to project 05-ORISE-02
05-ORISE-02	Demolition of Building 26	\$ 565	12,800	Completed	
	Total FY05	\$ 565	12,800		
05-CRNL-01	Bldg. 1000 Demolition	\$ 1,679	57,752	Completed	Within baseline
05-CRNL-02	Bldg. XH1326, XH1401 and XH1327 Demolition	\$ 9	9,000	On-going	Within baseline
	Total FY05	\$ 1,688	66,752		
05-PPPL-01	Demolition of Health Physics Calibration and Service Laboratory	\$ 55	2,170	Delayed	To be completed in third quarter of FY 06***
	Total FY05	\$ 55	2,170		
	Congressional earmarks	\$ 96			
	Total FY 2005	\$ 6,051	112,953		

* Funding for these projects were redirected to cover outstanding expenses incurred by BNL in demolition of Bldgs. 118 and 428. Demolition of Bldg. 118 was to be funded with savings anticipated from FY 2003 projects, but the costs incurred exceeded the savings. Demolition of Bldg. 428 was a FY 2005 project that was completed in FY 2004 without funding from the EFD subprogram.

** Project completed in FY 2005 with FY 2004 carryover funds. Not included in total FY 2005 funding.

*** Project delayed due to additional work required to refurbish the area to which the laboratory capabilities are being transferred.