Environment, Safety and Health

Executive Summary

Mission

The Office of Environment, Safety and Health (EH) advances the Department of Energy's (DOE) mission through the strong commitment to safe, efficient and cost effective conduct of work. EH endeavors to leverage its resources and professional, technically proficient, personnel to provide DOE's line management programs with: essential environment, safety and health performance expectations; information analysis; management tools required to promote the safe conduct of work; and guidance for the protection of the environment in and around DOE sites. Integral to the Department's success is EH's skill in fostering increased awareness and providing support to line management throughout the Department, using open communications, and performance feedback on environmental, safety and health activities, to provide the safety envelope that allows for and promotes the safe conduct of work.

EH programs are funded in two appropriations: (1) Energy Supply and (2) Other Defense Activities. The Energy Supply EH program consists of: DOE ES&H performance expectations as communicated in Policy, Standards and Guidance; DOE-wide ES&H Programs; and a Program Direction decision unit, including the EH Working Capital Fund. EH's Other Defense Activities program includes: Corporate Safety Assurance; the Investigation and Enforcement Program; Domestic and International Health Studies Programs; the Radiation Effects Research Foundation (RERF) program; Energy Employees Occupational Illness Compensation Program activities; and a Program Direction decision unit. Also included are transfers of two programs from the Office of Environmental Management (EM). These programs are the Radiological and Environmental Sciences Laboratory (RESL) at Idaho, and the Analytical Services Program.

DOE has successfully completed the transition to its new missions which include: weapons dismantlement, safeguards and security, accelerated cleanup, facility decontamination and decommissioning, and long-term stewardship. These mission activities require innovative and dynamic safety and health programs, rather than standard, routine production and research operations. Residual hazards at DOE facilities, including the nuclear weapons complex, are the result of many years of nuclear materials production and processing, the impacts of which are still being characterized. The DOE complex contains the largest inventory of potentially hazardous nuclear materials in the world outside of the former Soviet Union, in addition to substantial quantities of other hazardous materials and chemicals. Some of this material (including plutonium, spent nuclear fuel, highly enriched uranium, radioactive waste, radioactive isotopes, and hazardous chemicals) is stored in facilities and tanks that require significant upkeep and monitoring – and in some cases complete overhaul.

EH contributions are critical to the success of the DOE mission. EH's professional staff actively participate in establishing DOE ES&H performance expectations, in the form of standards and controls, work planning, lessons learned sharing, and continuous improvement. Through support programs, performance expectations and corporate programs, EH's role is to enhance mission accomplishment through effective environment, safety, and health actions by line management. These activities provide expert technical support to line management to resolve unique or cross cutting issues; clear performance expectations and program implementation guidance and standards; external safety and standards organizations input; working models for integrating environment, safety, and health into critical work activities; safety and health information and analysis to improve performance; and safety performance measurement to focus on priority, high payback actions.

There is a continuing need for effective programs to identify environment, safety, and health issues at the project and individual activity level. The realignment and acceleration of cleanup program efforts necessitates a clear focus on establishing a sound safety basis for the conduct of operations at field sites. EH's analytical products provide for the appropriate and timely resolution of identified and emerging issues for the entire DOE complex. The Department of Energy has made the health of current and former workers a top priority. EH is providing strong support for the effective implementation of the Energy Employees Occupational Illness Program Act of 2000. This program is assisting workers who may have developed an illness from possible exposure during their employment at DOE facilities. In addition, DOE has placed a priority on the medical monitoring of its former workforce to identify and provide early detection of potential work-related illnesses. Also, the Office of Health Studies will initiate a new activity for ensuring high quality occupational medicine and surveillance programs for DOE site workers. EH is committed to the success of these important programs.

Goals and Objectives

Goals and objectives are discussed within the respective Energy Supply and Other Defense Activity Programs.

Departmental Goal

Reduce the number of reportable deaths, injuries, illnesses and environmental releases from environment cleanup and other operational activities, identify health concerns, integrate worker health screening programs, and upgrade medical records systems for EEOICPA worker compensation programs through the establishment of new occupational medicine program for current workers.

Strategic Objectives

EQ3: Reduce the number of deaths, injuries and illnesses; environmental releases from environmental cleanup; and other operational activities such that DOE activities remain below the established DOE average for the last five years of data for: (1) Total Recordable Case Rate; (2) Occupational Safety Cost Index; (3) Hypothetical Radiation Dose to the Public; (3) Average

measurable dose to DOE workers; and (5) Reportable Occurrences of Releases to the Environment.

This strategic objective is supported by the Program Strategic Performance Goals that follow:

EQ3-1: Reduce the number of reportable deaths, injuries and illnesses and environmental releases from environmental cleanup and other operational activities, identify health concerns, integrate worker health screening programs, and upgrade medical records systems for EEOICPA worker compensation programs.

Annual Performance Results and Targets

Performance Indicators/Measures

- **Total Recordable Case Rate**: Recordable Case Rate measures work-related deaths, as well as injury or illness that results in loss of consciousness, restriction of work or motion, transfer to another job, or medical treatment beyond first aid.
- **Occupational Safety Cost Index**: Occupational Safety Cost Index is a measure of the direct and indirect costs based on the Cost Index formula, due to safety-related injuries/illnesses.
- **Hypothetical Radiation Dose to the Public**: Hypothetical radiation dose to public is an estimate of the collective radiation dose to the public within 50 miles of DOE facilities due to airborne releases of radionuclides.
- **Worker Radiation Dose**: Worker radiation dose is calculated by dividing the collective total effective dose equivalent (TEDE) by the number of individuals with measurable dose.
- **Reportable Occurrences of Releases to the Environment**: Reportable occurrence of releases to the environment include releases of radionuclides, hazardous substances, or regulated pollutants that must be reported to Federal, State, or local agencies.

Strategy

The Office of Environment, Safety and Health (EH) serves as a partner with DOE Line Managers to establish programs that promote the safe conduct of work. This Office is committed to ensuring that the safety and health of the DOE workforce, members of the public, and the protection of the environment in all Departmental activities is the primary focus of EH's strategic objectives. EH integrates sound environment, safety, and health management performance expectations, in the form of policies, standards and guidance, that promote the safe conduct of daily work activities. EH works with the Line Management implementors to encourage the efficient and cost effective implementation of these expectations. EH works with internal and external organizations to assure that DOE environment, safety and health expectations are risk and performance based, consistent with the work and the hazards. These policies and practices are based on best technologies and are consistent with similar commercial and

governmental safety policies and practices.

EH will continue to work with DOE stakeholders in an open, frank, and constructive manner as a good neighbor and public partner. To accomplish this objective, EH fosters strong partnerships with regulators, and other interested stakeholders, to determine priorities and solutions. As a growing priority, EH continues to focus on developing management-level environment, safety, and health analytical products, using an E-Government approach. This approach serves to disseminate critical environment, safety, and health performance information to create and support a sound basis for decision making.

EH serves its principal customers in the following major areas: (1) development of Departmental corporate environment, safety, and health performance expectations through publication of requirements and standards that are effective and efficient in guiding program implementation; (2) provision of critical corporate environment, safety, and health corporate programs and services that include specialized technical information and analysis, as well as a regulatory and industry interface, to assure DOE programs are "benchmarked" with industry and the community to improve program management and execution, and provide support in the efficient and cost effective implementation of requirements; and (3) provision of environment, safety, and health information and performance analyses to increase internal and public awareness, and assure that appropriate DOE and contractor management accountability for environment, safety, and health results are achieved and recognized.

The Department of Energy's rapid transition to a business management model, with its emphasis on gaining cost-efficiencies, privatization, and innovative management structures in the field, has brought concomitant changes in how EH accomplishes its mission. Special emphasis is given to self-assessment and self-reporting by field elements as a source of performance information, coupled with increased emphasis on EH performance analysis. EH, therefore, has increased its priority for the support of DOE line management in the exchange of innovative business or environment, safety, and health management practices that are preventive and cost-effective. For instance, from a technical safety perspective, special emphasis is being given to managing the accelerated decommissioning and decontamination of aging DOE facilities and related waste materials.

EH continues to build on its strong record of effective management of corporate environment, safety, and health programs. As challenges have grown, the EH budget has been reduced by cutting administrative overhead costs and focusing on the highest priority needs. While EH has some unique national-level experts on its staff, technical contractual services continue to be a practical and cost-effective component of its mission, providing an additional source of specialized technical expertise (e.g., lightning, seismic, wind, criticality, etc.) on an "as needed" basis. The evolving needs for national-level expertise in a multitude of disciplines can best be met through the strategic use of contractors. Contractors are able to rapidly respond to the continually changing skills needs required for EH program activities across the DOE complex. This reduces permanent personnel costs and overhead, as opposed to hiring additional staff in such specialized, limited use disciplines.

EH continues its work related to the former workers medical surveillance program, required by 42 USC Section 7274. Former workers in targeted occupational groups are located and, where indicated by an assessment of the hazards associated with their job(s), are offered a medical screening examination. Participants are provided with assistance for physician referrals for medical follow-up, as necessary. Information and education on occupational health risks is provided, and assistance for obtaining available federal and state workers' compensation benefits is offered.

DOE, in partnership with the Department of Health and Human Services (HHS), developed a planning process for conducting public health activities across the DOE complex, including a public health agenda for each DOE site. This process has clearly defined goals, objectives, and priorities for health activities to ensure that the issues of greatest concern to DOE workers and communities are addressed. All newly funded health activities conducted by HHS will be consistent with the priorities established in this open and iterative planning strategy.

In FY 2004, the Office of Health Studies will initiate a new program for ensuring high quality occupational medicine and surveillance programs for all DOE site workers.

Significant Program Shifts

This budget request includes the transfer of two programs to EH from the Office of Environmental Management (EM). These programs include the Radiological and Environmental Sciences Laboratory (RESL) at Idaho. RESL is a reference laboratory for the Office of Environment, Safety and Health and supports activities at sites throughout the Department. In addition, the analytical services program, which insures that analytical laboratory environmental data is of high quality and reliability, was transferred to EH. Comparability adjustments have been made in this budget for FY 2002 and FY 2003.

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Beverly A. Cook
Assistant Secretary
Environment, Safety and Health

Date

Funding Profile

(dollars in thousands)

	FY 2002 Comparable Appropriation	FY 2003 Request	FY 2004 Request	$ Change	% Change
Energy Supply					
Policy, Standards and Guidance	3,148	3,564	3,464	-100	-2.8%
DOE-Wide ES&H Programs	6,243	6,776	6,536	-240	-3.5%
Program Direction	20,288	18,871	20,000	+1,129	+6.0%
Total, Energy Supply	29,679 [a]	29,211	30,000	+789	+2.7%
Other Defense Activities					
Corporate Safety Assurance [b]	10,819	9,618	9,616	-2	-0.0%
Health Studies	57,819	48,160	48,160	0	0.0%
RERF	13,500	13,500	13,500	0	0.0%
Employee Compensation	15,000	16,000	16,000	0	0.0%
Program Direction	22,294	20,750	20,410	-340	-1.6%
Subtotal	119,432	108,028	107,686	-342	-0.3%
Use of Prior Year Balances	-11,231	0	0		
Total, Other Defense Activities	108,201	108,028	107,686	-342	-0.3%
Total, Environment, Safety and Health	137,880	137,239	137,686	+447	+0.3%
Additional net budget authority to cover the cost of fully accruing retirement (non-add)	(2,009)	(1,616)	(1,712)	(+96)	(+5.9%)

Public Law Authorizations:

Public Law 95-91 “Department of Energy Organization Act.”

Public Law 103-62, “Government Performance Results Act of 1993"

Public Law 106-398 “Energy Employees Occupational Illness Compensation Program Act of 2000"

Public Law 83-703 “Atomic Energy Act of 1954"

National Defense Authorization Act of 1995

42 USC Section 7274 “Programs to Monitor Department of Energy Workers Exposed to Hazardous and Radioactive Substances”

Public Law 100-408, “Price-Anderson Amendments Act of 1988"

Public Law 99-239, “Compact of Free Association Act of 1985"

Public Law 95-134 - Marshall Islands (Related to Rongelap and Utirik Atolls)

Public Law 96-205, “Trust Territory of the Pacific Islands”

[a] Includes $802,000 assigned as part of the Energy Supply $18,000,000 Congressional General Reduction.

[b] EH funding amounts for FY 2002 have been made comparable with the amounts deleted from the program in FY 2003 to reflect the Secretary’s Initiative to consolidate Oversight activities in the Office of Independent Oversight and Performance Assurance.

Staffing Profile

(Whole FTEs)

	FY 2002 Comparable Appropriation	FY 2003 Request	FY 2004 Request
Full Time Equivalents:			
Energy Supply	128	102	101
Other Defense Activities[a]	188	158	157
Total, Full Time Equivalents	316	260	258

[a]Includes 24 FTEs transferred from EM for the RESL and 2 FTEs transferred from EM for the Analytical Services Program.

Funding by Site

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	$ Change	% Change
Albuquerque					
Los Alamos National Laboratory	162	162	162	0	0.0%
Sandia National Laboratories	295	295	295	0	0.0%
Albuquerque	388	388	988	+600	+154.6%
Total, Albuquerque	845	845	1,445	+600	+71.0%
Chicago Operations Office					
Argonne National Laboratory	465	465	465	0	0.0%
Brookhaven National Laboratory	319	319	319	0	0.0%
Chicago Operations Office	698	698	898	+200	+28.7%
Total, Chicago Operations Office	1,482	1,482	1,682	+200	+13.5%
Idaho Operations Office					
Idaho National Engineering & Environmental Laboratory	687	687	687	0	0.0%
Idaho Operations Office	2,328	3,115	2,365	-750	-24.1%
Total, Idaho Operations Office	3,015	3,802	3,052	-750	-19.7%
Nevada	7,140	7,140	7,640	+500	+7.0%
Ohio Field Office	333	333	433	+100	+30.0%
Rocky Flats Field Office	300	300	600	+300	+100.0%
Oakland					
Lawrence Berkeley Laboratory	280	280	280	0	0.0%
Lawrence Livermore National Laboratory	3,018	3,018	3,018	0	0.0%
Oakland	29,174	29,174	29,374	+200	+0.7%
Total, Oakland Operations Office	32,472	32,472	32,672	+200	+0.6%
Oak Ridge Operations Office					
Oak Ridge National Laboratory	2,040	2,040	2,040	0	0.0%
Oak Ridge Operations Office	9,988	9,988	10,988	+1,000	+10.0%
Total, Oak Ridge Operations Office	12,028	12,028	13,028	+1,000	+8.3%
Richland Operations Office					
Pacific Northwest National Laboratory	1,885	1,885	1,885	0	0.0%
Richland Operations Office	1,323	1,323	1,723	+400	+30.2%
Total, Richland Operations Office	3,208	3,208	3,608	+400	+12.5%
Savannah River Operations Office	435	435	735	+300	+69.0%
All Other Sites					
Washington Headquarters	87,853	75,194	72,791	-2,403	-3.2%
Use of Prior Year Balances	-11,231	0	0	0	0.0%
Total, Environment, Safety and Health	137,880	137,239	137,686	+447	+0.3%

Environment, Safety and Health Other Defense Activities

Program Mission

The Office of Environment, Safety and Health (EH) is a corporate resource that provides leadership and Departmental management excellence to protect the workers, the public, and the environment. This commitment to excellence is demonstrated by continuously striving for improvement through: developing meaningful programs and policies; conducting independent reviews of environment, safety, and health performance; and providing technical services, and information sharing. Open communication, participation, and performance feedback on EH activities from affected parties are integral to EH's success. The hallmark and highest priority of all EH activities is daily excellence in the protection of workers, the public, and the environment. The EH Other Defense Activities are concentrated into the following activities within one decision unit: Corporate Safety Assurance, Health Studies, the Radiation Effects Research Foundation (RERF) support, Employee Compensation, and a Program Direction decision unit.

Corporate Safety Assurance (CSA) serves as a corporate asset to the Department and its stakeholders in assessing, facilitating, achieving, and assuring excellence and continuous improvement in safety management and performance in the conduct of its missions and activities. Activities include Corporate Safety Assurance, Performance Assessment and Analysis which includes analysis of operational experience and dissemination of lessons learned, Price Anderson Amendments Act Enforcement, Liaison to the Defense Nuclear Facilities Safety Board, the Radiological and Environmental Services Laboratory (RESL) and Analytical Services.

Health Studies activities include Occupational Medicine (corporate occupational medicine policy as well as former worker medical surveillance); Epidemiologic Studies (analysis and communication of worker injury and illness information); Public Health Activities (health studies, health education and promotion, etc., at DOE sites); and International Health Programs (Marshall Islands program and health studies in the former Soviet Union and Spain).

Radiation Effects Research Foundation (RERF) activities support analysis of the effects of radiation with the intention of contributing to the maintenance of the health and welfare of atomic bomb survivors and to the enhancement of worldwide radiation protection practices and standards.

Employee Compensation activities support assisting current and former DOE workers with work-related illness resulting from their employment at DOE nuclear weapons sites to file for benefits under the Energy Employees Occupational Illness Compensation Program Act of 2000. The Office of Worker Advocacy, the Department's focal point for helping workers receive compensation benefits, will assist sick workers in understanding their rights under the program, gathering records needed to file claims, reviewing claims through physicians panels, and filing compensation claims, as appropriate.

Program Strategic Performance Goal

EQ3-1: Reduce the number of reportable deaths, injuries and illnesses and environmental releases from environment cleanup and other operational activities, identify health concerns, integrate worker health screening programs, and upgrade medical records systems for EEOICPA worker

compensation programs through the establishment of new occupational medicine pilot programs for current workers at 2 DOE sites.

Performance Indicators

- **Total Recordable Case Rate**: Recordable Case Rate measures work-related deaths, as well as injury or illness that results in loss of consciousness, restriction of work or motion, transfer to another job, or medical treatment beyond first aid.
- **Occupational Safety Cost Index**: Occupational Safety Cost Index is a measure of the direct and indirect costs based on the Cost Index formula, due to safety-related injuries/illnesses.
- **Hypothetical Radiation Dose to the Public**: Hypothetical radiation dose to public is an estimate of the collective radiation dose to the public within 50 miles of DOE facilities due to airborne releases of radionuclides.
- **Worker Radiation Dose**: Worker radiation dose is calculated by dividing the collective total effective dose equivalent (TEDE) by the number of individuals with measurable dose.
- **Reportable Occurrences of Releases to the Environment**: Reportable occurrence of releases to the environment include releases of radionuclides, hazardous substances, or regulated pollutants that must be reported to Federal, State, or local agencies.
- Initiate HQ-funded, field managed occupational medicine new programs with the goal of providing quality workplace medical services to all current DOE and contractor employees and appropriate emergency response planning. Performance will be measured by the level of per worker cost savings achieved through program integration efficiencies and economics of scale.

Annual Performance Results and Targets

FY 2002 Results	FY 2003 Targets	FY 2004 Targets
• Total Recordable Case Rate; Occupational Safety Cost Index; Hypothetical Radiation Dose to the Public; Worker Radiation Dose; and Reportable Occurrences of Releases to the Environment.	• Reduce the number of reportable deaths, injuries and illnesses and environmental releases.	• Reduce the number of reportable deaths, injuries and illnesses and environmental releases
• Publish an additional 10 interim or final international health scientific and technical reports from the Radiation Effects Research Foundation, Marshall Islands, and Russians to increase our information defining the relationship between ionizing radiation dose and its effect on human health.	• Provide medical screening to a minimum of 4,000 DOE workers formerly exposed to beryllium, radiation, or other hazards during their employment at DOE facilities. • Assess injuries and illnesses in at least 70,000 workers across 12 DOE sites.	• Provide medical screening to a minimum of 4,000 DOE workers formerly exposed to beryllium, radiation, or other hazards during their employment at DOE facilities. • Assess injuries and illnesses in at least 70,000 workers across 12 DOE sites.

Significant Program Shifts

The Office of Health Studies will initiate a new program for ensuring a high quality occupational medicine and surveillance program for DOE site workers.

Also, this budget request includes the functional transfer of two programs to EH from the Office of Environmental Management (EM). These programs include operation of the Radiological and Environmental Sciences Laboratory (RESL) at Idaho. RESL is a reference laboratory for the Office of Environment, Safety and Health and supports activities at sites throughout the Department. In addition, the analytical services program, which insures that analytical laboratory environmental data is of high quality and reliability, was transferred to EH.

Corporate Safety Assurance

- CSA serves as a corporate safety organization for the Department including line management and the Department's stakeholders. This crosscutting safety function is similar to the corporate safety organizations and the Institute of Nuclear Power Operations (INPO) utilized to successfully improve safety performance within the commercial nuclear industry.

  In accomplishing its corporate safety mission in fiscal years 2002, 2003 and 2004, CSA will focus it's resources and activities in responding to and supporting the following:

- The Secretary's mission and priorities including the protection of our workers and the communities surrounding our sites, our national security, our energy infrastructure, research and development, stockpile stewardship, and the accelerated cleanup of excess sites and the environment.
- Nuclear safety including the control of nuclear materials, criticality safety, and the Department's improvement initiatives related to quality assurance and safety systems.
- Protection of our workers, including subcontractors, from the unique radiological, chemical, and industrial hazards associated with our rapidly increasing environmental cleanup mission including activities such as the recovery, characterization, stabilization, and processing of hazardous materials; the decontamination and decommissioning of facilities and equipment; and the storage, packaging, and transportation of hazardous materials.
- The needs and requests of DOE and NNSA line management related to the effective implementation of integrated safety management, key ES&H programs such as criticality safety, radiation protection, industrial safety, and fire protection, nuclear facilities authorization bases and readiness reviews, and the identification and resolution of safety performance problems and events.

To accomplish its corporate safety mission, CSA will continue to employ proven techniques and activities such as field assessment, safety analyses, event and accident investigations and special reviews. This office's collective and crosscutting knowledge and understanding of the Department's diverse missions, hazards, problems, and successful programs and initiatives, as well as benchmarking against commercial nuclear and private industries, enables CSA to serve as a catalyst in achieving continuous improvement in safety management and performance. It also allows CSA to serve the Department and line management in taking a more effective and efficient collaborative approach to resolving long-standing safety performance and generic safety issues in areas such as procedure quality and use, quality assurance, electrical safety, and subcontractor safety.

Key Program Projects and Activities FY 2003/2004 include:

Field Assessments: CSA will conduct field assessments in response to DOE senior management direction, line management requests, or in response to declining safety performance or safety technical issues. As a corporate safety organization, CSA can also utilize its collective experience, techniques, and performance standards to strengthen line management's self assessment capabilities through joint assessments, monitoring, and training.

Safety Analysis: CSA will continue to conduct reviews of selected authorization bases (safety analysis reports, basis for interim operations, and justifications for continued operation) to assure that all DOE hazardous activities are conducted within the approved safety envelope and within an adequate safety margin. This is particularly true for new nuclear facilities and for facilities undergoing life cycle, mission, and hazard changes. The office will also review positive unreviewed safety questions (USQs) and USQ processes, and support line management in the effective implementation of the new DOE authorization basis rule.

Event and Accident Investigations: CSA is charged with managing the Department's accident investigation program. This program, which has been recognized as one of the most successful in

the industry, includes the chartering and conduct of Type A investigations and dissemination of lessons learned from the most serious DOE accidents and events. The office also monitors and contributes to the improvement of line management Type B (lesser events) investigations and processes. CSA also conducts accident investigation team leader and member training on request at field locations throughout the DOE complex.

Integration of Environment, Safety and Health into Major DOE Projects: The integration of safety into all phases of DOE projects is essential to project success and avoiding costly omissions, deficiencies, and surprises in later project stages. CSA works with line and project management to assure this effective integration through design, safety analysis, and ESSAB reviews and site/project visits during key activities associated with construction startup testing, operation, or decommissioning.

Special Reviews and Investigations: CSA must be prepared to conduct reactive, for-cause special reviews or investigations in response to emerging safety issues or adverse trends, DOE senior management concerns and direction, or DOE line management requests. These special reviews and investigations benefit the Department by identifying systemic and programmatic safety management improvements. Recent examples include a review of DOE criticality safety controls following Japan's criticality accident and fatalities; a complex-wide fire protection review following the DOE wildfires in 2000; and a special investigation of current and former worker health and safety concerns at the gaseous diffusion plants.

Performance Assessment and Analysis: Performance Assessment and Analysis (PAA) serves as a corporate asset to the Department and its stakeholders responsible for providing an evaluation of the Department's performance effectiveness, vulnerabilities, and trends in protecting the public, the worker, and the environment. PAA is the Department's focal point for monitoring, collecting, analyzing, and disseminating Environment, Safety and Health (ES&H) performance information to DOE line managers. This includes analyzing operational occurrences and identifying adverse performance trends and safety issues to support safety management improvement across DOE in such areas as worker safety, nuclear safety, industrial safety, and environmental protection. The effective analysis of operating experience and utilization of the lessons learned is critical to continuous improvement and excellence in safety management, and preventing accidents, and near-misses. PAA also ensures ES&H is adequately addressed in all DOE operating contracts. PAA began implementation of its activities in FY 2002 including management of the Department's Occurrence Reporting and Processing System (ORPS), initiation of a re-design of ORPS, and developing the various analysis products for line management. These products included disseminating a daily summary of occurrences to line program offices, publication of Bi-Weekly Operating Experience Summaries and Special Analysis Reports, and implementation of Quarterly Performance Reports. In FY 2003 PAA will continue preparation of its core products and analyses, complete the ORPS re-design project, initiate a re-design of the DOE Lessons Learned program to improve corporate sharing of lessons learned and best practices across DOE, and develop additional executive level performance reports for top level DOE managers at headquarters and field locations, including an Annual ES&H Performance Report. In FY 2004 PAA will continue its program initiative and complete implementation of the re-designed ORPS and Lessons Learned programs.

Corporate Safety Assurance: (FY02: $3,208; FY03: $3,000; FY04: $3,000)

Enforcement

- The Price-Anderson Amendments Act (PAAA) of 1988 requires DOE to establish an internal self-regulatory process for ensuring nuclear safety. This process is carried out by the Office of Price-Anderson Enforcement (EH-Enforcement) and encourages DOE contractors to proactively identify and correct nuclear safety deficiencies. The innovative approach to enforcement focuses on significant safety issues while providing maximum incentives for DOE's contractors to identify and correct safety issues on their own initiative rather than use a labor intensive regulatory inspection program. The functions of EH-Enforcement have increased significantly since FY 1999. Specifically, EH-Enforcement added PAAA Program Reviews of contractor programs to (1) recommend improvements, (2) provide feedback on contractor performance, and (3) address complex-wide safety issues. EH-Enforcement also began to issue Enforcement Guidance Supplements to provide more precise guidance to DOE and contractors on how to best comply with DOE's nuclear safety regulations to ensure consistency across the complex. Moreover, as the Enforcement Program matured, EH-Enforcement shifted its emphasis to more complex programmatic issues that are larger in scope than the single issues that DOE addressed when the process was new. For example, in FY 2000, EH-Enforcement began focusing on significant complex-wide deficiencies in the procurement of nuclear safety related components and services, Authorization Basis and criticality safety. The work of EH-Enforcement in these and other programmatic areas led to more effective front-end contractor controls and less reliance on dealing with problems after the fact. EH-Enforcement will continue to conduct PAAA Program Reviews to support DOE and Congressional interest in achieving the objectives of the Price-Anderson Amendments Act. New legislation requires this office to encompass enforcement of OSHA safety requirements by 2004. (FY02: $973; FY03: $700; FY04: $700)

Defense Nuclear Facilities Safety Board Liaison

- Coordinate the Board's recommendation process through line organizations by developing responsive implementation plans, resolving technical and management issues, completing commitments, and ultimately closing recommendations. At present, there are eleven active Board recommendations. Support line management in implementing essential cross-organizational programs in response to Board recommendations and reporting requirements, including Integrated Safety Management, Corrective Actions Management, Quality Assurance, and Criticality Safety. Manage the Department's interface activities and provide direction and advice to line managers on Board-related matters. Participate in and manage preparation and follow-up for over 300 annual meetings and site visits between the Department staff and the Board staff. Coordinate over 30 program office, field, and contractor points of contact. Conduct periodic interface workshops and training. Coordinate responses to Board reports, inquiries, and statutory reporting requirements. Manage the Department's Safety Issues Management System (SIMS) for Board-related issues, commitments, and actions. This system currently tracks over 500 active Department commitments and actions related to Board recommendations and other correspondence. Maintain the Department's central repository of official Board communications and make this information available to the public and to Department and contractor personnel complex-wide. Annually, 250-350 pieces of Board/Department correspondence are received and made available on the Internet. Over 3,000 documents are currently available on the web site in multiple file formats for customer convenience. Documents are posted in 1 to 3 business days to facilitate action. Manage DOE Facility Representatives Program and continue the training and retention for this program. Manage

DOE Integrated Safety Management Program and continue the field out placement program. Support of the DOE's Facility Representative Program will continue to be maintained. The funding level was determined based on experience.(FY02: $599; FY03: $532; FY04: $530)

Information Technology Support

- These funds were used for information technology to support the Corporate Safety Assurance Program. The reduction in this Program in FY 03 eliminated the need for this funding. (FY02: $589; FY03: $0; FY04: $0)

Radiological and Environmental Sciences Laboratory

- In FY 2004, Management of the Radiological and Environmental Sciences Laboratory is being transferred from EM to EH. RESL is a DOE-operated laboratory, located on the Idaho National Engineering and Environmental Laboratory (INEEL) site. It operates as a Division of the DOE Idaho Operations Office (DOE-ID), with the Laboratory Director reporting directly to a DOE-ID Assistant Manager. RESL has core scientific capabilities in analytical chemistry (especially radiochemistry), and radiation calibrations and measurements.

  RESL provides front-line technical oversight of and assistance to key contractor laboratory activities that are crucial to DOE success. It has the hands-on scientific and technical expertise and resources to conduct DOE-wide measurement quality assurance programs in the areas worker radiation protection and analytical chemistry. These include the DOE Laboratory Accreditation Program (DOELAP) and the Mixed Analyte Performance Evaluation Program (MAPEP). DOE scientists at RESL verify that contractor labs meet established performance criteria, and provide the Department with valid and defensible data for mission-critical activities at its sites.

  DOE requires a high level of technical expertise to properly conduct its operations. It relies on a large number of M&O and commercial laboratories to provide the measurement data needed to ensure that mission-critical activities at its sites are completed properly, safely, and in an environmentally responsible manner. It is both good practice and a good investment, therefore, to independently verify the accuracy, and stability of the measurement systems at those laboratories. As required in 10 CFR 835, DOELAP periodically evaluates the performance of, and accredits, dosimetry and radiobioassay programs that ensure that radiation work is managed in a way that assures the safety of the workers. MAPEP evaluates the performance of laboratories that provide environmental analytical measurements for complex-wide cleanup, waste management, and environmental restoration activities. Twice a year, RESL provides samples containing mixed radioactive, stable inorganic, and organic hazardous constituents (analytes), and reports the results to the laboratories, site sample management offices, field offices, and DOE Headquarters. The need for such programs will continue as long as there is radiation work, site cleanup, and long-term stewardship needs.

  As a DOE lab, its focus is on the best interests of the Department. Because RESL does not compete for work with the contractor labs it evaluates, there is no bias or potential conflict of interest in its recommendations. Its staff have the confidence of headquarters and field offices in discussion of policy and specific concerns about individual labs. It routinely represents DOE interests on technical committees and standards groups. It has unique programs with the National Institute of Standards and Technology (NIST) to maintain traceability to NIST standards. RESL has the right scientific capabilities and equipment to support these programs, and its staff have been involved in

their development and conduct from the inception. Its scientists have developed some of the most advanced and sophisticated technical methods in their fields, and many also bring experience and understanding from having worked on the operations side. FY02: $4,100; FY03: $4,100; FY04: $4,100)

Analytical Services Program

- In FY 2004, the analytical services program which ensures the analytical laboratory environmental data is of high quality and reliability, is transferred from EM to the Office of Environment, Safety and Health. This program ensures the analytical laboratory data is technically and legally defensible. It conducts audits to include DOE on-site laboratories to demonstrate fair and equitable selection and treatment among laboratories selected for analytical service contacts. This program serves as a corporate resource for the Department. (FY02: $1,350; FY03: $1,286; FY04: $1,286)

Health Studies: Occupational Medicine

Medical Surveillance of Former Workers

- This program has three components that provide medical monitoring for former DOE employees at risk for occupational disease as mandated by Congress.(FY02: $17,877; FY03: $13,950: FY04: $14,950)

  Projects offering broad medical screening for former workers include those at the Hanford Site, Nevada Test Site, Rocky Flats, Portsmouth and Paducah Gaseous Diffusion Plants, Oak Ridge, Savannah River, INEEL, Los Alamos, Alaska's Amchitka Island, the Iowa Army Ammunition Plant, and Pantex Plant.

  Over 85,000 former workers have been contacted and offered an opportunity to participate in the beryllium worker medical surveillance program with the total number of participating workers approximately 35,000. The percent of workers currently showing sensitization to beryllium is approximately 2-3 percent, and Chronic Beryllium Disease is evident in less than 1 percent of individuals tested.

  Medical monitoring for the cohort of radiation workers at Rocky Flats with measurable internal radiation deposition or a lifetime exposure level exceeding 20 rem is undertaken on a 3-year repeating cycle to help determine health needs of these workers and understand the health consequences of exposure to ionizing radiation.

  The goal is to provide targeted medical screening to the former workers of DOE's defense nuclear complex, and to use the information collected to improve safety and health practices for current and future workers.

Integrated DOE Occupational Medicine Program

- Provides policy, standards, guidance and corporate services to support Department-wide efforts to efficiently deliver quality occupational medical services. As DOE's corporate source of competence and experience in occupational medicine, serve as a focal point for communication with the Department on occupational health risk and protection data .

  In FY 2004, we are beginning a new DOE-wide occupational medicine initiative. The goal of this new activity is to develop a blueprint for adequate and integrated occupational health programs at all DOE sites.

  The Integrated DOE Occupational Medicine Program (IDMP) will lower total worker compensation costs, and reduce the cost per worker through re-engineering and ad hoc medical screening programs and economies of scale. The goal of the IDMP is to standardize the capture, management and retrieval of medical and associated records. THE IDMP will also establish a criteria for operating the various site occupational medicine departments and provide for variances based on risks of hazardous exposures. (FY02: $400; FY03: $400; FY04: $900)

Radiation Emergency Accident Center/Training Site (REAC/TS)

- The Office of Health Studies co-funds the DOE REAC/TS program with the NNSA Office of Security and Emergency Operations, to respond rapidly to radiological accidents such as those arising from radiologic waste transport accidents or acts of terrorism. EH provides partial funding for clinical radiation medicine staff, which are available on a 24-hour basis to evaluate patients directly or in consultation, and to treat workers and members of the public exposed to radiation or radioactive materials. Expert opinion is also provided for DOE sites. REAC/TS supports the EH responsibility of facilitating medical services at DOE sites, and includes maintaining new drug applications for chelation therapy of internally deposited actinides and for decorporation therapy of ingested radiocesium. (FY02: $300; FY03: $300; FY04: $300)

Information Technology

- The Office of Health Studies information management support provides significant systems and databases of worker and public health related issues. These systems and databases support the primary mission of identifying the impacts of current and former activities of the Department on the health of its workers and the public. In addition, the Office of Health Studies web site is a major source of detailed information concerning these issues for the public and former and current workers. During FY 2002, system upgrades and infrastructure investments required by the Energy Employees Occupational Illness Compensation Program Act of 2000 and other program initiatives were accomplished. (FY02: $3,500; FY03: $1,950; FY04: $1,000)

Public Health Activities

- DOE monitors the impact of its operations on the environment, the health of its workforce, and the residents of the communities surrounding DOE sites. To consolidate and provide a larger degree of independence in the performance of these activities, in 1990, DOE entered into a Memorandum of Understanding (MOU) with the Department of Health and Human Services for epidemiologic studies relevant to DOE operations. The current MOU supports interagency agreements for the National Institute for Occupational Safety and Health (NIOSH) for worker studies, the National Center of Environmental Health conducts environmental historical dose reconstructions in communities, and the Agency for Toxic Substances and Disease Registry (ATSDR) conducts exposure investigations of levels of contaminants that traveled off-site and DOE National Priority List (NPL) Superfund clean-up sites. In FY 2004 NIOSH will complete a multi-site Leukemia Case-Control Study and occupational epidemiologic studies at Fernald and Oak Ridge, NCEH will complete its Savannah River Site Dose Reconstruction and ATSDR will complete the public health assessment at Brookhaven. Continue high-priority public health activities.

  In FY 2002, all public health activities were integrated into a 5-year plan for FY 2002-2006 under the MOU, which places priority on those analyses of DOE community and worker populations that increase information defining the relationship between exposures resulting from DOE operations and their effects on human health. (FY02: $16,342; FY03 $17,160; FY04 $16,610)

Epidemiologic Studies

- To better protect and promote the health of the current DOE workforce, Epidemiologic Surveillance conducts ongoing analysis of worker health to identify current workers at risk and communicate the potential impact of DOE operations to site occupational medicine physicians and

DOE senior management. In FY 2004, in addition to ongoing activities, an analysis of injuries among security personnel is planned and a study of the health of women in the current workforce will be completed. (FY02: $2,300; FY03: $2,300; FY04: $2,300)

U.S. Transuranium and Uranium Registries (USTUR)

- Recognizing that the demands of nuclear weapon production during the Cold War required workers to process and handle materials, such as plutonium for which there was limited information on its biology and chemistry in humans, the National Plutonium Registry was established in 1968 to study these occupational exposures. This evolved into the U.S. Transuranium and Uranium Registries (USTUR) program to improve our understanding of the health effects of plutonium and other heavy radioactive metals in humans. USTUR studies the distribution, metabolism, and possible biological effects of plutonium and other heavy metals in humans by radiochemical analysis of voluntarily donated tissues. These data are fundamental to the verification, refinement or development of radiation protection standards for long-lived radionuclides present at DOE sites. (FY02: $1,000: FY03: $1,000 FY04: $1,000)

Electronic Records

- As directed by Congress, established a program at the University of Nevada-Las Vegas for Department-wide management of electronic records. (FY02: $5,000; FY03: $0; FY04: $0)

International Health Programs

Marshall Islands

- Provides medical surveillance and care for the Rongelap and Utrik Atoll populations exposed to fallout from the Castle Bravo atmospheric nuclear test in 1954, and provides environmental monitoring and dose assessment for the Bikini, Enewetak, Rongelap and Utrik atolls, which were heavily contaminated by fallout from the U.S. nuclear weapons testing in the Pacific. These activities are mandated by Public Law 99-239, the Compact of Free Association Act of 1986. (FY02: $6,300; FY03: $6,300; FY04: $6,300)

European Programs

JCCCNRS (Chernobyl Health Effects Studies)

- The explosion at the Chernobyl Nuclear Power Plant in northern Ukraine released over 50 tons of radioactive dust over 140,000 square miles of Belarus, Ukraine, and Russia, and 4.9 million people were estimated to have been exposed to radiation. In addition, 600,000 to 800,000 Ukrainian cleanup workers, referred to as "liquidators" were exposed while abating the radioactive contamination at the site. In partnership with the National Cancer Institute(NCI), DOE supports studies of thyroid cancer and other thyroid diseases in Belarus and the Ukraine, and a leukemia study for Ukranian liquidators. In addition, DOE supports a study of radiation-induced ocular cataracts in Ukrainian liquidators. (FY02: $1,500; FY03: $1,500; FY04: $1,500)

JCCRER (Russian Radiation Health Effects Research Program)

- The Joint Coordinating Committee for Radiation Effects Research was established in 1994 to conduct full-scale cohort studies of the health effects to workers and local populations of radiation exposures from the operations and accidental releases from weapons production

facilities in Russia. DOE is the lead U.S. agency and the Russian Ministry of Emergencies is the lead Russian agency. U.S. members include the NRC, HHS, DoD, NASA and EPA, and other Russian members include the Ministry of Atomic Energy and the Ministry of Health. The goal of the program is to provide information on chronic low dose-rate radiation exposure needed to improve radiation protection standards used to protect workers and communities. For example, Russian nuclear weapons workers have documented radiation exposures 100-1,000 fold greater than DOE workers, and this chronic radiation exposure is critical for setting international worker and public radiation protection standards. The program has documented excess lung, bone and liver cancer mortality to workers at the Mayak weapons production plant, and the International Council for Radiation Protection's current systemic biokinetic model for Pu is presently being revised based largely on these Russian studies. (FY02: $3,000; FY03: $3,000; FY04: $3,000)

Project Indalo

- In 1966, two U.S. Air Force planes collided during mid-air refueling over the southeast coast of Spain, and one of the planes carried four nuclear weapons that fell on impact. The resulting non-nuclear detonations resulted in the dispersal of plutonium and contamination of 558 acres that was remediated by DoD, and since has received environmental monitoring of the area by DOE, limited medical surveillance of the affected residents, and scientific and technical assistance. Working with our Spanish counterpart, Centro de Investigacionses Energeticas Medioambientales y Tecnologicas we complete about 150 physical exams and radiobioassays of plutonium and americium collected in urine and perform environmental monitoring. (FY02: $300; FY03: $300; FY04: $300)

Radiation Effects Research Foundation (RERF)

- This joint DOE - Japan funded program supports health studies of the A-bomb survivors in Hiroshima and Nagasaki. The Atomic Bomb Casualty Commission (ABCC) initiated studies on the effects of radiation exposure in survivors of the atomic bombings in 1945, then in 1975, the Radiation Effects Research Foundation (RERF) was established under Japanese law to continue the research under a binational, co-funded program. RERF is the premier institution in the world for studying the health effects of exposure to radiation. The results of RERF research on A-bomb survivors are the primary basis for international radiation protection standards. The goal of RERF is to conduct research for peaceful purposes on radiation effects on man and on diseases that may be affected by radiation. (FY02: $13,500; FY03: $13,500; FY04: $13,500)

Employee Compensation Program

- Employee Compensation activities support assisting current and former DOE workers with work-related illness resulting from their employment at DOE nuclear weapons sites to file for benefits under the Energy Employees Occupational Illness Compensation Program Act of 2000. The Office of Worker Advocacy, the Department's focal point for helping workers receive compensation benefits, will assist sick workers in understanding their rights under the program, gathering records needed to file claims, reviewing claims through physicians panels, and filing compensation claims, as appropriate.(FY02: $15,000; FY03: $16,000; FY04: $16,000)

Program Direction

Salaries and Benefits

- Salaries and Benefits for FY 2004 provide funding of $19,318,000 for 157 Federal full-time-equivalents (FTEs) working on EH Defense activities. Overall, salaries and benefits are in line with the full-time-equivalents requested. In addition, funding is provided for benefits associated with permanent change of station, transit subsidies and incentive awards. (FY02: $20,988; FY03: $19,658; FY04: $19,318)

Travel

- Travel requirements are consistent with support for the EH Federal staff and include the Economic Assumption as provided by OMB. Travel includes all costs of transportation, subsistence, and incidental travel expenses in accordance with Federal travel regulations. (FY02: $1,156; FY03: $967; FY04: $967)

Other Related Expenses

- This includes training and tuition costs for EH Federal employees. (FY02: $150; FY03: $125; FY04: $125)

Funding Profile

(dollars in thousands)

	FY 2002 Comparable Appropriation	FY 2003 Request	FY 2004 Request	$ Change	% Change
Environment, Safety and Health					
Corporate Safety Assurance[a]	10,819	9,618	9,616	-2	0.0%
Health Studies	57,819	48,160	48,160	0	0.0%
RERF	13,500	13,500	13,500	0	0.0%
Employee Compensation Program	15,000	16,000	16,000	0	0.0%
Program Direction[b c]	22,294	20,750	20,410	-340	-1.6%
Subtotal	119,432	108,028	107,686	-342	-0.3%
Use of prior year balances	-11,231[d]	0	0		
Total, Other Defense Activities	108,201	108,028	107,686	-342	-0.3%
Additional net budget authority to cover the cost of fully accruing retirement (non-add)	(1,066)	(869)	(967)	(+98)	(+11.3%)

Public Law Authorizations:
Public Law 83-703, "Atomic Energy Act of 1954", as amended
Public Law 100-408, "Price-Anderson Amendments Act of 1988"
Public Law 106-398 "Energy Employees Occupational Illness Compensation Program Act of 2000"
Public Law 103-337 "National Defense Authorization Act of 1995."
Public Law 99-239, "Compact of Free Association Act of 1985"
Public Law 95-134 - Marshall Islands (Related to Rongelap and Utirik Atolls)
Public Law 96-205, "Trust Territory of the Pacific Islands"
Public Law 95-91, "Department of Energy Organization Act"
Public Law 103-62, "Government Performance Results Act of 1993"
42 U.S.C. Section 7274 "Program to Monitor DOE Workers Exposed to Hazardous and Radioactive Substances"

[a]EH funding amounts for FY 2002 have been made comparable with the amounts deleted from the program in FY 2003 to reflect the Secretary's Initiative to consolidate Oversight activities in the Office of Independent Oversight and Performance Assurance.

[b]Excludes funding for 24 FTE's to support the Secretary's direction to consolidate the agency's Oversight responsibilities in the Office of Independent Oversight and Performance Assurance.

[c]FY 2002 Program Direction also includes a reduction of $76,000 to provide for the Travel and Expenses Rescission included in P.L. 107-206.

[d]$1,231,000 of the $11,231,000 was assigned to EH as part of the Other Defense Activities $10,000,000 additional reduction in prior year balances.

Funding by Site

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	$ Change	% Change
Albuquerque					
Los Alamos National Laboratory	111	111	111	0	0.0%
Sandia National Laboratories	295	295	295	0	0.0%
Albuquerque	388	388	988	+600	+154.6%
Total, Albuquerque	794	794	1,394	+600	75.6%
Chicago Operations Office					
Brookhaven National Laboratory	165	165	165	0	0.0%
Chicago Operations Office	698	698	898	+200	+28.7%
Total, Chicago Operations Office	863	863	1,063	+200	+23.2%
Idaho Operations Office					
Idaho National Engineering & Environmental Laboratory	250	250	250	0	0.0%
Idaho Operations Office	2,115	2,115	2,115	0	0.0%
Total, Idaho Operations Office	2,365	2,365	2,365	0	0.0%
Nevada	7,140	7,140	7,640	+500	+7.0%
Ohio Field Office	333	333	433	+100	+30.0%
Rocky Flats Field Office	300	300	600	+300	+100.0%
Oakland					
Lawrence Berkeley Laboratory	280	280	280	0	0.0%
Lawrence Livermore National Laboratory	2,938	2,938	2,938	0	0.0%
Oakland	29,124	29,124	29,324	+200	+0.7%
Total, Oakland	32,342	32,342	32,542	+200	+0.6%
Oak Ridge Operations Office					
Oak Ridge National Laboratory	732	732	732	0	0.0%
Oak Ridge Operations Office	9,912	9,912	10,912	+1,000	+10.1%
Total, Oak Ridge Operations Office	10,644	10,644	11,644	+1,000	+9.4%
Richland Operations Office					
Pacific Northwest National Laboratory	669	669	669	0	0.0%
Richland Operations Office	1,298	1,298	1,698	+400	+30.8%
Total, Richland Operations Office	1,967	1,967	2,367	+400	+20.3%
Savannah River Operations Office	435	435	735	+300	+69.0%
All Other Sites					
Washington Headquarters	62,249	50,845	46,903	-3,942	-7.8%
Use of Prior Year Balances	-11,231	0	0	0	0.0%
Total, Other Defense Activities	108,201	108,028	107,686	-342	-0.3%

Site Description

Los Alamos National Laboratory

Los Alamos National Laboratory (LANL), located in the town of Los Alamos approximately 35 miles northwest of Santa Fe, New Mexico, is a national resource for solving complex scientific problems. LANL provides materials to communicate beryllium health risks and assists in the development of a test for screening of chronic beryllium disease through the collection and transmission of worker health, exposure, and demographic data at the site.

Sandia National Laboratories

Sandia National Laboratories' main laboratory is located on Kirtland Air Force Base in Albuquerque, New Mexico. Sandia participates in the epidemiologic surveillance program through the collection and transmission of worker health, exposure, and demographic data at the site. Sandia provides specialized technical expertise in the evaluation of long-term dry storage of K-Basin Spent Nuclear Fuel, taking into account the associated physical and chemical changes. Sandia also provides specialized technical expertise in the development of software for radiological hazard analyses at DOE facilities.

Chicago Operations Office

Chicago Operations Office, Chicago, Illinois, is responsible for overseeing the operation of contractor-operated, multi-program laboratories such as Argonne National Laboratory, near Chicago, and Brookhaven National Laboratory in New York.

Brookhaven National Laboratory

Brookhaven National Laboratory (BNL) is located in Upton, New York, on Long Island. As a non-defense research institution, BNL is dedicated to basic and applied investigation in a multitude of scientific disciplines. BNL participates in the epidemiologic surveillance program through the collection and transmission of worker health, exposure, and demographic data at the site and provides support to the EH medical line management program.

Idaho National Engineering and Environmental Laboratory

Idaho National Engineering and Environmental Laboratory (INEEL) is located 44 miles outside of Idaho Falls, Idaho. Lockheed Martin Idaho Technologies Company, as the prime contractor, participates in the epidemiologic surveillance program through the collection and transmission of worker health, exposure, and demographic data at the site.

Idaho Operations Office

Idaho Operations Office, Idaho Falls, Idaho, uses applied engineering to clean up the cold war legacy, execute multi-program missions, and leverage the Idaho National Engineering and Environmental Laboratory's expertise with emerging technology to meet the Nation's needs.

Ohio Field Office

The Department of Energy's Ohio Field Office includes five sites, four in Ohio and one in New York. Its primary mission includes overseeing the five project offices responsible for environmental restoration, waste management, nuclear material and facility stabilization, and technology development. It provides support for the activities of the Energy Employees Occupational Illness Compensation Program.

Rocky Flats Field Office

Rocky Flats is a former nuclear weapons facility located approximately 16 miles northwest of Denver, Colorado. Rocky Flats no longer has a production mission. Its mission now is to clean up its nuclear and chemical contamination while decommissioning the site. It provides support for the activities of the Energy Employees Occupational Illness Compensation Program.

Lawrence Berkeley Laboratory

Lawrence Berkeley Laboratory, Berkeley, California, pursues basic and applied research that advances the frontiers of science and solves a broad spectrum of national problems. It is a multi-program laboratory that serves the Nation's needs in technologies and environment, safety and health activities. Lawrence Berkeley Laboratory provides continuing support for the Comprehensive Epidemiologic Data Resource project.

Lawrence Livermore National Laboratory

Lawrence Livermore National Laboratory (LLNL), located in California's Tri-Valley region east of San Francisco, provides continuing support to the Marshall Islands program by providing environmental sampling and analysis to determine the radiological conditions at the affected atolls and performs epidemiological site surveillance.

Oak Ridge Operations Office

Oak Ridge Operations Office, Oak Ridge, Tennessee, is responsible for research and development, defense programs, environmental management, and environment, safety, and health activities. There are three major plant complexes on the Oak Ridge Reservation: Oak Ridge National Laboratory; Y-12 Plant;

and the East Tennessee Technology Park, as well as the Oak Ridge Institute for Science and Education and the American Museum of Science and Energy. Oak Ridge participates in the epidemiologic surveillance program through the collection and transmission of worker health, exposure, and demographic data at the site.

Oak Ridge National Laboratory

Oak Ridge National Laboratory (ORNL), Roane County, Tennessee, is a multi-program science and technology laboratory. Scientists and engineers at the laboratory participate and support environment, safety, and health activities; increase the availability of clean, abundant energy; restore and protect the environment; and contribute to national security. ORNL assists with the beryllium rulemaking task that was begun in FY 1998.

Richland Operations Office

Richland Operations Office, Richland, Washington, manages waste products; develops, applies, and commercializes technologies; manages environment, safety, and health activities; and supports cleanup and environmental restoration. Richland also provides technical support to the U.S. Transuranium Registries for the study of biokinetics of transuranium radionuclides in humans to evaluate high priority cases and publish results of radiochemical analyses, and supports international health study efforts.

Pacific Northwest National Laboratory

Pacific Northwest National Laboratory (PNNL), Richland, Washington, develops and delivers new and effective environment, safety, and health technologies. PNNL also provides technical support in preparing policies, procedures, and guides, as well as developing materials that address the process and protocols that are used for program implementation, planning, analysis of evaluation results and trends, and compilation of policy issues related to the evaluations. PNNL provides technical support for recurring safety management evaluations, as well as site profile development, accident investigations, and other special studies and reviews. PNNL also assists in tracking and trending corrective actions, developing and disseminating lessons learned, and tracking issues related to the program for follow-up and analysis. PNNL provides support to the epidemiologic surveillance program through the collection and transmission of worker health, exposure, and demographic data at the site, and the international health studies program.

Savannah River Operations Office

Savannah River Operations Office, Aiken, South Carolina, is responsible for serving national interest by ensuring that programs, operations, and resources are managed in a safe, open, and cost-effective manner to: support current and future national security requirements; reduce the global nuclear proliferation danger; protect and restore the environment while managing waste and nuclear materials; and conduct mission-supportive research and technology development. Savannah River Operations provides technical support to the epidemiologic surveillance program through collection and transmission of worker health,

exposure, and demographic data at the site. Savannah River Operations also provides technical support to site reviews of Criticality Safety Programs.

All Other Sites - Washington Headquarters (Includes Commercial Contracts, Other Federal Agencies, and Universities)

The evolving short-term needs for national-level expertise in a multitude of disciplines can best be met through the use of contractors who can rapidly respond to the continually changing skills mix required of EH across the DOE complex. Contract support is also more practical and cost-effective to provide a surge pool of technical expertise effectively and efficiently. In addition, contractors provide legal, technical, and regulatory expertise to support the investigation of alleged violations of the Price-Anderson legislation that is not otherwise available within DOE.

Contractors also provide technical expertise in conducting activities at DOE facilities. These activities include inspections, safety management evaluations, special studies, site profiles, and analyses, utilizing specialized technical expertise to obtain an appropriate skills mix and surge capability.

Under a Memorandum of Understanding, the Department of Health and Human Services provides support to DOE in health studies of DOE workers and communities around DOE sites. Wire payments are made to various agencies and institutions of the former Soviet Union to continue work performed by the Office of International Health Studies.

Under a Memorandum of Understanding, the Department of Labor and DOE support the implementation of the Energy Employees Occupational Illness Compensation Program Act of 2000.

Corporate Safety Assurance

Mission Supporting Goals and Measures

The mission of the EH Corporate Safety Assurance function is to be a crosscutting, corporate asset to the Department, line management, and DOE stakeholders in assuring and facilitating continuous improvement in the protection of our workers, the public, and the environment. This mission is accomplished through safety analyses; investigations; and technical support. Within this function are Corporate Safety Assurance; Performance Assessment and Analysis; Price-Anderson Amendments Act Enforcement; and the Departmental representation to the Defense Nuclear Facilities Safety Board (DNFSB).

This program conducts activities that are critical to the Department's ability to monitor the status of environment, safety and health across the complex; to proactively identify and resolve emerging safety issues and adverse trends; and to assure continuous improvement in the protection of workers, communities, and the environment from the hazards associated with changing DOE missions and activities. The program also serves our national security mission by assuring the effective integration of safety and success of mission programs including security of our energy infrastructure, research and development, stockpile stewardship, and accelerated cleanup of DOE's excess sites and environmental contamination.

Given its crosscutting role in supporting safety excellence, CSA must also interface effectively with other internal and external organizations in accomplishing this mission including the DNFSB, Office of Inspector General, Environmental Protection Agency, Nuclear Regulatory Commission, Institute of Nuclear Power Operations, Federal Emergency Management Agency, Occupational Safety and Health Administration, and state and local governments.

Program Performance Summary (2002): Key Corporate Safety Assurance function accomplishments over the last 12 months include:

- A complex-wide fire protection review in response to the 2000 DOE wildfires and in support of the DOE fire safety commission.
- Follow-up reviews to investigation of health and safety concerns at the DOE gaseous diffusion plants and support of former worker compensation legislation.
- Integrated safety management evaluation at the Idaho and Oak Ridge National Laboratories, Hanford Tank Farm, and Princeton Fusion Test Reactor.
- Special diagnostic review of safety concerns and allegations at the Rocky Flats Site (DOE line management request).
- Special investigation of a tritium leak and environmental contamination from the High Flux Isotope Reactor at Oak Ridge National Laboratory.
- Criticality Safety Reviews at sites such as the Idaho National Engineering and Environmental Laboratory and the East Tennessee Technology Park and a criticality workshop in Albuquerque.

- Type A accident investigations of serious accidents at the Fermi-laboratory and Los Alamos National Laboratory.
- Conduct of five accident investigations and team leader courses in field locations/line management requests).
- Technical field assessments in areas such as construction safety, work planning and control, quality assurance, electrical safety, and decommissioning of facilities.
- Review of safety integration into major DOE projects including design and construction of the spallation neutron source at Oak Ridge, removal of degrading spent reactor fuel from the Hanford K-Basins, and decontamination and decommissioning of the Graphite Reactor at Brookhaven National Laboratory.
- The review of implementation plans and DOE ORRs to assure the safety startup or restart of nuclear facilities and contribute to improvements in the ORR process.
- Provided daily summaries of operational occurrences to Line Programs to heighten line management operation awareness.
- Developed and instituted a Quarterly Performance Report to enable top Departmental Management review of ES&H Performance across DOE.
- Initiated a re-design of the DOE Occurrence Reporting and Processing System (ORPS) to streamline the current reporting system, to increase its utility to line management and eliminate redundant reporting requirements.
- Issued a Special Analysis Report on Electrical Intrusion Events for FY 2000 - 2001 to assist line management in assessing the causes of such events and preventing similar occurrences in the future.

Program Goals, Objectives, and Activities (2003):

Contribute to strengthening nuclear safety across the complex including:

- Upgrading quality assurance in response to DNFSB concerns
- Strengthening criticality safety through assessments, diagnostic reviews, training, and workshops
- Contributing to review and upgrading of vital safety systems in response to DNFSB. Recommendation 2000-2 and a degrading infrastructure.
- Monitoring the control and management of nuclear materials and packaging and transportation.
- Assuring safety and supporting analyses associated with the Yucca Mountain Waste Storage Project.
- Contribution to effective environmental management and protection through program assessments, monitoring and analysis, event investigations, and the development and implementation of a pilot groundwater modeling program at the Paducah Gaseous Diffusion Plan in coordination with the Corps of Engineers.

- Achieve integrated planning and coordination of DOE independent and line oversight to reduce redundancy and burden on our contractors and increase value-added.
- Develop an accreditation process for contractor self-assessment programs to incentivize improvement and decrease direct DOE oversight in accordance with DOE Policy 450.5.
- Centralize the Headquarters operational experience program and continue the re-design of the occurrence reporting system to link to ISM, eliminate the nuisance-reporting burden, increase value to DOE and contractor line management, and streamline and improve ES&H databases throughout the Department. Ensure the smooth and efficient implementation of the re-designed ORPS database and provide training, guidance and interpretations when necessary.
- Contribute to revising the DOE procurement and contracting approach to improve the tailoring and contracting approach to improve the tailoring and contribution to differing missions and safety management including attracting best-in-class contractors and subcontractors, eliminating redundant requirements, and incentivizing safety performance and accountability.
- Develop and work with line management to implement a complex-wide color rating performance monitoring system to more effectively monitor safety and program performance, drive continuous improvement, and assist in prioritizing line management attention and resources.
- Begin a major re-design of the Department's Lessons Learned Program modeled after the Institute of Nuclear Power Operations (INPO) process for disseminating relevant operating experience to the Commercial Nuclear Power industry. This re-design project will significantly improve the Department's ability to communicate and track safety improvements associated with the successful implementation of best practices and lessons learned throughout DOE.

Health Studies

Mission Supporting Goals and Measures

The Health Studies program promotes the health and safety of DOE's workers and communities at and surrounding Department sites, and supports studies to understand the effects of radiation and other hazards associated with the DOE operations on humans. It is comprised of four programs: Occupational Medicine, Public Health Activities, Epidemiologic Studies, and International Health Programs.

Occupational Medicine is the DOE corporate resource which provides the Department's occupational medicine clinics with policies, guidance, and tools necessary for them to identify and track occupationally related health effects among populations, effectively communicate to workers the reasons for and results of medical testing and surveillance conducted, and identify opportunities to prevent or mitigate work-related injuries and illnesses making use of a dedicated and focused information technology database. In FY 2004, we are beginning a new DOE-wide occupational medicine initiative. The goal of this new activity is to develop a blueprint for adequate and integrated occupational health programs at all DOE sites.

Public Health Activities support health studies, health education and promotion, and other activities at DOE sites. These activities are based on a unified strategy and are published annually as the "Agenda for Public Health Activities at U.S. Department of Energy Sites." Community and worker health studies are conducted in partnership with the Centers for Disease Control and Prevention (CDC) and the Agency for Toxic Substances and Disease Registry (ATSDR) under a single Memorandum of Understanding (MOU). This program supports studies to assess whether the health of workers and residents in nearby communities has been impacted by DOE operations. Information from these activities is communicated to the DOE workforce, line management and community stakeholders.

Epidemiologic Studies collect information to expand our understanding of health effects of radiation, chemicals, and other hazards to current DOE workers and the public. The program facilitates interventions that reduce or eliminate worker risks and provides a means to evaluate these corrective actions once implemented. Information from this program is made available to workers and interested stakeholders through reports, presentations, and a public use data base.

International Health Programs provide health and environmental programs in the Marshall Islands for those populations and land areas exposed to radioactive fallout from the U.S. atmospheric nuclear testing program in the Pacific. In addition, programs are supported to expand the knowledge of radiation health effects among workers and populations exposed to ionizing radiation as a result of accidents or environmental contamination in the former Soviet Union and Spain.

Radiation Effects Research Foundation (RERF)

Mission Supporting Goals and Measures

The United States has supported studies for more than 50 years on the health effects of radiation on the survivors of the Hiroshima and Nagasaki atomic bombings. The Atomic Bomb Casualty Commission (ABCC) began studies in 1947, funded by the Atomic Energy Commission, and in 1975, the Radiation Effects Research Foundation (RERF) was established as the full successor to the ABCC, according to an agreement between the governments of the United States and Japan.

Data obtained at the RERF is used for radiation risk assessment by various national and international agencies, and is used to update and verify radiation protection standards throughout the world. No epidemiologic study of late radiation effects has been as informative or influential as that of the A-bomb survivors, and the world scientific community has a stake in maintaining the strength of the RERF program.

The Department is committed to the continued support of studies on the atomic bomb survivors as long as valuable health effects information can be gained by further follow-up of the survivors. Approximately 50,000 survivors are currently being followed in the RERF studies.

Employee Compensation Program

Mission Supporting Goals and Measures

Title XXXVI of the Defense Authorization Act of 2001 establishes the Energy Employees Occupational Illness Compensation Program to provide benefits to DOE contractor workers made ill as a result of their work for DOE.

This program will:

- Provide the Department of Labor and the Department of Health and Human Service (HHS) any information relevant to claims made under this program, and especially to provide the Department of Health and Human Services access to all relevant information pertaining to worker exposure. In support of this Executive Order, and during the first two years of the program, approximately 30% of the program funding is directed to records search reimbursement and the implementation of an electronic data system designed to streamline data needs for claims.
- Establish Field Resource Centers and a toll free hot-line. These centers and hot-line will operate full time to answer questions and assist claim intake. In FY 2002, more than 35,000 calls have been logged via the hot-line and over 15,000 applications have been processed with the assistance of the Resource Center.
- Establish Physician Panels. Ten panels of three physicians each are reviewing Subtitle D applications, and making recommendations regarding causation of illness for exposure to toxic materials. The panels select randomly for Sutbtitle D cases, which if successful are brought to the state worker compensation programs.
- Negotiate memoranda of Agreements with states to streamline approval of compensation to qualified candidates within the structure of existing state worker compensation programs.

All Subtitle D case workers and physician staff are contract staff, giving significant flexibility to adjust to changes in the authority within the current Act or the needs of the DOE. Significant changes in understanding and application of the Energy Employee Occupational Illness Compensation Program Act are being recognized as the DOL, HHS, and DOE segments of the program are established and initially administered.

Program Direction

Mission Supporting Goals and Measures

Program Direction in the Other Defense Activities account provides overall direction and support for the Office of Environment, Safety and Health (EH) defense programs to ensure that all operations are conducted in the most efficient, effective manner.

Program Direction in this account has been grouped into the following categories:

Salaries and Benefits provide funding for a Federal staff (FY02: 188 FTE; FY03: 158 FTE; FY04: 157 FTE) who have the technical expertise required to carry out the essential EH mission. The EH mission requires experts to: develop overall environment, safety, and health policy for DOE sites and facility operations; provide a central and coordinated source of technical expertise to all field elements; provide a central clearing house for information, analysis and feedback regarding new efforts, present activities, and unforeseen occurrences taking place at the multitude of diverse facilities within the DOE complex; provide the Department with capability, as well as health studies endeavors; and perform activities relative to environment, safety, and health programs across the DOE complex.

Travel includes all costs of transportation, subsistence, and incidental travel expenses of EH's Federal employees in accordance with the Federal travel regulations.

Support Services are not provided for in this decision unit.

Other Related Expenses include training for EH Federal staff.

Funding Schedule

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	$ Change	% Change
Corporate Safety Assurance Program					
Corporate Safety Assurance	3,208	3,000	3,000	0	0.0%
Enforcement	973	700	700	0	0.0%
DNFSB Liaison	599	532	530	-2	-0.4%
Information Technology Support	589	0	0	0	0.0%
RESL	4,100	4,100	4,100	0	0.0%
Analytical Services Program	1,350	1,286	1,286	0	0.0%
Total, Corporate Safety Assurance Program	10,819	9,618	9,616	-2	0.0%
Health Studies					
Occupational Medicine	22,077	16,600	17,150	+550	+3.3%
Public Health Activities	16,342	17,160	16,610	-550	-3.2%
Epidemiologic Studies	3,300	3,300	3,300	0	0.0%
Electronic Records	5,000	0	0	0	0.0%
International Health Programs					
Marshall Islands	6,300	6,300	6,300	0	0.0%
European Programs	4,800	4,800	4,800	0	0.0%
Total, Health Studies	57,819	48,160	48,160	0	0.0%
RERF	13,500	13,500	13,500	0	0.0%
Employee Compensation Program	15,000	16,000	16,000	0	0.0%
Program Direction					
Salaries and Benefits	20,988	19,658	19,318	-340	-1.7%
Travel	1,156	967	967	0	0.0%
Other Related Expenses	150	125	125	0	0.0%
Total, Program Direction	22,294	20,750	20,410	-340	-1.6%
Use of Prior Year Balances	-11,231	0	0	0	0.0%
Total Environment, Safety and Health Other Defense	108,201	108,028	107,686	-342	-0.3%
Full Time Equivalents	188	158	157		

Detailed Program Justification

(dollars in thousands)

FY 2002	FY 2003	FY 2004

Corporate Safety Assurance Program

- **Corporate Safety Assurance** **3,208** **3,000** **3,000**

CSA serves as a centralized ES&H corporate asset to the Department, line management, and the Department's stakeholders. In this crosscutting role, the office can effectively employ its considerable ES&H technical experience and capabilities, as well as benchmarking against the successful programs and initiatives within the Department, the commercial nuclear sector, and private industry, to facilitate and contribute to continuous improvement and excellence in safety.

The activities of this office not only contribute to the assurance of the protection of our workers, the public, and the environment, but serve to contribute to the success of its diverse missions through the effective integration of safety. The failure to effectively integrate ES&H into all phases of projects and activities can and has significantly impacted them including expensive delays, operational shutdowns, state imposed fines, and even cancellation or shutdown.

The funding of this office allows CSA to utilize a variety of mechanisms and activities including field assessments, safety analyses, and accident investigations to keep senior DOE management appraised of the status of nuclear safety and performance across the complex, to assure hazardous activities are conducted safely. CSA contributes to line management through the review and improvement of ES&H programs that are critical to the success of DOE missions including programs such as ISM, criticality safety, radiation protection, chemical safety, industrial safety and health, configuration management, and fire protection.

Field assessments, diagnostic evaluations, and special reviews and investigations: These CSA activities are a core element of the office mission. Field assessments serve to confirm the effectiveness of, and contribute to continuous improvement in essential ES&H programs and processes. Diagnostic evaluations as well as special reviews and investigations are conducted in response to adverse safety performance, issues, or trends and serve to effectively identify root causes and contribute to effective corrective actions and improvements.

The increasing inclusion of line managers and staff on these CSA field assessments is increasing self-assessment capabilities as well as to improved sharing of successful programs, innovative initiatives, and best-practices across the complex.

Safety Analysis: CSA conducts independent evaluation of selected authorization bases, particularly as related to new nuclear facilities or changes in the life cycle status or hazards and facility conditions. These reviews assist the Department in assuring that all hazardous mission activities are conducted within a safety envelop that protects our workers, the public, and the environment. The office monitors positive USQs that may represent a reduction in safety margin from the authorization base, and the effectiveness of compensatory actions taken to assure safety.

(dollars in thousands)

FY 2002	FY 2003	FY 2004

Accident Investigation Program: CSA manages and implements the DOE/NNSA accident investigation program which has been recognized as one of the most effective programs in the industry. CSA leads Type A investigations for the most serious DOE accidents including fatalities, significant radiological or chemical exposures, serious injuries, significant environmental releases, or major damage to DOE facilities or equipment. CSA also supports continuous improvement in line management Type B investigations and provides comprehensive training for accident investigations and team leaders. The independence of CSA, extensive accident investigation experience, and disciplined investigative and analysis techniques provide an element of investigation effectiveness that could not be achieved by line management alone. This program contributes significantly to the Department's ability to learn from, and capitalize on the lessons learned from accidents, to prevent accident recurrence, to achieve continuous improvement in safety management and programs, and avoidance of the considerable costs and mission impacts of additional serious accidents.

The corporate safety mission of CSA allows the office not only to identify safety issues, performance problems, and adverse trends and vulnerabilities, but to work collaberatively with line management to identify solutions and opportunities for improvement. This corporate safety approach has proven extremely effective in the commercial nuclear industry in not only improving safety performance, but in increasing plant efficiency and availability and assuring continuous of the nuclear energy mission. Adequate funding of CSA programs and resources can significantly contribute to the safety performance and risk reduction as well as to the efficiency and continuation of the Department's many and diverse missions, projects, and activities.

(dollars in thousands)

FY 2002	FY 2003	FY 2004

Performance Assessment and Analysis: Performance Assessment and Analysis (PAA) serves as a corporate asset to the Department and its stakeholders responsible for providing an evaluation of the Department's performance effectiveness, vulnerabilities, and trends in protecting the public, the worker, and the environment. PAA is the Department's focal point for monitoring, collecting, analyzing, and disseminating Environment, Safety and Health (ES&H) performance information to DOE line managers. This includes analyzing operational occurrences and identifying adverse performance trends and safety issues to support safety management improvement across DOE in such areas as worker safety, nuclear safety, industrial safety, and environmental protection. The effective analysis of operating experience and utilization of the lessons learned is critical to continuous improvement and excellence in safety management, and preventing accidents, and near-misses. In FY 2004, PAA will implement the re-designed DOE Occurrence Reporting and Processing System (ORPS), and provide training, guidance and interpretations when necessary. In addition, PAA will continue efforts to consolidate several Departmental ES&H related databases to streamline reporting and improve the utility of operational information to line managers. PAA will continue to conduct analysis of operating experience and share of lessons learned; prepare daily roll up of occurrences to the Program Offices; continue publication of Bi-Weekly Operating Experience Summaries; prepare Special Analysis Reports on topics critical to the success of DOE missions and business lines. PAA will continue to prepare weekly and quarterly executive level performance reports for senior DOE managers at headquarters and field locations, and will issue an Annual ES&H Performance Report. PAA will complete the major re-design of the Department's Lessons Learned Program. This re-design project will significantly improve the Department's ability to communicate and track safety improvements associated with the successful implementation of best practices and lessons learned throughout DOE.

(dollars in thousands)

	FY 2002	FY 2003	FY 2004
■ **Enforcement**	**973**	**700**	**700**

Enforcement activities include full field investigations that may result in formal enforcement actions involving Notices of Violation related to Price-Anderson Amendments Act enforcement activities. Ninety-five percent of Notices of Violation issued to DOE contractors will result in actions to correct violations of DOE's nuclear safety requirements.

The performance measures for Enforcement are to conduct approximately 8-10 investigations that are independent, objective and resolve issues of alleged violations of DOE's nuclear safety requirements, and to foster compliance with DOE's nuclear safety requirements through the following compliance assistance efforts: (1) educating the DOE community; (2) coordinating and sharing lessons learned at the semiannual Energy Facilities Contractor Group meetings; and (3) issuing Enforcement Guidance Supplements as needed; (4) conducting Price-Anderson Amendments Act Program Reviews to provide feedback on contractor compliance and to recommend improvements. The complexity of litigation along with increased congressional interest in expanding the filed investigations justifies the minimal additional expenditures. Pending legislation requires this office to encompass enforcement of OSHA safety requirements by 2004. This situation will change office requirements for staffing and number of investigations.

■ **DNFSB Liaison**	**599**	**532**	**530**

This is an on going program for coordinating the Defense Nuclear Facilities Safety Board recommendations process. The funding level is based on experience in performing the process. Performance success will be measured by reducing the number of outstanding actions and commitments for resolving environmental, health and safety issues identified by the DNFSB from 150 in October 2000 to 120 in October 2001 to 100 in October 2002. The Department's interface activities will continue to be managed with the Defense Nuclear Facilities Safety Board. The funding level was determined through experience. Responses to Defense Nuclear Facilities Safety Board reports and inquiries will continue to be coordinated. The Department's central repository of official Defense Nuclear Facilities Safety Board communications will continue to be maintained. The level has been deemed appropriate by previous experience and the actual costs of maintaining this essential services. Support of the DOE's Facility Representative Program will continue to be maintained.

■ **Information Technology Support**	**589**	**0**	**0**

These funds were used for information technology to support the Safety Performance Program. The reduction in the Safety Performance Program in FY 03 eliminated the need for this funding.

■ **Radiological and Environmental Science Laboratory (RESL)**	**4,100**	**4,100**	**4,100**

These funds are to operate RESL at Idaho. RESL is a reference laboratory and supports activities at sites throughout the Department. It conducts DOE-wide laboratory performance evaluation and accreditation programs, providing technical support and measurement quality assurance methodology.

(dollars in thousands)

	FY 2002	FY 2003	FY 2004
■ **Analytical Services Program**	**1,350**	**1,286**	**1,286**

The analytical services program ensures the analytical laboratory data is of high quality and reliability. This program assures that analytical data is technically and legally defensible. It conducts audits to include DOE on-site laboratories to demonstrate fair and equitable selection and treatment among laboratories selected for analytical services contracts.

Total, Corporate Safety Assurance Program	**10,819**	**9,618**	**9,616**

Detailed Program Justification

(dollars in thousands)

FY 2002	FY 2003	FY 2004

Health Studies

Occupational Medicine

- **Worker Medical Surveillance 17,877 13,950 14,950**

  Of the estimated 600,000 former workers in the DOE complex, twelve projects at: Hanford, Nevada Test Site, Oak Ridge, the Portsmouth and Paducah Gaseous Diffusion Plants, Rocky Flats, INEEL, Los Alamos National Laboratory, Savannah River Site, Amchitka Island in Alaska, the Iowa Army Ammunition Plant, and the Pantex Plant have identified and contacted well over one third or 200,000 former workers. Over 90,000 of these workers have responded, and over 30,000 have received medical screening. The medical findings have reassured many anxious participants that they were not harmed during DOE employment. Those with medical findings are assisted with referrals for appropriate follow-up. Medical findings have included primarily lung abnormalities and illnesses. While some projects are winding down, other defense nuclear sites will be served using existing experienced project teams.

(dollars in thousands)

	FY 2002	FY 2003	FY 2004
■ **Integrated DOE Occupational Medicine Program . . . . . .**	**400**	**400**	**900**

As DOE's corporate source of competence and experience in occupational medicine, continue to support Operations Offices in their efforts to provide efficient delivery of quality occupational medicine services to workers through policy, standards, guidance development and dissemination.

In FY 2004, we are beginning a new DOE-wide occupational medicine initiative. The goal of this new activity is to develop a blueprint for adequate and integrated occupational health programs at all DOE sites.

Currently, the occupational medicine clinics provided by the prime contractors at DOE sites serve contractor employees and sometimes serve subcontractor employees. In many cases, the subcontractors send their employees to medical clinics other than the one provided by the prime contractor. Visiting scientists are often not captured at all. Across the sites there are wide disparities in fitness for work qualifications, inconsistent records of hazard exposure, and a fragmented system of records for medical exams, health screening, exposure to work hazards, and work activities.

An integrated DOE occupational medicine program would enable DOE to minimize liability and future worker compensation costs through:

- establishing policy for which workers should be included in DOE-provided occupational medicine programs;
- "capturing" all who fit within the agreed upon scope and using preventive medicine to minimize work-related injury and illness;
- reducing per worker annual costs through program integration efficiencies.

Expected benefits include:

- Minimize future DOE contractor and federal employee worker illness compensation claims and costs
- Ensure that all workers are fit to work and receive appropriate medical screening for hazards
- Provide consistent coverage for DOE contractor/subcontractor workforce
- Streamline data processing for EEOICPA workers' compensation programs and other future needs
- Allow observation/detection of worker health trends

	(dollars in thousands)		
	FY 2002	FY 2003	FY 2004
■ **REAC/TS**	**300**	**300**	**300**

The Radiation Emergency Accident Center/Training Site (REAC/TS) maintains the capability to provide rapid response medical expertise and training to address radiological accidents. Such a capability is of particular importance, particularly in light of the terrorist events of September 11, 2001, which could potentially target government and commercial nuclear facilities. REAC/TS has provided over 1,300 consultations regarding national and international radiation incidents/accidents, provided training to thousands of U.S. medical and technical personnel, and maintained drug inventories and coordinated national distribution of these drugs to over 40 co-sponsor physicians. In FY 2004, REAC/TS will develop telemedicine capabilities in Oak Ridge for emergency response coordination.

■ **Health Information Management Support**	**3,500**	**1,950**	**1,000**

The massive amount of information and data needed to support the health studies program requires a dedicated and focused information management effort. The support includes former worker medical surveillance information systems as well as the current worker occupational medicine programs, information support for the epidemiological analysis of worker injury and illness data, and provision of web-based information on worker health and safety, and international health studies using state-of-the-art Internet Portal technology. The Energy Employees Occupational Illness Compensation Program Act of 2000 (Title XXXVI of Public Law 106-389) requires a significant data collection and processing effort to carry out the provisions of the act. Information systems to support this initiative will require information sharing with several other Federal Agencies and State Worker Compensation systems. The FY 2003 reduction is due to termination of the Medical Surveillance Information System (MSIS) development effort, the completion of system upgrades and infrastructure investment required by the Energy Employees Occupational Illness Compensation Program Act of 2000 and other program initiatives, and the anticipated reduced demand for new systems upgrades or development.

Total, Occupational Medicine	**22,077**	**16,600**	**17,150**

Detailed Program Justification

	(dollars in thousands)		
	FY 2002	FY 2003	FY 2004
Public Health Activities	**16,342**	**17,160**	**16,610**

In 1990 DOE entered into a Memorandum of Understanding (MOU) with the Department of Health and Human Services to conduct an independent program of energy-related analytic epidemiologic studies relevant to DOE operations, with the National Institute for Occupational Safety and Health conducting occupational research focused on worker health and the National Center for Environmental Health conducting historical dose reconstruction of residents of neighboring communities. The Agency for Toxic Substances and Disease Registry is responsible for determining whether communities have potential exposures to hazardous substances from DOE Superfund National Priority List (NPL) sites.

In FY 2002, all public health activities were integrated into a 5-year plan for FY 2002-2006 which places priority on analyses of DOE community and worker populations that increase information defining the relationship between exposures resulting from DOE operations and their effects on human health.

Detailed Program Justification

(dollars in thousands)

FY 2002	FY 2003	FY 2004

Epidemiologic Studies

- **Epidemiologic Surveillance 2,300 2,300 2,300**

The multi-site Epidemiologic Surveillance Program conducts ongoing health monitoring of active workers, enhancing DOE's ability to protect worker health and identify potential health risks and occupational illnesses. Epidemiologic Surveillance also facilitates evaluation of the effectiveness of risk reduction efforts through its ongoing monitoring of health trends and provides a multi-site health information data base linked to current workers. The program will continue to support enhancements of automated medical and industrial hygiene data management systems at participating sites to facilitate the collection of health data. Annual presentations of the results of epidemiologic surveillance analyses will be made to workers, management, and citizen's advisory groups at participating DOE facilities. An additional component of the Epidemiologic Surveillance Program is the Comprehensive Epidemiologic Data Resource. This public use data base provides access to health related data collected from many occupational and environmental epidemiologic studies performed by DOE during the past 40 years. Its internet capabilities facilitate dissemination of health-related information to DOE workers, DOE communities, and the general public. The budget request will support: (1) ongoing epidemiologic surveillance to protect worker health through the identification of potential health risks and occupational illnesses; (2) enhanced integration of data from other existing health and safety programs with epidemiologic surveillance information; (3) continued refinement of the annual reports to include focus on additional occupational exposures, (4) greater use of electronic communication and internet resources to increase stakeholder access to epidemiologic surveillance information; (5) inclusion of additional DOE sites in surveillance; (6) additional focused analyses targeted at specific occupational injuries and illnesses; (7) refinement of a comprehensive summary of health trend information for participating sites throughout the DOE complex; (8) a new initiative to integrate Epidemiologic Surveillance into Integrated Safety Management planning; (9) greater emphasis on evaluating the success of safety and health initiatives; (10) funding for targeted research to develop more effective tools for surveillance; (11) more emphasis on coordination with internal and external working groups to promote sharing of health and safety information regarding illness and injury patterns; (12) a new initiative to establish a DOE-wide worker registry; (13) expanded operation of the Beryllium exposure registry at DOE sites; and (14) expansion of the public access data base maintained by the Comprehensive Epidemiologic Data Resource.

(dollars in thousands)

	FY 2002	FY 2003	FY 2004
■ **U.S. Transuranium Registries**	**1,000**	**1,000**	**1,000**

A safe working environment is essential to realizing DOE's national security mission, which is dependent on a stable, healthy workforce. Knowledge gained from the USTUR is important in ensuring that occupational exposure standards are appropriate for alpha-emitting materials present at many DOE sites. In FY 2004 the USTUR Program will remain in contact with the approximately 200 living registrants (from Hanford, Rocky Flats, Savannah River Site, Los Alamos), arrange for autopsies, prepare tissue samples and perform about 600 radiochemical analyses annually, and be a leader in making significant contributions to the factors in current models for retention of transuranics, for example the mathematical model for estimating total skeletal actinide.

Total, Epidemiologic Studies	**3,300**	**3,300**	**3,300**

■ **Electronic Records**	**5,000**	**0**	**0**

Established a program at the University of Nevada-Las Vegas for Department-wide management of electronic records.

(dollars in thousands)

FY 2002	FY 2003	FY 2004

International Health Programs

- **Marshall Islands 6,300 6,300 6,300**

  Provide mandated special medical care and ensure follow-up on diseases potentially associated with radiation exposure resulting from the nuclear test in the Marshall Islands for 2 atolls. Deliver year-round community-based medical services that encourage community involvement and provide more extensive medical care for the Rongelap and Utrik mandated populations. Offer community assistance to improve quality of health care infrastructure to service community-wide preventive medical programs. Perform radiological monitoring and dose assessment under the Rongelap and Enewetak Memorandum of Understanding and provide radiological monitoring technical assistance for Bikini, Enewetak, Rongelap and Utrik atolls. Finalize reports regarding the residual levels of radioncuclides in the environment, and affect the mitigation strategies for reducing uptake of the radionuclides in local food products. Develop exit strategy for resettlement of Rongelap Island with reduced environmental monitoring, based on Lawrence Livermore symposium and review of all historical results. Benchmark costs of care for various population segments to hold down future costs.

(dollars in thousands)

	FY 2002	FY 2003	FY 2004
■ **European Programs**	**4,800**	**4,800**	**4,800**
▸ **JCCCNRS (Chernobyl)**	**1,500**	**1,500**	**1,500**

Four international programs are underway, sponsored by the National Cancer Institute and DOE, which focus on the adverse health effects of radiologic contamination on the populations of Belarus and Ukraine as well as on Chernobyl clean-up workers. This work is expected to produce risk coefficients for thyroid cancer, leukemia, and cataracts relevant to radiation. This knowledge will provide guidance for radiation protection and public health policies for DOE workers and communities around DOE sites, commercial nuclear reactors, and other potentially vulnerable locations subject to nuclear terrorism. The Chernobyl accident represents the largest prospective research on the health effects of environmental exposure to radiation outside of the study of the Japanese A-bomb survivors. Results from the thyroid disease study in Belarus and Ukraine will provide information relevant to populations throughout the U.S. who were exposed to radioiodine (I-131) as a result of atmospheric testing of nuclear weapons. To date, over 1,300 cataract cases have been found in the 12,000 person cohort of Ukrainian liquidators.

▸ **JCCRER (Russian)**	**3,000**	**3,000**	**3,000**

The collaboration with Russian and other U.S agencies has the potential for a very strong rate of return on investment by providing information on chronic low-dose radiation exposure needed to improve radiation protection standards used to protect workers and communities. Over 40 published technical papers have been successfully peer reviewed and are considered the most important new information in radioepidemiology, and scores of addition reporting is pending documenting excess lung, bone, and liver cancer mortality risk in workers at the Mayak Production Facility, located in the Southern Urals Region of Russia. In contrast to the studies of Japanese atomic bomb survivors, which represents a large, one-time dose, the Russian data is examining a chronic (long-term) low to moderate dose to workers exposed to radiation during 50 years of nuclear weapon production. As a result of this work, biokinetic models for plutonium are currently being revised.

	(dollars in thousands)		
	FY 2002	FY 2003	FY 2004
■ **Project Indalo**	**300**	**300**	**300**

Continue U.S. collaboration with Spain in the Project Indalo program of medical surveillance and environmental monitoring for the effects of plutonium contamination. DOE and its Spanish counterpart, Centro de Investigaciones Energeticas Medioambientales y Technologicas jointly fund this effort as a result of a U.S. airplane accident in Palomares, Spain which dispersed plutonium and other radiologic contamination over 558 acres of land. Since the inception of the project, over 1,500 residents have had bioassays for plutonium and americium. Fortunately no significant findings related to radiation exposure have been found in the residents. In recent years, pressure to increase use and agricultural production of the affected lands has become an issue for the Spanish Government.

Total, International Health Programs	**11,100**	**11,100**	**11,100**
Total, Health Studies	**57,819**	**48,160**	**48,160**

Detailed Program Justification

(dollars in thousands)

	FY 2002	FY 2003	FY 2004
Radiation Effects Research Foundation (RERF)	**13,500**	**13,500**	**13,500**

The core RERF study that is used for determining risk of mortality, cancer, and other diseases is the Life Span Study. In FY 2002, under the direction of the first ever American RERF chairman, the staffing of epidemiologists/biostatisticians has increased to complete the Life Span Study, which DOE is committed to complete in 2020. While more than half of the original survivor cohort is extant, as the population ages, each year new information is gleaned regarding the health effects of this exposed group. In recent years there is the suggestion that increase cardio-vascular disease accompanies the exposure. In FY 2003, the revision of the 1986 A-Bomb Dosimetry System will be published, and in FY 2004 an increase of emphasis on medical studies in the areas of prevention, diagnosis, and treatment of radiation injuries will be undertaken to provide a rational basis for emergency response procedures and planning for radiation incidents, accidents or terrorist acts.

Detailed Program Justification

(dollars in thousands)

	FY 2002	FY 2003	FY 2004
Employee Compensation Program	**15,000**	**16,000**	**16,000**

Title XXXVI of the Defense Authorization Act of 2001 establishes the Energy Employees Occupational Illness Compensation Program to provide benefits to DOE contractor workers made ill as a result of their work for DOE.

This program will:

- Provide the Department of Labor and the Department of Health and Human Service (HHS) any information relevant to claims made under this program, and especially to provide the Department of Health and Human Services access to all relevant information pertaining to worker exposure. In support of this Executive Order, and during the first two years of the program, approximately 30% of the program funding is directed to records search reimbursement and the implementation of an electronic data system designed to streamline data needs for claims.
- Establish Field Resource Centers and a toll free hot-line. These centers and hot-line will operate full time to answer questions and assist claim intake. In FY 2002, more than 35,000 calls have been logged via the hot-line and over 15,000 applications have been processed with the assistance of the Resource Center.
- Establish Physician Panels. Ten panels of three physicians each are reviewing Subtitle D applications, and making recommendations regarding causation of illness for exposure to toxic materials. The panels select randomly for Sutbtitle D cases, which if successful are brought to the state worker compensation programs.
- Negotiate memoranda of Agreements with states to streamline approval of compensation to qualified candidates within the structure of existing state worker compensation programs.

All Subtitle D case workers and physician staff are contract staff, giving significant flexibility to adjust to changes in the authority within the current Act or the needs of the DOE. Significant changes in understanding and application of the Energy Employee Occupational Illness Compensation Program Act are being recognized as the DOL, HHS, and DOE segments of the program are established and initially administered.

Detailed Program Justification

(dollars in thousands)

	FY 2002	FY 2003	FY 2004
Program Direction			
Salaries and Benefits	**20,988**	**19,658**	**19,318**
Salaries and Benefits reflect the FTE split between Energy Supply and Other Defense Activities. This category funds full-time permanent and other than full-time permanent employees: salaries, overtime pay, cash incentive awards, lump sum leave payments, Senior Executive Service and other performance awards, and payments to worker's compensation. The increases for Salaries and Benefits are based on the latest OMB economic assumptions for Federal pay and personnel related costs.			
Travel	**1,156**	**967**	**967**
EH travel requirements are in line with the overall EH Federal staff.			
Other Related Expenses	**150**	**125**	**125**
Training, which includes tuition costs for the EH Federal employees, was previously budgeted in Management and Administration.			
Total, Program Direction	**22,294**	**20,750**	**20,410**

Explanation of Funding Changes from FY 2003 to FY 2004

	FY 2004 vs. FY 2003 ($000)
■ **DNFSB**	
• *Reduction reflects minor cost savings..*	-2
■ **Program Direction**	
• *Funding requirements for Salaries and Benefits are commensurate with the allocation of Federal staff among EH programs. Includes funding for cost of living adjustments, locality pay, within-grade increases, lump sum payments, and awards. The rates used are based on EH actual experience and the latest OMB economic assumptions for Federal pay and personnel related costs..*	-340
Total, Other Defense Activities	**-342**