

**FY 2003
OAK RIDGE NATIONAL LABORATORY
ENVIRONMENT, SAFETY, AND HEALTH
EXECUTION PLAN**

December 2002

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ACRONYMS AND ABBREVIATIONS

ADS	activity data sheet
B&R	budget and reporting
BES	Basic Energy Sciences
DNFSB	Defense Nuclear Facilities Safety Board
DOE	Department of Energy
DOP	dioctyl phthalate
EPWS	Environmental Protection and Waste Services
ES&H	environment, safety, and health
ETTP	East Tennessee Technology Park
FEVARI	Facility Environmental Vulnerability Assessment Recommendations Implementation
FWP	Field Work Proposal
FY	fiscal year
GPE	general-purpose equipment
GPP	general plant project
H&S	health and safety
HEPA	high-efficiency particulate air (filter)
HFIR	High Flux Isotope Reactor
LI	line item
OIP	Operations Improvement Program
ORNL	Oak Ridge National Laboratory
ORO	Oak Ridge Operations Office (DOE)
OSHA	Occupational Safety and Health Administration
R&D	research and development
RPM	Risk-Based Priority Model
SBMS	Standards-Based Management System
SNS	Spallation Neutron Source
UNICALL	Unified Field Budget Call

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ENVIRONMENT, SAFETY, AND HEALTH GOAL STATEMENT

Oak Ridge National Laboratory (ORNL) is committed to excellence in all aspects of environment, safety, health, quality, and operations. This commitment is reflected in the UT-Battelle, LLC, Laboratory Agenda that defines our balanced management approach called “Simultaneous Excellence,” which is:

- excellence in science and innovative solutions to complex problems;
- excellence as a leader in efficient operation and protection of workers, the public, and the environment; and
- excellence as a trusted and valued community/regional asset.

The management contract between the Department of Energy (DOE) and UT-Battelle establishes the fundamental environment, safety, and health (ES&H) expectations of DOE. The Laboratory has established critical outcomes, objectives, and performance indicators to help achieve the goals defined in the Laboratory Agenda.

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EXECUTIVE SUMMARY

The Oak Ridge National Laboratory (ORNL) is a multiprogram science and technology laboratory managed for the U.S. Department of Energy (DOE) by UT-Battelle, LLC. In support of DOE's missions, ORNL conducts basic and applied research and development (R&D) to create scientific knowledge and technological solutions that strengthen the nation's leadership in key areas of science; increase the availability of clean, abundant energy; restore and protect the environment; and contribute to national security.

This *FY 2003 ORNL Environment, Safety, and Health Execution Plan* has been prepared in accordance with guidelines in the *DOE Guidance Manual for the ES&H Planning Process*, and its issuance supports the requirement in the DOE-UT-Battelle, LLC, Management Contract, I.101 DEAR 970.5204-2 Paragraph C and the DOE Controller's Unified Field Budget Call (UNICALL). In addition, the annual requirement for an ES&H Commitment Information Letter is addressed by this plan. A summary of the major ES&H commitments that were addressed in the FY 2002 work plan and their final end-of-year status is stated in Section 1. Section 2 provides a summary of the major ES&H commitments in the FY 2003 work plan. Unfunded compliance activities in the FY 2003 work plan are identified in Section 3.

As DOE's largest multiprogram, nonweapons laboratory, ORNL employs approximately 3800 staff members and annually hosts about 3000 guest researchers from universities and industry. The mission of ORNL is to conduct basic and applied R&D to advance the nation's energy resources, environmental quality, scientific knowledge, educational foundations, and national economic competitiveness. This mission is accomplished with a commitment to excellence in all activities and to cost-effective operation in compliance with applicable ES&H laws and regulations. The diversity of R&D and its support activities creates challenges as well as opportunities for ORNL in the effort to apply ES&H goals and objectives in a manner that supports ORNL's mission and adds value to operational performance.

The ORNL ES&H planning process provides the planning structure and tools needed to help identify and prioritize ES&H needs, make and communicate cost-effective ES&H risk-management decisions, integrate ES&H into all activities and operations, and establish accountability for ES&H performance. ES&H resource planning and prioritization are implemented in a manner consistent with guidance from DOE, as provided in the *DOE Guidance Manual for the ES&H Planning Process*, the Office of Environmental Management Budget Formulation Guidance, and any supplemental guidance received from individual DOE program offices.

The process generally consists of the following steps:

- C ES&H needs assessment. ES&H needs assessments are performed by ORNL organizations and line management to identify the activities, systems, and programs needed to ensure the effective management of ES&H risks and to create a culture within ORNL that effectively integrates employee protection into work planning and the execution of work activities. These assessments are an ongoing and integral part of ORNL work and mission activities and include identification of risks associated with implementing planned mission activities, applicable policies and standards, emerging or strategic issues, and performance expectations.

- C Activity Data Sheet (ADS) preparation. ADSs are prepared to document those programs and activities selected to address the identified ES&H needs. Each ADS contains key information such as a description of the activity; major milestones and deliverables; estimated costs, funding source, and types of funds associated with the activity; and the risk/benefit score for the activity. ADSs are packaged at a level consistent with the manner in which programs and activities are organized and managed. They correspond to decision units in the overall planning and budgeting processes for ORNL.
- C Risk-based prioritization of activities and risk-management decision making. The ORNL Risk Ranking Board uses a Risk-Based Priority Model (RPM) to perform risk evaluations of all ES&H and overhead ADSs. Using the RPM, a risk-reduction benefit score is derived for each ADS, and ADS scores are used to establish preliminary priority lists that are reviewed by senior management. Priority adjustments are made as necessary in consideration of additional planning factors.
- C ES&H budget formulation and implementation. ADSs are produced for all direct-funded ES&H activities, both target and unfunded, and reflect projected out-year funding for target as well as unfunded activities. ADSs are also produced for all indirect funded (e.g., overhead) activities for which funding has been requested. The annual cost profile for all ES&H activities to be funded is consistent with the overall funding decisions and target budgets for the planning period. Resource planning and allocation are done on the basis of ES&H programs essential for compliance, fulfillment of ORNL missions, and assurance of the safety and well-being of ORNL personnel, the public, and the environment. The identification of target and unfunded ES&H activities is useful to ORNL management to (1) identify unfunded, risk-significant activities; (2) discuss alternative risk-management strategies; and (3) evaluate alternative resource allocation strategies.

1. ENVIRONMENT, SAFETY, AND HEALTH (ES&H) PERFORMANCE SUMMARY

1.1 SUMMARY OF ES&H INDIRECT ACTUAL COSTS FOR THE PRIOR YEAR (FY 2002)

Indirect target Activity Data Sheets (ADSs) are those activities being funded by ORNL's overhead budget allocation. Typically, these activities are core functions required to achieve and maintain compliance to requirements set forth in the Work Smart Standards. Indirect unfunded activities are unfunded supplemental and new activities that would improve compliance and infrastructure systems.

Table 1. Actual FY 2002 ES&H indirect expenditures (Laboratory Overhead/Space Charge)

Activity	\$ in Thousands
Environmental Protection and Waste Services (EPWS) Division* (OH)	8,919
Health Services Division (OH)	2,928
Laboratory Protection Division (OH)	6,299
Operational Safety Services Division (OH)	7,407
Quality Services Division (OH)	3,025
Emergent Site and Facilities ES&H Corrective Actions (OH)	107
Records, Training, and SBMS Services Division (OH)	1,614
Transportation Safety (OH)	245
7930 AB Upgrade to Accept 3027 Materials – OIP (OH)	36
Non-Reactor Nuclear Facility Upgrade – OIP (OH)	320
7930 Cell Security Upgrade – OIP (OH)	62
2002 Full Participation Emergency Response Exercise – OIP (OH)	302
Standards-Based Management System Implementation – OIP (OH)	247
Standards-Based Management System Support – Malosh – OIP (OH)	185
Chemical Management Center Operations – OIP (OH)	248
Fire Protection Inspection/Maintenance (Space Charge)	471
Total	\$32,415

OIP – Operations Improvement Program OH – Overhead

*EPWS funding includes OIP and reserve funds that will be funded in Legacy Tax in FY 2003.

1.2 SUMMARY OF ES&H DIRECT ACTUAL COSTS FOR PRIOR YEAR (FY 2002)

Landlord funding (direct costs) for ORNL is through the DOE-SC Office of Basic Energy Sciences (BES). BES supports a broad spectrum of research in the physical sciences at ORNL through its subprograms in materials sciences, chemical sciences, and engineering and geosciences. The following tables are derived from the planning base systems and documentation for Landlord line items (LIs), general plant projects (GPPs), and general-purpose equipment (GPE) projects that have a significant ES&H driver. Planned costs are compared to actual direct costs for FY 2002. Table 2 contains a listing of planned and actual direct costs for FY 2002 by program elements. Table 3 contains a listing of individual LIs, GPPs, and GPE projects with planned and actual costs for FY 2002.

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Table 2. Planned and Actual Direct Costs for FY 2002 by Program Elements

(\$ in 000s)

Program	FY 2002 Planned Direct Budget	Carryover/New FY 2002 Budget	FY 2002 Actual Cost	Explanations of Categories
HFIR Operating Cost	12,196		11,363	HFIR Operating Costs - HFIR ES&H operating cost is \$12,196K as identified on ADS E93D0021, "High Flux Isotope Reactor Operation." This funding recognizes costs for ES&H-related activities that would be funded through the Basic Sciences Program activities.
SNS (ES&H Services)	913		972	SNS (ES&H Services) - These costs are specific for ES&H planning and oversight for the SNS project during the construction phase.
KG Program Cost ES&H (LI)	8,283	11,337	7,191*	KG Program ES&H Landlord Line Item Costs - Three ongoing LI projects accrued costs during FY 2002 (Electrical Systems Upgrade, Fire Protection Systems Upgrade, and Laboratory Facilities HVAC Upgrades).
KC Program Cost ES&H (GPP)	3,331	204	3,128*	KC Program ES&H Landlord GPP Program - Three projects (East Campus Electrical Systems Upgrade, Upgrade Sewage Collection, and Rebuild Steam Station and Supply Piping, 7920) were either delayed or deferred. Additionally, \$2,600,000 of KC Landlord GPP Program funding was reprogrammed to FS to fund two new Bethel Valley Road Access Control Portals.
KC Program Cost ES&H (GPE)	795	35	538*	KC Program ES&H Landlord GPE Program - Three projects include #6 boiler installation in the steam plant, breaker procurement for the City of Oak Ridge, and replacement of HEPA filters in Buildings 7920 and 7930.
IGPP Program Cost ES&H (IGPP)	350	550	542*	Institutional GPP (IGPP) Program - An IGPP program, funded from Laboratory Overhead, was authorized in July 2002. The planned FY 2002 direct budget funding reflects previous Landlord GPP projects that were reclassified as IGPP projects.
TOTALS	25,868	12,126	23,734	

*See Table 3 for details.

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Table 3. FY 2002 Planned vs Actual Costs for ES&H Landlord Activities

(\$ in 000s)

Activity	Type	Planned Cost FY 2002	New/Carryover FY Funding	Actual FY Cost	Status	Abatement Activity Comments
KG Program ES&H Landlord Line Item Program						
Fire Protection Systems Upgrade	LI	2,400	3,560	1,413	Ongoing	An ongoing project to replace antiquated fire alarm systems in Buildings 3047, 3500, 4501, 4505, 4508, 5500, 4500S, and 7920 and to replace and add redundancy in the fire alarm and circuit monitoring function of the central receiving stations. The installation of a 16-inch portable water loop system around the 6000 Area is also included.
Laboratory Facilities HVAC Upgrade	LI	2,000	3,152	1,831	Ongoing	An ongoing project for the installation of primary/secondary central chilled water plant pumping system at 4509; the installation of the 4501/4505 water tie-in; installation of a chilled water coil inside 3500E air handler; replacement of 4501 and 5500 air handlers; and replacement of the 4500S reheat system.
Electrical Systems Upgrade	LI	3,883	4,625	3,947	Ongoing	An ongoing project to rebuild overhead feeders 244 and 264 and the installation of a computerized electrical metering system on major distribution feeders and on significant facilities throughout the Laboratory.
TOTAL	LI	8,283	11,337	7,191		
KC Program ES&H Landlord GPP Program						
Fire Protection Systems Upgrade	GPP	208		240	Complete	A project which upgraded Building 3012 sprinkler system alarm valves; upgraded the fire alarm system in HFIR; upgraded fire alarm panels in Buildings 7930, 2010, 6010, 3525, 3025, 6025, 2519, 2026, and 6000; and installed or replaced systems for fire protection upgrades in Buildings 4500N, 7604, 7920, 7602, and 2010.
East Campus Electrical Systems Upgrade	GPP	450	204	239	Ongoing	An ongoing project to upgrade the electrical systems in the East Campus to support facility modernization. The TEC was increased to \$765K. Construction is 75% complete and will be completed in FY 2003. The completion of this project was delayed until FY 2003 in order to better integrate with third party construction activities on the East Campus site.
Bethel Valley Road Entrances	GPP	2,600	0	2,600	Complete	This project provided new entrance portals on Bethel Valley Road east and west of the main ORNL site. These portals were installed to enhance access control and personnel safety.
Upgrade Reservoir #1	GPP	73	0	49	Complete	This project provided a new 1.5-million-gallon steel water reservoir adjacent to the existing 3-million-gallon No.1 water reservoir. This reservoir provides additional capacity and is a back-up to the existing system.
TOTAL	GPP	3,331	204	3,128		
KC Program ES&H Landlord GPE Program						
Replace HEPA Filters - CAT 2 7920/7030	GPE	380		281	Ongoing	This project will provide HEPA radiological filtration for filter banks 2855, 2856, 2870, and 2873. Installation to be completed in FY 2003.
Backup Diesel Generator for #6 Boiler	GPE	199		34	Complete	This project provided for the procurement and installation of a diesel generator at Building 2519 to provide backup power to the No. 6 Boiler.
Building 5505 Generator	GPE		35	23	Ongoing	This project was not originally planned for FY 2002. To be completed in FY 2003.
City of Oak Ridge Breakers	GPE	216		200	Complete	ORNL purchased three SF6 breakers for the city to their specifications. The breakers were replacements for breakers that were transferred from ETPP and used by ORNL. Total cost is \$204.3K.
TOTAL	GPE	795	35	538		
Institutional GPP Program (ES&H)						
Upgrade Sewage Collection	IGPP	200		24	Ongoing	This project will make improvements to the system that are necessary to accommodate the facility modernization plans. Design is complete. This project was moved from the GPP Landlord Program to the IGPP Program. Due to project scope changes, design was substantially complete in FY 2002, but construction was delayed until FY 2003.
Rebuild Steam Station and Supply Piping, 7920	IGPP	150		51	Ongoing	This project will upgrade components of the existing steam supply, distribution, and containment systems which are aging and rapidly approaching the end of their operational lives. This project was moved from the GPP Landlord Program to the IGPP Program. Finalization of scope resulted in construction being delayed until FY 2003.
Storm Drain Modification	IGPP		50	52	Ongoing	Storm drains are being installed to support the new configuration of the ORNL East Campus. Design is 90% complete. Construction will be completed in FY 2003.
5510A Renovations - Metrology Services	IGPP		100	63	Ongoing	This project will provide environmentally controlled space for ORNL metrology testing services. Design is 60% complete. Construction will be completed in FY 2003.
Roads and Parking Lot Paving, HFIR and White Oak Ave.	IGPP		400	352	Complete	Road and parking lot improvements are in support of ORNL modernization plans. This project was moved from the GPP Landlord Program to the IGPP Program.
TOTAL	IGPP	350	550	542		

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2. FY 2003 ES&H EXECUTION PLAN

2.1 BUDGET ANALYSIS AND IMPACTS

2.1.1 Major Planning Assumptions

Planning assumptions are based on direct guidance from the Cognizant Secretarial Offices funding programmatic activities at ORNL. In addition, DOE-ORO funding guidance is followed to assure consistency of Field Work Proposals (FWPs), ADSs, Capital Equipment Requests, GPP Requests, and LI requests. All overhead planning assumptions are based on a prioritization of risk to the mission of ORNL, infrastructure needs, personnel safety and health, environmental issues, and public issues. Reductions in funding may impact compliance with some of the requirements of DOE orders and may severely impact implementation of best management practices.

2.1.2 Funding Bases

The Secretarial Office responsible for Landlord activities at ORNL is the Office of Science, Basic Energy Sciences. With the exception of activities funded directly by the Office of Environmental Restoration and Waste Management Program (EM), all direct funding allocated to ORNL by the Office of Science and other programs is recognized within the ES&H Management ADS submittals. Where cost is escalated on an ADS included in this plan, a cost escalation rate of approximately 3.2% for labor and materials is used.

For each ADS submitted in the *FY 2003 ORNL ES&H Execution Plan*, ES&H activities are designated as either direct (Program) funded or indirect funded from a variety of allocable cost pools. ORNL ES&H activities to be direct (Program) funded are identified as either target (funded) or unfunded with the appropriate Resource Structure Code and budget and reporting (B&R) code specified.

All indirect funded ORNL ES&H organizations (e.g., Environmental Protection and Waste Services Division) recognize their cost of operation through target, funded supplemental, or funded new ADSs for which the costs correspond directly to the ORNL overhead budget documents. Unfunded activities corresponding with the ORNL overhead budget are recognized as unfunded supplemental or unfunded new. Direct programmatic funding requests by the ORNL ES&H organizations are submitted through FWPs with associated ADSs submitted to the Department of Energy–Office of Science. The FWP submittals working in concert with the ADS submittals allow both the overhead organizations and the programmatic organizations to request Landlord direct funding for ES&H activities.

Current ES&H funding targets were developed as part of the FY 2003 ORNL Site overhead budgeting process. Recommendations were made to ORNL management for funding of targets and consideration for the funding of supplemental and new requests. ORNL management then allocated available target funding to ES&H organizations for their activities. Adjustments of funded programs are made during the fiscal year based on risk and management approval. In addition to the site overhead process, programmatic organizations support intradivisional ES&H activities through a division-specific overhead structure. This funding is controlled by line management to ensure internal compliance to ES&H requirements.

2.2 FY 2003 ES&H INDIRECT BUDGET SUMMARY

Table 4 reports the ES&H indirect budget (Laboratory Overhead) for FY 2003.

Table 4. Planned FY 2003 ES&H indirect expenditures (Laboratory Overhead/Space Charge)

Organization/Functional Area	From the March 2002 FY 2004 ES&H Budget Formulation Submission	Reflects Current ORNL Overhead Budget Planning Figures
	FY 2003 Planned Indirect Target (\$ in 000s)	FY 2003 Revised Target (\$ in 000s)
Environmental Protection and Waste Services Division (OH)	7,379	9,658
Health Services Division (OH)	2,937	3,015
Laboratory Protection Division (OH)	7,231	6,851
Quality Services Division (OH)	2,928	3,130
Operational Safety Services Division (OH)	7,952	8,123
OSHA/ES&H Corrective Actions (OH)	233	189
Transportation Safety (OH)	255	258
Records, Training, and SBMS Services Division (OH)	1,630	1,661
Chemical Management Center – OIP (OH)		256
Liquid and Gaseous Waste Treatment Facility Reengineering OIP (OH)		575
Removal of Dead Pine Trees – OIP (OH)		69
Safety Analysis Documentation for Building 3047 – OIP (OH)		80
SBMS Implementation – OIP (OH)		133
Fire Protection Maintenance (Space Charge)		258
Total Planned FY 2003 ES&H Indirect Budget	\$30,545	\$34,256

OIP – Operations Improvement Program

OH – Overhead

2.3 FY 2003 ES&H DIRECT BUDGET SUMMARY

UT-Battelle's plan for ORNL is guided by a commitment to achieve simultaneous excellence in the areas of science and technology, Laboratory operations and ES&H, and community service. The UT-Battelle Leadership Team has developed a Laboratory Agenda to provide a structured framework for the long-term initiatives, critical outcomes, and near-term actions through which it will deliver on this commitment. A primary focus of this agenda is to accomplish a fully modernized Laboratory of the 21st Century. The FY 2003 funding represents some of the changes in priorities associated with capital funding to initiate the Facilities Revitalization Project. Table 5 is a listing of planned FY 2003 direct costs and revised funding targets following reconciliation of FWPs and ADSs. Table 6 contains a listing of individual LIs, GPPs, and GPEs with planned costs for FY 2003.

Table 5. Planned Costs for FY 2003 by Program Elements

(\$ in 000s)

Program	FY 2003 Planned Direct Budget	Revised FY 2003 Planned Cost	Explanations of Categories
HFIR Operating Cost	12,196	12,000	HFIR Operating Costs - HFIR ES&H operating cost is \$12,196K as identified on ADS E93D0021, "High Flux Isotope Reactor Operation." This funding recognizes costs for ES&H-related activities which would be funded through the Basic Sciences Program activities.
SNS (ES&H Services)	1,403	1,415	SNS (ES&H Services) - These costs are specific for ES&H planning and oversight for the SNS project during the construction phase.
KG Program Cost ES&H (LI)	5,816	8,298*	KG Program ES&H Landlord Line Item Program Costs - Two multiyear projects (Fire Protection Systems Upgrade and Laboratory Facilities Upgrade) will continue through FY 2003. The Electrical Systems Upgrade is continuing with carryover funding and is scheduled for completion in March 2003.
KC Program Cost ES&H (GPP)	299	204*	KC Program ES&H Landlord GPP Program Costs - The East Campus Electrical Systems GPP was initiated in FY 2002. Work will be completed in FY 2003.
KC Program Cost ES&H (GPE)	1,185	613*	KC Program ES&H Landlord GPE Program - Two ongoing GPE projects for the replacement of HEPA filters in Buildings 7920 and 7930 and emergency generator upgrades for Building 5505 will be completed in FY 2003. New GPE projects were initiated for replacement of Building 3525 air handlers, procurement of smear counters, filter replacements at the Sewage Treatment Plan, and procurement of a new cutting machine.
Institutional GPP Program Cost ES&H (IGPP)	600	2,966*	Institutional ES&H GPP Program - East Campus modernization projects are continuing for storm drain modifications and sewage collection system upgrades. New projects for laboratory improvements include upgrades to steam and fire protection systems, facility seismic upgrades, and laboratory support upgrades.
Total KG/KC Program Elements	21,499	25,496	

*See Table 6 for details.

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Table 6. FY 2003 Planned Costs for ES&H Landlord Activities

(\$ in 000s)

Activity	Type	New Budget Funding	Carryover Funds	Planned Cost FY 2003	Comments and/or Explanations of Significant Variances
KG Program ES&H Landlord Line Item Program					
Fire Protection Systems Upgrade	LI	2,216	2,147	3,000	This project will provide improved fire alarm and suppression capabilities. The 16-inch water main and Eighth Street line replacement is 50% complete. Fire alarm upgrades and receiving and monitoring upgrades are on schedule. September 2004 is the scheduled completion.
Laboratory Facilities HVAC Upgrade	LI	3,600	1,321	4,670	This project will replace or upgrade HVAC systems in the ORNL Central Research Complex. April 2004 is the scheduled completion.
Electrical Systems Upgrade	LI	0	678	628	This project replaces electrical distribution feeders and upgrades transformers and switchgear feeding ORNL facilities. The project is approximately 92% complete. March 2003 is the scheduled completion date.
TOTAL	LI	5,816	4,146	8,298	
KC Program ES&H Landlord GPP Program					
East Campus Electrical Systems	GPP		204	204	This project will extend the existing 13.8-kV electrical feeder No. 254 and install supporting transformer stations. Construction is 75% complete. Cabling is scheduled to begin December 2003 from the 4000 facility to the East Campus.
TOTAL	GPP	0	204	204	
KC Program ES&H Landlord GPE Program					
Replace Building 3525 Air Handlers	GPE	350		350	This project will replace radiologically contaminated air handlers in Building 3525. Funding was approved in November 2002 for replacements of filters and housings.
Automated Alpha/Beta Smear Counter	GPE	27		27	This project will procure a smear counter for Health Physics Shift Operations personnel.
Replace HEPA Filters CAT2, 7920/7930	GPE		99	99	This project replaces HEPA filters in filter banks 2855, 2856, 2870, and 2873.
Replace Tertiary Filter -- Sewage Treatment Plant	GPE	125		125	This project procures a travel bridge filter to replace the current sand filter. The replacement will provide a means for continuous operation of the system during back flush operations.
Generator, Building 5505	GPE		12	12	This project replaced the failed generator for Building 5505. Load test equipment remains to be installed in FY 2003.
TOTAL	GPE	502	111	613	
Institutional GPP Program - ES&H					
Upgrade Sewage Collection	IGPP	126		126	This project will upgrade the sewage collection system supporting the ORNL facility modernization. Piping and pumping stations are scheduled for installation by May 2003.
Rebuild Steam Station and Supply Piping, 7920	IGPP	699		699	This project will upgrade components of the existing 7920 steam system piping, valves, and service stations. CFC design has been completed.
Fire Protection Systems Upgrade - 7930	IGPP	400		400	This project will provide fire system upgrades for suppression and detection for Building 7930. System planning began November 2002.
1506 Greenhouse Rehabilitation	IGPP	630		630	This project will renovate Building 1506 to meet current seismic requirements. The seismic evaluation is complete. Modifications are currently being identified. July 2004 is the scheduled completion.
Roofing Replacement, Building 6007	IGPP	68		68	This project will replace the existing earth roof with a metal roofing system and associated parapet wall. December 2002 is the scheduled completion.
Storm Drain Modifications	IGPP	318		318	This project will modify East Campus storm drain systems to support ORNL facilities modernization. May 2003 is the scheduled completion.
Road and Parking Lot Paving	IGPP	108		108	The HFIR parking lot paving is complete, and a minor drainage connection is planned in FY 2003. Sidewalks at White Oak Avenue are being installed. Design for the First Street/Bethel Valley Road Lot will be completed in FY 2003.
5510A Renovations - Metrology Services	IGPP	267		267	This project will provide an environmentally controlled facility for ORNL metrology services. The design was completed on November 4, 2002. January 2003 is the scheduled completion.
Building 5510 Upgrades	IGPP	350		350	This project will upgrade HVAC systems for improved air quality. The pre-design meeting was held on November 19, 2002. July 2003 is the scheduled completion.
TOTAL	IGPP	2,966	0	2,966	

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3. UNFUNDED COMPLIANCE ACTIVITIES

NOTE: This section contains current planning for the FY 2005 ES&H Budget Formulation Submission. Additional details will be submitted in the March 2003 planning document.

The following are currently listed as unfunded compliance tasks. Significant changes to the compliance ADSs are expected in the FY 2005 ORNL ES&H Budget Formulation Submission, which will be submitted in March 2003. Therefore, these ADSs may not remain as the top unfunded ADSs.

Process Waste Drain Contaminant Discharge Elimination (AA2D0052) (GPP)

This project will support the elimination of the use of the process waste drains for the discharge of contaminants. This effort is part of the Facility Environmental Vulnerability Assessment Recommendations Implementation (FEVARI) initiative. The project will provide:

1. Tanks for accumulation of liquids that do not meet the new UT-Battelle process waste drain discharge criteria. Funding will provide tanks and associated plumbing modifications, pumping equipment, secondary containment, vents, and weather protection. The tanks will be emptied as required with operating funds by the Bechtel Jacobs Company, LLC, subcontractor.
2. Plumbing modifications to reroute selected process drains to the Liquid Low-Level Waste system.

Mitigative Actions: Actions are currently under way through an FY 2003 Operational Improvement Project to develop a risk-prioritized strategic plan for the liquid waste treatment systems and associated infrastructure required to support current and future ORNL missions. Specific actions include supporting generator compliance with the UT-Battelle process wastewater discharge criteria, providing integration support for DOE-EM and DOE-SC liquid waste treatment system activities, continuing evaluations of cooling water discharge reductions, and evaluating strategic, long-term options for liquid waste treatment.

Replace HEPA Filters - Category 2, Building 3047 (AA1D0063) (Programmatic GPE)

This project would replace high-efficiency particulate air (HEPA) filters in 5733 and 5734, which treat glove box off-gas, and 5750 and 5751 cell off-gas filters, all of which are in Building 3047. The work would be basically routine standard bag out changes, with possible concerns for radiation exposure and additional work for the hot cell filters. The new filters would have to be pretested at East Tennessee Technology Park (ETTP) facilities, then DOP tested for acceptance. This project is responsive to the May 1999 Defense Nuclear Facilities Safety Board (DNFSB) released Technical Report 23. In a June 1999 letter to the DOE Secretary, the DNFSB requested a plan outlining the steps required to maintain the infrastructure of DOE's HEPA filter program and assigned a very high priority to assessing the potential vulnerability due to degraded safety-related filters.

Mitigative Actions: Surveillance and maintenance practices are in place as mitigative actions to ensure that immediate concerns do not exist. The HEPA filter change out will occur as programmatic funding is identified and allocated.

Update Nuclear Facility Drawings (AA0D0042) (Field Work Proposal ERKCL58)

This activity provides for the update of nuclear facility drawings required to define the design bases for safety. "As-built" drawings are required by the facility authorization basis documentation. Difficulties in controlling "as-built" drawings could have a serious operational impact on the facility operations, with the potential for a reportable occurrence. A coordinated program for periodic update of required drawings for these facilities is necessary to assure compliance with approved facility safety basis.

Mitigative Actions: Activities funded through an FY 2002 ORNL Operations Improvement Program (OIP) Initiative identified safety-related systems and generated "field-verified" configuration drawings. This activity was completed in FY 2002 and provides operational needs and safety basis documentation. A Non-Reactor Nuclear Facilities Division has been established in FY 2003. Once system engineers have been added to this new organization, further updating of nuclear facilities drawings will be initiated.

HFIR Maintenance Building (AA0D0053) (Programmatic GPP)

The current High Flux Isotope Reactor (HFIR) maintenance shop is contained in Building 7910, which is also an office building. The shop is about 3500 square feet. This building was built in 1963, and facilities are not adequate to maintain and support reactor operation in the manner required by today's standards. The reactor is expected to operate another 30 years, and the operating components must be maintained, replaced, and upgraded. The current facility is not adequate to do this work. Improvements are needed to resolve concerns with adequate control of materials, records storage, materials storage, and housekeeping. These concerns deal with adequate control of equipment and documentation necessary to ensure safe operations and shutdown. A new 10,000-square-foot maintenance facility will be constructed west of the HFIR Reactor Building.

Mitigative Actions: Storage of records is noncompliant due to a lack of adequate fire protection systems in all records storage areas. The new maintenance facility will include adequate records storage space. In the interim, space in Building 7710 has been upgraded with adequate fire protection systems for temporary records storage, and some HFIR records have been transferred there.

ORNL Health and Safety–Radiological/Toxicological Sabotage (P98D0007) (Field Work Proposal ERKCL25)

DOE O 470.1, "Safeguards and Security Program," Chapter I.2.b., requires facilities to conduct radiological/toxicological sabotage assessments to determine if there are any potential threats that would cause an unacceptable impact on national security or the health and safety of employees, the public, or the environment. DOE has provided a draft radiological sabotage methodology to assist in determining these threats. ORNL has identified several facilities that exceed the initial screening criteria provided for in the methodology and require further evaluation for determination of on-site and off-site consequences. Additionally, ORNL received a finding during the 2000 DOE Headquarters Inspection and Evaluation for deficiencies in the radiological sabotage program. This project will address the requirements for continuing assessments required by DOE orders, the initial assessments needed to address the facilities that exceed the initial screening criteria, and provide actions needed to implement required security enhancements.

Mitigative Actions: At facilities where there are plans to modify current operations or significantly change the inventory of nuclear or hazardous materials that could cause potential adverse public health and safety impacts due to sabotage exist, facility/program managers will be required to provide funding for a radiological/toxicological sabotage assessment as part of their planning process. Projects will not be allowed to proceed until the assessment is completed.

Upgrade Electrical Panels and Breaker System in 4501 (A99D0156) (Landlord GPP)

This project would provide for the upgrade of electrical panels and breakers in Building 4501. The 480-V switchgear has been recently replaced. The next step would be to replace the two motor control centers and bus duct. Later work would be to bring the panels, panel feed lines, conduits, and panel configurations into compliance.

Mitigative Actions: Administrative controls have been established to restrict access to panels to properly trained and qualified craft personnel. Personnel safety equipment requirements have been established for craft personnel performing maintenance on Building 4501 panels and auxiliary systems. The 480-V switchgear has recently been replaced under a landlord line item. The remainder of identified requirements have been prioritized and will be funded in priority order as additional GPP funding becomes available.

Table 7 lists the status of ADSs that were identified as unfunded compliance in the *FY 2002 ES&H Management Plan* and that are no longer considered to be unfunded compliance.

**Table 7. Status of unfunded compliance ADSs identified in the
FY 2002 ES&H Management Plan no longer considered compliance**

ADS	Title	Disposition
C97D0081	Eyewash, Safety Shower, Water Systems Upgrade	The scope of this ADS was integrated into the funded 4500N Line Item project (FY 2004).
A00D0043	1503/1506 Greenhouse Renovation/Seismic Upgrades	Project funded in FY 2003.

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