

# **Environment, Safety and Health**

## **Executive Budget Summary**

### **Mission**

The Office of Environment, Safety and Health (EH) is committed to protect the health and safety of Department of Energy (DOE) workers, the public, and the environment. Since DOE is self regulatory, EH is the Department's independent advocate for safety, health, and the environment. This is a highly critical and visible role. This commitment is demonstrated by continuous improvement in program and policy development; independent oversight of environment, safety, and health programs; and corporate environment, safety, and health programs. EH is the Department's major source of expertise in disciplines such as environmental protection, nuclear safety, nuclear risk management, public health, industrial hygiene, radiation protection, construction, fire safety, industrial and chemical safety, epidemiology, occupational medicine, and international health studies affecting radiation protection. The EH goal is to leverage resources and skilled personnel to efficiently provide DOE's line management programs with the essential policies, information and analysis, management tools and independent program assessments required to promote safety and to protect the environment at DOE sites. Integral to EH's success is fostering increased awareness and accountability throughout the Department, open communications, participation, and performance feedback on EH activities.

The Environment, Safety and Health program currently is funded in two appropriations: (1) Energy Supply, and (2) Other Defense Activities. Beginning in FY 2001, the Energy Supply EH program consists of: Policy, Standards and Guidance; DOE-Wide ES&H Programs; and a Program Direction decision unit that includes the EH Working Capital Fund. The Other Defense Activities EH program includes: Oversight; Domestic and International Health Studies programs; the Radiation Effects Research Foundation (RERF) program; Gaseous Diffusion Plants Initiatives, completed in FY 2001; Employee Compensation including Worker Advocacy; and a Program Direction decision unit.

The Department of Energy, as a whole, has transitioned to new missions that include weapons dismantlement, environmental cleanup, and facility decontamination and decommissioning, requiring innovative and dynamic safety and health programs rather than the comparatively more static "business-as-usual" required by routine operations. Residual hazards at DOE facilities, especially in the nuclear weapons complex, are the result of more than 50 years of nuclear materials production and processing under less than optimum conditions, the impacts of which are still being characterized. It constitutes the largest inventory of hazardous nuclear materials in the world outside of the former Soviet Union, and includes large quantities of hazardous chemicals. Much of this material (including plutonium, spent nuclear fuel, highly enriched uranium, radioactive waste, radioactive isotopes, and hazardous chemicals) is stored in aging and deteriorating facilities. There is still a lack of reliable data for many of these facilities on the most basic safety issues. Examples include non-compliant electrical and ventilation systems.

The EH mission is one of DOE's highest priorities. The Secretary of Energy has reaffirmed the importance of line management accountability for operational environment, safety, and health activities and has established a key priority in assuring that Integrated Safety Management is the Department's safety performance framework and is effectively implemented. Through its independent oversight, enforcement, policy and corporate environment, safety, and health programs, EH has an essential role in

facilitating the timely accomplishment of this mandate. The EH role is to assure that responsibilities for program execution for integrated safety management and other environment, safety, and health activities reside with accountable line programs. EH activities are aimed at providing clear policy expectations; working models for integrating environment, safety, and health into critical work environments; and safety and health information and analysis.

The need for effective programs to identify environment, safety, and health concerns at the project and individual activity level remains urgent. Reasonable assurance is provided that the DOE complex is in conformance with facility life cycle safety and health requirements (i.e., design, construction, operations, closure, decontamination and decommissioning, and privatization, where applicable). Emphasis has been placed on assuring that prior commitments to fund programs to reduce environment, safety, and health concerns are met, but more remains to be done. The downsizing and realignment of the weapons production efforts necessitates changes in the conduct of operations at field sites. EH's analytical products are shared DOE-wide for appropriate and timely resolution of identified and emerging concerns.

In recognition of the efforts of the workers who served their country in the nuclear weapons complex, the Department of Energy has also made the health concerns of current and former workers a top priority. Based on the belief that these workers deserve to be taken care of, Congress passed a compensation bill for workers who have illnesses associated with exposures that occurred during their employment at DOE facilities. In addition, DOE has placed a priority on expanding the medical monitoring of its former workforce to identify work-related illnesses.

## **Mission Supporting Goals and Objectives**

The EH overall major goals and objectives are as follows:

Provide a standardized, corporate independent oversight process to develop information and analysis needed to ensure that DOE and contractor management, the public, the Secretary of Energy, and the Assistant Secretary for Environment, Safety and Health have an accurate, comprehensive understanding of the effectiveness, vulnerabilities, and trends of the Department's environment, safety and health policies, programs and performance. To accomplish the goal of corporate independent environment, safety, and health oversight, the following objectives have been established: (1) identify, prioritize, and target Departmental needs for independent oversight; (2) incorporate DOE's guiding integrated safety management policy and principles into all oversight activities; (3) sustain a coordinated and consistent environment, safety, and health oversight program for DOE; (4) provide ongoing assessments of environment, safety, and health performance through integrated safety management evaluations, project and program reviews and inspections, safety authorization basis analyses and special investigations, essential system functional reviews and accident investigations; (5) administer an enforcement program that appropriately penalizes significant violations of nuclear safety requirements; and (6) disseminate lessons learned to reinforce good practices.

Provide quality, timely, efficient, and effective corporate support and specialized technical expertise for accomplishment of Departmental environment, safety, and health goals. To achieve this goal, the following objectives have been established: (1) evaluate operational performance data and identify vulnerabilities that pose urgent risks to DOE workers, the public, and mission accomplishment; (2) provide critical environment, safety, and health information and analysis to support performance trending and identification of lessons learned; (3) continue ongoing partnerships with private industry, other Government agencies, and national safety organizations to promote information exchange and

program benchmarking to enhance DOE safety programs; and (4) improve corporate services through feedback and performance measures.

Provide Departmental policy, requirements, and guidance for environment, safety, and health program implementation and measurement. To accomplish this goal, the following objectives have been developed: (1) formulate, update, and issue policy and supporting guidance necessary to assure a robust safety and health program; (2) support ongoing field analysis, interpretation, and application of safety guidelines and provide needed regulatory interpretations and implementation guidance; (3) interface with outside regulators and provide Departmental comments on pending regulations pertinent to DOE and regulatory policies and actions having impact on DOE missions; and (4) continue stewardship and improve effectiveness of new environment, safety, and health orders.

Provide a National Environmental Policy Act (NEPA) process that fosters sound Departmental planning and decisionmaking and builds public trust. To accomplish this goal, EH has established the following objectives: (1) ensure timely and adequate completion of NEPA reviews through compliance assurance, independent policy review, and approval recommendations for major environmental impact statements (EISs) and related NEPA documents; (2) ensure the consistency and quality of NEPA documents and increase the efficiency of NEPA personnel by determining and responding to customer needs; (3) develop policy and issue guidance on selected technical and policy topics; and (4) establish NEPA process improvement teams and other initiatives that foster continuing improvement in the NEPA process.

Provide the mechanisms for senior management to ensure environment, safety, and health performance and line management accountability. To accomplish this goal, EH has established the following objectives: (1) coordinate and support implementation of a DOE-wide environment, safety, and health budget and planning process that identifies critical environment, safety, and health budget proposals and assures DOE line management's attention based on environment, safety, and health risk implications; (2) integrate environment, safety, and health in all Departmental business functions; and (3) identify ways for line program management to improve environment, safety, and health performance as part of work execution systems.

Conduct EH's mission in an open, trustworthy, and responsive manner. To accomplish this goal, EH's objectives include establishing and implementing programs that strengthen the public's trust, confidence, credibility, and respect in and for EH.

Promote the health and safety of DOE's workers and communities surrounding Departmental sites and support measures that reduce radiation and hazardous exposures based on an understanding of radiation effects and other hazards on humans. To accomplish this goal, EH's objectives are: (1) support the field in the evaluation of approaches implemented to prevent injury and illness; and (2) support the development of health effects information on domestic and international populations exposed to releases of varying levels of ionizing radiation.

Provide benefits to DOE contract workers made ill as a result of exposure from nuclear weapons production.

The legal requirements that affect the activities of the EH organization include all environment, safety, and health Federal regulations, as well as legislation such as the Atomic Energy Act of 1954, as amended, and the National Defense Authorization Act for Fiscal Year 1995.

## Strategy

The intent of the Office of Environment, Safety and Health (EH) is to assure that quality, objectivity, responsiveness and innovation are hallmarks of all EH activities. The Office's commitment to ensure the safety and health of the DOE workforce and members of the public, and the protection of the environment in all Departmental activities is our strategic objective, part of DOE's performance agreement with the President, and a key part of the DOE Strategic Plan. To accomplish this objective, EH integrates and embeds sound environment, safety, and health management practices into the performance of DOE's day-to-day work. EH helps to ensure that environment, safety, and health priorities are clearly identified and given appropriate consideration for funding. EH is working with the Occupational Safety and Health Administration (OSHA) to evaluate and explore how worker protection programs of the Department can be accomplished in a more effective manner consistent with industry initiatives that OSHA supports.

Another strategic objective is to continually work with the public community in an open, frank, and constructive manner as a good neighbor and public partner. To accomplish this objective, EH fosters strong partnerships with neighboring DOE communities, regulators, and other stakeholders to determine priorities and solutions. As a growing priority, EH continues to focus on developing management-level environment, safety, and health analytical products that serve to disseminate critical environment, safety, and health information and establish a sound basis for decisionmaking.

EH serves its principal customers in the following major areas: (1) development of Departmental environment, safety, and health requirements, guidance, and interpretations that are effective and efficient to guide program implementation; (2) provision of critical corporate environment, safety, and health services that include specialized technical information and analysis, a regulatory and industry interface to assure that DOE programs are benchmarked with the community to improve program management and execution, and provide support in the efficient and effective implementation of requirements; (3) conduct of independent oversight activities that provide a comprehensive status of environment, safety, and health performance at DOE facilities; and (4) provision of environment, safety, and health information and performance analyses to increase both internal and public awareness, and assure that appropriate DOE and contractor management accountability to environment, safety, and health results are achieved.

The EH independent environment, safety, and health oversight program has been extremely useful in helping the Department effectively identify and target unacceptable risk. Comprehensive environment, safety, and health evaluations provide DOE management with validated, professional appraisals of the site's performance by identifying areas of greatest risk in terms of both immediate hazards and overall program management. The foundation of this approach is an assessment of management effectiveness based on DOE's integrated safety management policy and the guiding principles of safety management contained in that policy. Using the guiding principles of safety management permits objective program analysis. Although much effort remains, changes in the Department's ability to apply resources to areas of greatest need have already been observed and will become increasingly evident in efficiency in addressing environment, safety, and health issues.

The rapid transition of the Department 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 functions. Special emphasis will be given to self-assessment and self-reporting by field elements as a source of performance information, coupled with increased emphasis on

EH performance analysis. Likewise, increased priority is being given to help move DOE line management from outdated environment, safety, and health management approaches and systems to programs that facilitate the exchange of innovative business or environment, safety, and health management practices that are preventive and cost-effective in nature. From a technical safety perspective, special emphasis is being given to urgent programmatic needs such as safely managing the decommissioning and decontamination of aging DOE facilities and hazardous waste.

EH will continue to build on its strong record of effective management of 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. An EH staffing plan has identified the most critical functions and closely matched personnel to fit those needs. Functions of lower priority will continue to be eliminated. EH has also analyzed how it utilizes support contractors and established specific criteria for their limited use. While EH has some unique national-level experts, technical, contractual services continue to be more practical and cost-effective, providing a surge pool of technical expertise 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 who can rapidly respond to the continually changing skills mix required of EH activities across the DOE complex.

The former workers medical surveillance program, required by 42 USC Section 7274 continues. Twelve projects at 11 current and former DOE operations or testing sites are being conducted by a consortia of universities, labor unions and health specialists. 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 are provided and assistance for obtaining available state workers' compensation benefits is offered. Examination results to date have provided evidence of pulmonary disease (including chronic beryllium disease, asbestosis, and silicosis), skin disease, thyroid disease, hearing loss, and other possible work-related health conditions in those screened. This pilot program will cover high risk former workers at one quarter to one third of all DOE sites and approximately 5 to 10 percent of DOE's former workforce.

DOE, in partnership with the Department of Health and Human Services (HHS), has developed a planning process for conducting public health activities across the DOE complex that includes 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.

## **Performance Measures**

Performance measures are primarily qualitative rather than quantitative and include the following:

With the broad objective of improving communication of the health effects associated with nuclear weapons production, testing, and use within past, current, and future DOE activities, the following actions will be undertaken:

Annual presentations of the results of epidemiologic surveillance analyses will be made to workers and management at participating DOE facilities.

The number of holdings in the Comprehensive Epidemiologic Data Resource's catalog will be increased as data from research studies become available.

Public access to DOE health information will be increased through electronic publishing on the Internet. All epidemiologic surveillance reports will be posted to a publicly accessible home page within 45 days of release, and abstracts of all reports and publications completed under our Memorandum of Understanding with the Department of Health and Human Services will be posted within 45 days of receipt.

The Office of Health Studies Access Handbook, providing information on conducting research at DOE sites, will be updated biennially.

A beryllium registry will be established in January 2002.

Public access to the United States Transuranium/Uranium Registries program's reports and information will be expanded by linkage of the Registries' Internet home page to the Office of Environment, Safety and Health home page.

Identification of at-risk worker populations and evaluation of mitigation measures to avoid adverse health outcomes by implementing a program that will establish systematic linkages between job and task analyses, exposure assessments, medical monitoring, and epidemiological analysis. Continue shift from a reactive approach to emphasizing excellence and prevention in protecting worker and public safety and health.

Initiation of investigation of reported health concerns within 30 days of identification.

Satisfaction of participants in former workers pilot projects that issues surrounding their potential for occupationally-related disease are being addressed.

Reduce number of outstanding actions and commitments for resolving environmental, health, and safety issues identified by the Defense Nuclear Facilities Safety Board.

Increase stakeholder satisfaction with access to information on DOE public and occupational health initiatives.

Through studies of DOE community and worker populations, increase information defining the relationship between exposures resulting from DOE facility operations and their effects on human health.

Publish ten 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.

Reduce worker health and safety impacts; reduce the number of fatalities from the current average of four per year; and reduce serious injuries from the current average of 1.7 cases per 200,000 person hours worked.

Fewer instances of significant worker exposures, and lower worker exposure to radiological material as measured by the overall collective total dose equivalent from the current level of 1299 person/rem.

Since 1993 DOE-wide trends reflect decreasing exposures. Collective dose to the public from all DOE activities combined has remained below 80 person-rem/year.

Fewer radiological and toxicological contamination events, reduce radiological and toxicological contamination from the current rate of 372 per year, reduce the number of procedural violations from the current rate of 1276 per year.

Increase the adoption and use from 20 to 30 non-government consensus technical standards for improved safety and cost-effectiveness.

Issuance of an annual report on environment, safety, and health expenditures/trends, accomplishments and emerging issues.

Issuance of an annual report on Reduction in Toxic Chemical Releases Department-wide and Department compliance with Executive Order: Environmental Management and Pollution Prevention Requirements.

In addition to the above specific EH performance measures, EH also supports, by developing and implementing Department-wide policy and procedures, the following Department-wide performance measures:

Prevent fatalities, serious accidents, and environmental releases at Departmental sites.

Enhance Integrated Safety Management Systems in all management and operations contracts. Enhancement of existing programs will be accomplished by imparting best practices from industry and across the Department.

Clearly identify environment, safety, and health priorities and ensure resources are appropriately spent on those priorities.

Collect analyses and report on Departmental environment, safety, and health performance including environmental releases, accidents, lost work days, etc.

Act as the Departmental lead and monitor the Department's effort to further reduce reportable illness and injury rates in line with the goals of Executive Order: Federal Worker 2000 Initiative.

## Major Changes

With the Department's reorganization and prioritization of national security interests, the safeguards and security oversight function has been reassigned outside of EH.

The Energy Employees Occupational Illness Compensation Program Act of 2000 (Public Law 106-398, the "Act") and a Presidential Executive Order dated December 7, 2000, created a compensation program for DOE contract workers made ill as a consequence of exposures that occurred during the production of nuclear weapons. As a result, the Department's responsibilities and the shape of the program have changed markedly over the past 12 months. A fund was established to be administered by the Department of Labor to provide benefits to workers with chronic beryllium disease, radiation-related cancers, and silicosis, as well as workers with certain cancers employed at the Gaseous Diffusion Plants and the Amchitka test site. Subtitle D of the Act directs the Secretary of Energy to establish a program to assist workers in filing compensation claims for the Federal program as well as for illnesses not covered by the Act but eligible for state workers' compensation benefits. The Office of Worker Advocacy has been established to assist DOE workers with the claims process. Assistance specified includes: outreach and notification efforts; review of claims by medical panels; determinations of employees eligible for the program; gathering of employment, job history, exposure, and medical records necessary to file a claim; coordination with state agencies, DOE operations and field offices, contractors, and insurers; and filing of compensation claims, as appropriate.

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Environment, Safety and Health

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Date



## Funding Profile

(dollars in thousands)

	FY 2000 Comparable Appropriation	FY 2001 Original Appropriation	FY 2001 Adjustments	FY 2001 Comparable Appropriation	FY 2002 Request
<b>Energy Supply Operating Expenses</b>					
Policy, Standards and Guidance . . . . .	4,250	3,625	-76 <sup>a</sup>	3,549	4,430
DOE-Wide ES&H Programs . . . . .	15,197	11,375	-53 <sup>a</sup>	11,322	9,543
OSHA Program . . . . .	0	1,000	-2 <sup>a</sup>	998	1,000
Program Direction . . . . .	18,393	19,998	-44 <sup>a</sup>	19,954	20,527
<b>Subtotal, Energy Supply . . . . .</b>	<b>37,840</b>	<b>35,998</b>	<b>-175</b>	<b>35,823</b>	<b>35,500</b>
General Reduction S & S . . . . .	0	-96	+96	0	0
<b>Subtotal, Energy Supply . . . . .</b>	<b>37,840</b>	<b>35,902</b>	<b>-79</b>	<b>35,823</b>	<b>35,500</b>
<b>Other Defense Activities Operating Expenses</b>					
Oversight . . . . .	7,041	7,990	-17 <sup>a</sup>	7,973	9,369
Health Studies . . . . .	48,129	52,473	0	52,473	53,438
RERF . . . . .	13,500	13,500	-146 <sup>a</sup>	13,354	13,500
Gaseous Diffusion Plants . . . . .	10,000	12,000	-27 <sup>a</sup>	11,973	0
Employee Compensation . . . . .	0	17,000	-37 <sup>a</sup>	16,963	15,000 <sup>b</sup>
Program Direction . . . . .	21,542	22,604	-50 <sup>a</sup>	22,554	23,293
<b>Subtotal, Other Defense Activities . . . . .</b>	<b>100,212</b>	<b>125,567</b>	<b>-277</b>	<b>125,290</b>	<b>114,600</b>
Use of Prior Year Balances . . . . .	0	0	0	0	-10,000 <sup>b</sup>
<b>Subtotal, Other Defense Activities . . . . .</b>	<b>100,212</b>	<b>125,567</b>	<b>-277</b>	<b>125,290</b>	<b>104,600</b>
<b>Total, Environment, Safety and Health . . . . .</b>	<b>138,052</b>	<b>161,469</b>	<b>-356</b>	<b>161,113</b>	<b>140,100</b>

**Public Law Authorization:**

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"

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<sup>a</sup>In FY 2001, these amounts comprise a total of \$79,000 representing the allocated share of the .22% Congressionally prescribed reduction and \$96,000 representing the Safeguards and Security allocation in Energy Supply; and \$277,000 allocated share of the .22% Congressionally prescribed reduction in Other Defense Activities. The \$356,000 reduction reflects the total net change attributable to the .22% reduction which was enacted subsequent to the original appropriation.

<sup>b</sup>Prior year funds to be utilized are a partial offset for the Employee Compensation Program.

## Staffing Profile

(Whole FTEs)

	FY 2000 Comparable Appropriation	FY 2001 Comparable Appropriation	FY 2002 Request
Full Time Equivalents			
Energy Supply .....	122	122	122
Other Defense Activities .....	186	186	185
<b>Total, Full Time Equivalents .....</b>	<b>308</b>	<b>308</b>	<b>307</b>

## Funding by Site

(dollars in thousands)

	FY 2000	FY 2001	FY 2002	\$ Change	% Change
Albuquerque Operations Office					
Los Alamos National Laboratory .....	300	300	300	0	0.0%
Sandia National Laboratories .....	100	100	100	0	0.0%
Albuquerque Operations Office .....	230	0	0	0	0.0%
<b>Total, Albuquerque Operations Office .....</b>	<b>630</b>	<b>400</b>	<b>400</b>	<b>0</b>	<b>0.0%</b>
Chicago Operations Office					
Argonne National Laboratory .....	425	425	425	0	0.0%
Brookhaven National Laboratory .....	305	305	305	0	0.0%
Chicago Operations Office .....	612	0	0	0	0.0%
<b>Total, Chicago Operations Office .....</b>	<b>1,342</b>	<b>730</b>	<b>730</b>	<b>0</b>	<b>0.0%</b>
Idaho Operations Office					
Idaho National Engineering & Environmental Laboratory .....	203	199	199	0	0.0%
Idaho Operations Office .....	1,766	1,581	1,581	0	0.0%
<b>Total, Idaho Operations Office .....</b>	<b>1,969</b>	<b>1,780</b>	<b>1,780</b>	<b>0</b>	<b>0.0%</b>
Nevada Operations Office .....	3,160	3,150	3,150	0	0.0%
Oakland Operations Office					
Lawrence Berkeley Laboratory .....	480	500	500	0	0.0%
Lawrence Livermore National Laboratory .....	3,032	3,250	3,250	0	0.0%
Oakland Operations Office .....	31,968	33,670	30,370	-3,300	-9.8%
<b>Total, Oakland Operations Office .....</b>	<b>35,480</b>	<b>37,420</b>	<b>34,120</b>	<b>-3,300</b>	<b>-8.8%</b>
Oak Ridge Operations Office					
Oak Ridge National Laboratory .....	1,990	1,990	1,990	0	0.0%
Oak Ridge Operations Office .....	5,078	5,025	5,025	0	0.0%
<b>Total, Oak Ridge Operations Office .....</b>	<b>7,068</b>	<b>7,015</b>	<b>7,015</b>	<b>0</b>	<b>0.0%</b>
Richland Operations Office					
Pacific Northwest National Laboratory .....	1,393	1,395	1,395	0	0.0%
Richland Operations Office .....	1,279	1,070	1,070	0	0.0%
<b>Total, Richland Operations Office .....</b>	<b>2,672</b>	<b>2,465</b>	<b>2,465</b>	<b>0</b>	<b>0.0%</b>
Savannah River Operations Office .....	406	80	80	0	0.0%
All Other Sites					
Washington Headquarters .....	85,325	108,073	100,360	-7,713	-7.1%
Use of Prior Year Balances .....	0	0	-10,000	-10,000	-100.0%
<b>Total, Environment, Safety and Health .....</b>	<b>138,052</b>	<b>161,113</b>	<b>140,100</b>	<b>-21,013</b>	<b>-13.0%</b>

# 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 oversight of environment, safety, and health performance; and providing technical services, resources, 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: Oversight, Health Studies, the Radiation Effects Research Foundation (RERF) support, Employees Compensation, including Worker Advocacy; and a Program Direction decision unit.

**Oversight** activities provide the independent and credible information and analysis needed to ensure that the Department of Energy (DOE) and contractor management, the public, the Secretary of Energy, and the Assistant Secretary for Environment, Safety and Health have an accurate, comprehensive understanding of the effectiveness, vulnerabilities, and trends of the Department's environment, safety, and health policies, programs and performance. This data and analysis provide critical information on how effectively line management is implementing Integrated Safety Management. The activities to accomplish this mission include Independent Oversight Evaluations, Price-Anderson Amendments Act Enforcement, and the Departmental Representative to the Defense Nuclear Facilities Safety Board.

**Health Studies** activities include Occupational Medicine (corporate occupational medicine policy and 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 medical 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.

**Gaseous Diffusion Plants** activities provide a focused investigation into the historical (legacy) gaseous diffusion plant operations use of recycled uranium, from the environment, safety and health standpoint, to identify potential exposure to workers or contamination of the environment, and ongoing oversight and follow-up of actions taken to correct findings. Funding for gaseous diffusion plant activity is completed in FY 2001. The EH Office of Oversight will continue to monitor the safety and health progress at these facilities.

**Employees Compensation** activities support the compensation of current and former DOE workers with work-related illness resulting from their employment at DOE nuclear weapons sites. Assisting workers to receive benefits for which they are eligible under the Energy Employees Occupational Illness Compensation Program Act of 2000 involves outreach efforts and close working relationships with other Federal agencies designated to administer the program. 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 filed at the state level, and filing compensation claims, as appropriate.

**Nevada Records Projects** encompasses projects with the University of Nevada-Las Vegas to conduct research in the consolidation of worker records for DOE into a survivable electronic storage structure and with the State of Nevada to maintain a central cancer registry.

## **Program Goal**

The goal of the EH Other Defense Activities is to continually provide excellent Department-wide environment, safety and health support to:

Provide consistent, multidisciplinary, credible independent oversight processes for evaluating the effectiveness of environment, safety, and health programs and performance.

Promote actions that prevent recurrence of worker injuries, property damage, and environmental damage due to accidents.

Coordinate processes with field and program offices and report evaluation results to DOE senior management, the Congress, and the Defense Nuclear Facilities Safety Board.

Ensure that initiatives relative to environment, safety, and health throughout the complex are analyzed and disseminated as appropriate.

Ensure that follow-up and corrective actions for all EH oversight activities are effective.

Ensure increased contractor accountability for safety through implementation of the Price-Anderson Amendments Act Nuclear Safety Enforcement Program.

Promote high quality workplace medical services to DOE and contractor employees.

Use epidemiologic analysis, medical surveillance of former workers and public health activities to examine associations between exposures or conditions at DOE sites and potential adverse health effects among groups of workers and offsite populations to develop appropriate public health responses.

Manage the health and environmental programs in the Marshall Islands for those exposed to ionizing radiation.

Expand the knowledge of dose-response relationships of health effects of radiation by studying workers and populations with unique exposure to radiation as a result of accidents or environmental contamination in the former Soviet Union and Spain.

Continue United States participation in support of the Radiation Effects Research Foundation.

Provide information to workers who may be eligible for employee compensation.

Manage a physician's panel review process for workers' compensation.

Develop close working relationships with State Bureaus of Workers' Compensation.

Ensure prompt and expeditious processing of meritorious workers' compensation claims.

Access and assemble exposure, personnel, job history and medical records necessary to process employee compensation claims.

Provide an electronic format that consolidates worker records for the Department of Energy.

Provide support to the State of Nevada to maintain and update a central cancer registry to determine if activities at DOE's Nevada Test Site has had an effect on workers.

## **Program Objectives**

Identify, prioritize, and conduct evaluations to determine the effectiveness of the Department's environment, safety, and health policies and programs, as well as effective implementation of Integrated Safety Management, by providing coordinated and consistent independent oversight to customers.

Report evaluation results to DOE senior management, the Congress, and the Defense Nuclear Facilities Safety Board.

Provide information to line management that helps improve the performance and effectiveness of the Department's Federal workforce and contractor employees in matters related to environment, safety, and health.

Conduct and/or monitor accident investigations with a focus on identifying systemic causes so that further accidents can be prevented.

Encourage contractors to voluntarily comply with nuclear safety requirements by encouraging proactive contractor initiatives to identify deficiencies before actual problems occur.

Provide medical surveillance for former DOE employees at risk for occupational disease, particularly chronic beryllium disease.

Support the systematic collection, analysis, and sharing of data on worker injury and illness with the intent of detecting emerging health issues and evaluating the impacts of changes in health and safety practices at DOE sites.

Implement and evaluate, in partnership with the Department of Health and Human Services, a consolidated and coherent strategy for public health activities at DOE sites, which includes a public health agenda for each site.

Support studies to assess the health of the DOE workforce and of populations living near DOE sites in order to determine whether worker or community health has been negatively impacted by DOE operations and disseminate findings.

Provide medical care to radiation-exposed populations and necessary environmental monitoring in the Marshall Islands.

Investigate the effects of radiation exposure on the population exposed by the Chernobyl accident and other exposed populations in the former Soviet Union.

Collect and analyze data from the ongoing medical surveillance and environmental monitoring program in Palomares, Spain, as a result of the release of plutonium into the environment from an accident involving thermonuclear weapons.

Collect and analyze data on the effects of radiation exposure on the survivors of the bombings of Hiroshima and Nagasaki, Japan.

Identify, address, resolve, and close management and technical issues in order to ensure protection of public health and safety.

Provide occupational and environmental health information to DOE workers, DOE communities, and the general public.

Assist DOE contract workers in filing workers' compensation claims for occupational illnesses at the appropriate State Bureau of Workers' Compensation.

Provide support to the University of Nevada-Las Vegas to conduct research in the consolidation of worker records for DOE into a survivable electronic storage structure and provide support to the State of Nevada to maintain a central cancer registry.

## **Performance Measures**

Performance measures are primarily qualitative rather than quantitative and include the following:

Downward trends in the numbers of previously identified environmental releases that reoccur from the current level of 372 per year.

Decrease rates of occupational injury and illness from the current rate of 1.7 cases per 200,000 person hours worked.

With the broad objective of improving communication of the health effects associated with nuclear weapons production, testing, and use within past, current, and future DOE activities, the following actions will be undertaken:

Annual presentations of the results of epidemiologic surveillance analyses will be made to workers and management at participating DOE facilities.

Public access to DOE health information will be increased through electronic publishing on the Internet. All epidemiologic surveillance reports will be posted to a publicly accessible home page within 45 days of release, and abstracts of all reports and publications completed under our Memorandum of Understanding with the Department of Health and Human Services will be posted within 45 days of receipt.

A beryllium registry will be established in January 2002.

Public access to the United States Transuranium/Uranium Registries program's reports and information will be expanded by linkage of the Registries' Internet home page to the Office of Environment, Safety and Health home page.

Identification of at-risk worker populations and evaluation of mitigation measures to avoid adverse health outcomes by implementing a program that will establish systematic linkages between job and task analyses, exposure assessments, medical monitoring, and epidemiological analysis. Continue shift from a reactive approach to emphasizing excellence and prevention in protecting worker and public safety and health.

Satisfaction of participants in former workers pilot projects that issues surrounding their potential for occupationally-related disease are being addressed.

Reduce number of outstanding actions and commitments for resolving environmental, health, and safety issues identified by the Defense Nuclear Facilities Safety Board.

Increase stakeholder satisfaction with access to information on DOE public and occupational health initiatives.

Through studies of DOE community and worker populations, increase information defining the relationship between exposures resulting from DOE facility operations and their effects on human health.

Publish ten interim or final international health scientific and technical reports from the Radiation Effects Research Foundation, Marshall Islands, and Russian Studies to increase our information defining the relationship between ionizing radiation dose and its effect on human health.

### **Significant Accomplishments and Program Shifts**

The Department has consolidated the management of Public Health Activities in the Office of Environment, Safety and Health to provide a focal point for ensuring that the results of these efforts are used for the maximum benefit of DOE workers and communities. Additional funding for Public Health Activities was provided in the Defense Environmental Restoration and Waste Management appropriation in FY 1999 and FY 2000, but was managed by EH. In FY 2001 and FY 2002, the EH Other Defense Activities appropriation is the sole source of funding.

Significant Accomplishments and program shifts are defined within the respective descriptions that follow.



## Funding Profile

(dollars in thousands)

	FY 2000 Comparable Appropriation	FY 2001 Original Appropriation	FY 2001 Adjustments	FY 2001 Comparable Appropriation	FY 2002 Request
Other Defense Activities					
Operating Expenses					
Oversight .....	7,041	7,990	-17 <sup>a</sup>	7,973	9,369
Health Studies .....	48,129	52,473	0 <sup>a</sup>	52,473 <sup>b</sup>	53,438
RERF .....	13,500	13,500	-146 <sup>a</sup>	13,354	13,500
Gaseous Diffusion Plants .....	10,000	12,000	-27 <sup>a</sup>	11,973 <sup>c</sup>	0
Employee Compensation .....	0	17,000	-37 <sup>a</sup>	16,963	15,000 <sup>d</sup>
Program Direction .....	21,542	22,604	-50 <sup>a</sup>	22,554	23,293
Subtotal, Other Defense Activities .....	100,212	125,567	-277	125,290	114,600
Use of prior year balances .....	0	0	0	0	-10,000 <sup>d</sup>
Total, Other Defense Activities .....	100,212	125,567	-277	125,290	104,600

**Public Law Authorization:**

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

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

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

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<sup>a</sup>\$277,000 allocated share of the .22% Congressionally prescribed reduction.

<sup>b</sup>Includes \$3,000,000 to establish a program at the University of Nevada-Las Vegas for Department-wide management of electronic records; \$880,000 to provide medical screening for workers employed at the Amchitka nuclear exposure test site; and \$500,000 for the State of Nevada to address deficiencies in the Cancer Registry, Vital Statistics, and Birth Defects Registry activities, as directed by the FY 2001 Appropriations Act.

<sup>c</sup> Includes \$1,750,000 for the University of Louisville and the University of Kentucky to undertake epidemiological studies of workers.

<sup>d</sup>\$10,000,000 of prior year funds to be utilized as a partial offset for the Employee Compensation Program.

## Funding by Site

(dollars in thousands)

	FY 2000	FY 2001	FY 2002	\$ Change	% Change
Albuquerque Operations Office					
Los Alamos National Laboratory .....	200	200	200	0	0.0%
Sandia National Laboratories .....	100	100	100	0	0.0%
Albuquerque Operations Office .....	230	0	0	0	0.0%
Total, Albuquerque Operations Office .....	530	300	300	0	0.0%
Chicago Operations Office					
Brookhaven National Laboratory .....	100	100	100	0	0.0%
Chicago Operations Office .....	597	0	0	0	0.0%
Total, Chicago Operations Office .....	697	100	100	0	0.0%
Idaho Operations Office					
Idaho National Engineering & Environmental Laboratory . . .	130	130	130	0	0.0%
Idaho Operations Office .....	185	0	0	0	0.0%
Total, Idaho Operations Office .....	315	130	130	0	0.0%
Nevada Operations Office .....	3,160	3,150	3,150	0	0.0%
Oakland Operations Office					
Lawrence Berkeley Laboratory .....	480	500	500	0	0.0%
Lawrence Livermore National Laboratory .....	2,882	3,100	3,100	0	0.0%
Oakland Operations Office .....	30,213	32,681	29,381	-3,300	-10.1%
Total, Oakland Operations Office .....	33,575	36,281	32,981	-3,300	-9.1%
Oak Ridge Operations Office					
Oak Ridge National Laboratory .....	230	230	230	0	0.0%
Oak Ridge Operations Office .....	5,002	4,950	4,950	0	0.0%
Total, Oak Ridge Operations Office .....	5,232	5,180	5,180	0	0.0%
Richland Operations Office					
Pacific Northwest National Laboratory .....	853	855	855	0	0.0%
Richland Operations Office .....	1,279	1,070	1,070	0	0.0%
Total, Richland Operations Office .....	2,132	1,925	1,925	0	0.0%
Savannah River Operations Office .....	406	80	80	0	0.0%
All Other Sites					
Washington Headquarters .....	54,165	78,144	70,754	-7,390	-9.5%
Use of Prior Year Balances .....	0	0	-10,000	-10,000	-100.0%
Total, Defense .....	100,212	125,290	104,600	-20,690	-16.5%

## Site Description

## **Albuquerque Operations Office**

Albuquerque Operations Office is located on Kirtland Air Force Base in Albuquerque, New Mexico. The primary mission continues to be stewardship and maintenance of the Nation's nuclear weapons stockpile. In addition to the national security mission, the Operations Office also devotes significant resources to restoring and improving the environmental quality of operations. Albuquerque participates in the epidemiologic surveillance program through the collection and transmission of worker health, exposure, and demographic data at the site.

## **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. Technical support is provided to the Headquarters staff for the Departmental Representative to the Defense Nuclear Facilities Safety Board (DNFSB). The representative coordinates and tracks the resolution of findings and recommendations from the DNFSB.

## **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.

## **Nevada Operations Office**

Nevada Operations Office, Las Vegas, Nevada, oversees and takes responsibility for the operations and programs of the Nevada Test Site. DOE Nevada maintains the capability at the Nevada Test Site and other facilities and sites to implement DOE initiatives in stockpile stewardship, crisis management, waste management, environment, safety, and health management and programs, including the Marshall Islands program, as well as supporting other DOE programs. Nevada participates in the epidemiologic surveillance program through the collection and transmission of worker health, exposure, and demographic data at the site. Nevada also manages DOE support to the Nevada State Cancer Registry and to the University of Nevada-Las Vegas' work on the DOE Electronic Records project.

## **Oakland Operations Office**

Oakland Operations Office, Oakland, California, has multi-program expertise in the following areas: national security; environment, safety and health; and biomedical/environmental sciences. Oakland's core competencies to support the success of these programs include: program/project execution; laboratory contract management; environment, safety, health, and safeguards and security oversight; and business operations support. Oakland provides technical assistance in awarding grants and cooperative agreements in support of the Marshall Islands medical program, the Former Workers Program, and the International Health Studies program (i.e., Radiation Effects Research Foundation, Marshall Islands, and dosimetry studies).

## **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 oversight 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 oversight 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.

# Oversight

## Mission Supporting Goals and Objectives

The mission of the EH Oversight program is to provide the independent and credible information and analysis needed to ensure that the Secretary of Energy, Assistant Secretary for Environment, Safety and Health, Department and contractor management, Congress, workers, unions, and the public have an accurate and comprehensive understanding of the effectiveness and trends of the Department's environment, safety, and health policies, programs and performance. The primary goal of the Oversight function is to be a catalyst that promotes constructive change in the Department's environment, safety, and health management programs. This goal is accomplished by: providing independent evaluation and analysis of the effectiveness of environment, safety, and health programs; accurately reporting the results of the evaluation and analysis to DOE managers and other constituents; conducting timely follow-up activities to validate that appropriate corrective actions are being taken; providing Price-Anderson Amendments Act Enforcement investigations and evaluations; and providing the Departmental Representative to the Defense Nuclear Facilities Safety Board.

Oversight conducts independent assessments that are reported directly to DOE senior management and Congress. These reviews are a critical aspect of DOE's ability to verify that it can protect the environment, workforce, and public. The reviews are a key factor in DOE management decisions about priorities, contracts or the future of DOE facilities. Accordingly, the independent Oversight mission receives intense scrutiny and must perform with a high level of excellence. Therefore, it must use national-level experts that have unquestioned credentials for its ongoing inspection and evaluation efforts.

In essence, Oversight needs the technical support of national-level experts. While EH has some unique, national-level experts, only a few are available to support Oversight activities. Further, because of the nature of the activities, contract support continues to be more practical and cost-effective to provide a surge pool of technical experts rather than expanding the Federal Oversight staff for a number of reasons:

Peak loads associated with on-site inspections make it more effective and efficient to use contractor personnel who are tasked only when needed.

The need for evaluators with national-level expertise in different technical disciplines (ranging from industrial hygiene to nuclear safety and various environmental disciplines) is more efficiently provided by contractors. The needs for various technical expertise are continually evolving and frequently change as new needs are identified. Such evolving needs can best be met through use of contractors as the Federal staff and personnel systems are unable to rapidly respond to the continually changing skills mix.

Similarly, because of the nature of Oversight activities and the intense scrutiny that Oversight is under, Oversight reviews must be performed in a manner that is demonstrably unbiased. A critical aspect of an unbiased review is that Oversight's personnel must be able to participate without even the perception of a conflict of interest.

The mission of the independent Oversight program is accomplished through the following key activities:

### Evaluations

Evaluations of environment, safety, and health management, policies, and performance by DOE and contractor line management organizations are divided into categories. Integrated safety management evaluations are performed on a defined frequency to determine the status and effectiveness of implementation of integrated safety management across the complex. These evaluations focus on major DOE sites, providing comprehensive feedback to ensure adequate protection of the public, workers and the environment. In response to a number of environment, safety, and health allegations and concerns, the Secretary of Energy initiated an independent investigation at the three DOE Gaseous Diffusion Plants located in Paducah, Kentucky, Portsmouth, Ohio, and Oak Ridge, Tennessee. In accordance with Departmental policy, Corrective Action Plans have been compiled to address deficiencies and issues identified at each of the gaseous diffusion plants. Full follow-up reviews will continue at each of the plants to assess the effectiveness of the corrective action in addressing the systemic weaknesses at the three sites.

Project and program reviews and inspections focus on specific opportunities over the life of selected major projects and programs to assess environment, safety and health performance. Environmental inspections provide independent evaluations of a wide variety of environmental protection and restoration activities. This activity includes monitoring and assessing of environmental releases/events, determining the effectiveness of pollution prevention and waste management initiatives, reviewing progress of environmental restoration commitments, and ensuring environmental issues and programs are integrated into overall integrated safety management systems pursuant to DOE's Safety Management System Policy.

Safety Authorization Basis Analyses provide independent reviews and evaluations of the authorization basis designed to support the safe operation of hazardous facilities and processes. Oversight provides DOE with an independent program for reviewing safety and authorization documentation and identifying site-specific and complex-wide weaknesses and vulnerabilities. This activity assures the Department, its workers, the public, and the environment of an adequate safety margin under all conditions and all facility life cycle stages.

Special investigations and reviews provide appraisals related to critical issues of immediate interest to DOE senior management, as well as essential system functional reviews, operational readiness reviews, safety allegation investigations, and operating event and accident investigations. The Accident Investigation Program ensures that accidents occurring at DOE sites are adequately investigated such that root causes are determined, lessons learned are disseminated, and corrective actions are implemented and verified.

Follow-up activities consist of a systematic program designed to determine the effectiveness of actions taken to correct weaknesses identified as a result of oversight evaluations, vulnerability studies, or those resulting from accident investigations. The Secretary's response to Defense Nuclear Facilities Safety Board Recommendation 98-1, Resolution of DOE's Internal Oversight Findings Implementation Plan, commits the Office of Oversight to review and monitor the status and effectiveness of line management corrective actions.

The investigations and follow-up reviews at each of the gaseous diffusion plants are conducted to determine the status of corrective actions underway to address the significant and systemic weakness



documented during a FY 2000 comprehensive review and FY 2001 follow-up reviews of practices and procedures at the three sites.

## **Enforcement**

Enforcement implements the Price-Anderson Amendments Act Nuclear Safety Enforcement Program for the Department. This primarily includes conducting investigations and technical evaluations of DOE contractors performing nuclear operations at DOE sites that are indemnified under the Price-Anderson Amendments Act. Contractors are encouraged to be proactive in identifying and correcting nuclear safety deficiencies to minimize enforcement actions.

## **Defense Nuclear Facilities Safety Board (DNFSB) Liaison**

Defense Nuclear Facilities Safety Board (DNFSB) Liaison provides effective cross-organizational leadership in resolving DNFSB-related technical and management issues necessary to ensure public health and safety. This Office represents the Secretary in regular and continuing interactions with the DNFSB, and advises the Secretary, Deputy Secretary, Under Secretary, Secretarial Officers, and other Department Executives of the DNFSB's priorities, concerns, actions, and plans.

## **Significant Accomplishments**

### **Evaluations**

Continue on-site safety management evaluations (5 to 7 per annum) of the implementation of the Department's Integrated Safety Management System Policy and of environment, safety, and health performance. These evaluations include independent determination of the application of the policy at the institutional (management) facility, and work activity level to both nuclear and non-nuclear operations; and to a wide variety of Departmental missions and activities. Examples of these missions and activities include construction and startup of new facilities, recovery and stabilization of hazardous materials, nuclear operations, waste management, radiation protection, environmental protection, research, and decontamination and decommissioning. Issues and vulnerabilities identified during these reviews and investigations, as well as noteworthy practices, are documented in comprehensive public reports and issues which are the basis for corrective action plans that are entered into the Department's Corrective Action Tracking System, monitored in accordance with the Secretary's response to Defense Nuclear Facilities Safety Board Recommendation 98-1, Resolution of DOE's Internal Oversight Findings Implementation Plan. These independent evaluations of the implementation of integrated safety management and environment, safety, and health performance provide a clear, positive benefit to the Department through safety risk and liability reduction; increased level of protection to workers, the public, and the environment; and support of continuous improvement to integrated safety management and performance by the line including DOE and its contractors. (FY00: \$3,214; FY 01: \$3,150; FY02: \$3,050)

Conduct project and program reviews (10 to 15 per annum) and inspections that focus on specific opportunities over the life of selected major projects and programs to assess environment, safety and health performance. The independent oversight of these projects and processes assures the

protection of workers, the public, and the environment, a proper balance between project schedules, milestones, and resource requirements and environment, safety, and health. These inspections are intended to provide a significant benefit to the Department by improving safety and assuring more efficient use of Department resources by driving implementation of integrated safety management and a systems approach to facility or process design throughout the life cycle. This includes conceptual and technical strategy, preliminary and final design, construction, operation, significant modifications or mission changes, and decommissioning and decontamination. DOE is engaged in the design and construction of major nuclear projects ranging in cost from several hundred million dollars to several billion dollars over the next 10 years. EH also evaluates major nuclear programs or technical issue resolution to provide information for program management decisions. (FY00: \$1,000; FY01: \$986; FY02: \$1,100)

Conduct independent oversight of environmental protection and restoration, including environmental audits (8 to 10 per annum). This oversight includes monitoring and assessing releases to the environment, determining the effectiveness of pollution prevention and waste minimization initiatives, reviewing progress of environmental restoration commitments and objectives, adequacy of the management and storage of radiological and chemical waste materials, and ensuring environmental issues are incorporated into integrated safety management systems. Included will be regulatory compliance audits, facility level environmental regulatory compliance audits, environmental management audits, reviews and audits of compliance with toxic release inventory reporting and emergency planning requirements and updating audit protocols with the requirements of DOE's environmental management systems. This program is essential to providing independent assurance of the protection of the environment from all DOE activities and hazards, the proper management and storage of hazardous materials and wastes, and the safe and timely cleanup and restoration of the environment for hazardous contamination and releases. (FY00: \$50; FY01: \$335; FY02: \$650)

Conduct Safety Authorization Basis Analysis and Oversight by providing independent review and evaluation of the authorization basis designed to support the safe operation of hazardous facilities, processes, and activities. This includes new safety analysis reports, major Safety Analysis Reports (SAR) revisions, bases for interim operation, positive unreviewed safety question determinations, and reviews for compliance with DOE Standard 1120-98, "Integration of Environment, Safety and Health into Facility Disposition Activities." This activity is important to the Department, its workers, the public, and the environment in assuring the maintenance of an adequate safety margin under all conditions and facility life cycle stages. These reviews and analyses provide a positive benefit to the Department through safety risk and liability reduction. As part of DOE's self-regulation of nuclear safety under the Atomic Energy Act, EH helps formulate regulatory frameworks for selected nuclear activities, and conducts evaluations to support DOE Federal review and approval processes of authorization basis for nuclear facilities operated by its contractors. This work includes the evaluation of facility specific standards, integrated safety management development activities, accident analyses, engineering evaluations such as structural evaluations about the seismic adequacy of selected operating facilities, and the readiness of facilities to begin operation after shutdown due to safety issues. DOE's dam safety program is also evaluated in accordance with Public Law 104-303 including sponsoring safety inspections of the dams and other DOE water impoundment structures by the Federal Energy Regulatory

Commission (FERC). This element also includes work involving the authorization basis for activities in other agencies, (e.g. Presidential Directive PD/NSC-25 requires an independent review with representation from DOD, DOE, NASA, EPA and NRC for deep space missions using Pu 238). Missions are planned for 2001 and 2004. (FY00: \$430; FY01: \$430; FY02: \$430)

Conduct special investigations and reviews (15 to 20 activities per annum) including rapid response to issues of immediate concern and investigation of significant operating events. Also included are functional reviews of essential safety systems such as nuclear criticality safety and a renewed focus on key operational readiness reviews conducted by line management. These activities provide DOE senior line management and stakeholders an independent and expert assessment of a wide variety of safety issues and concerns which arise in the Department and the steps being taken or planned to assure protection of the public, workers and environment. A Safety Concerns Processing and Investigation Program was initiated in FY 2000 to provide for proper review and resolution of safety concerns identified to EH. In addition, Type A accident investigations at DOE facilities continue to be conducted with a focus on management systems in order to achieve the ultimate objective of preventing accidents and injuries. In addition to the investigation of Type A accidents, this program develops functional program materials for DOE Headquarters and field personnel, identifies precursors to accidents including reviews of Type B accident investigations performed by the field, disseminates lessons learned, and follows up on corrective actions. (FY00: \$300; FY01: \$300; FY02: \$600)

Continue to conduct systematic follow-up program (10 to 12 follow-up activities per annum) designed to determine the effectiveness of actions taken to correct weaknesses identified as the result of oversight evaluations, including vulnerability studies or those resulting from accident investigations. The Secretary's response to Department's Defense Nuclear Facilities Safety Board Recommendation 98-1, Resolution of DOE's Internal Oversight Findings Implementation Plan, commits the Office of Oversight to review and monitor the status and effectiveness of line management corrective actions. Particular attention is placed on sites previously identified as having significant environment, safety, and health problems. Follow-up activities are particularly important in implementing accountability of line management for environment, safety, and health performance and in protecting the environment and ensuring the safety and health of workers and the public. Data from this program are used to develop site profiles for senior DOE managers in site-specific decisionmaking. Procedures for follow-up activities have been re-vamped for efficiency and conduct of operations. (FY00: \$655; FY01: \$900; FY02: \$1,078)

The Office of Oversight's web site contains information concerning the Oversight mission and functions, policy and procedures, reports of evaluations and inspections, and training availability and requirements. In addition, the Technical Experts database provides an on-line registration method for individuals with required expertise in the field of Accident Investigations to identify themselves for duty when needed. Previously, these activities were funded in DOE-Wide ES&H Programs. (FY00: \$0; FY01: \$0; FY02: \$589)

Conduct operational analysis of environment, safety and health (ES&H) and integrated safety management (ISM) performance across the DOE complex through monitoring, evaluation, and

trending of key information such as occurrence reports, performance measures, assessment reports, and enforcement actions. This analysis and trending will be utilized to identify information that is essential to the conduct of effective and efficient independent oversight such as adverse performance trends, significant individual events or accidents, degrading facilities, systems or equipment, decreasing margins of safety, or deficiencies in the implementation of Ism or supporting programs. This information will provide significant impact on the prioritization and scheduling of independent ES&H oversight activities, enabling Oversight to focus on activities such as assessments, inspections, event reviews, authorization basis reviews, investigations, and special reviews where most needed. This will assist in assuring that the limited independent Oversight resources are applied where there is the greatest opportunity to improve ES&H and ISM performance and provide the most value-added to line management. (FY00: In Energy Supply; FY01: \$300; FY02: \$300)

## **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 staffing level of less than 10 Federal employees has remained constant since 1996. 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 over the past two fiscal years. Specifically, EH-Enforcement added PAAA Program Reviews of contractor programs to recommend improvements, provide feedback on contractor performance, and to 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. In FY 2000, DOE issued 10 Notices of Violation where the actual or potential safety consequences were sufficiently serious to warrant actions and entered into three Consent Orders to resolve significant safety issues. These significant safety issues represent a continuing challenge for DOE, and EH-Enforcement anticipates it will conduct 14 enforcement investigations during FY 2002. Federal employees in EH-Enforcement will conduct these investigations with assistance from contractual technical experts. This assistance is necessary to leverage and effectively use EH-Enforcement's limited personnel resources and allows EH-Enforcement to carry out its responsibilities and perform any extraordinary work associated with the new 10 CFR 830.200 Rule, including resolving issues associated the implementation of any new rule. 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. (FY00: \$792; FY01: \$973; FY02: \$973)

### **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. (FY00: \$200; FY01: \$199; FY02: \$199)

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. (FY00: \$150; FY01: \$150; FY02: \$150)

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. (FY00: \$100; FY01: \$100; FY02: \$100)

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. (FY00: \$150; FY01: \$150; FY02: \$150)

## Funding Schedule

(dollars in thousands)

	FY 2000	FY 2001	FY 2002	\$ Change	% Change
Evaluations .....	5,649	6,401	7,797	+1,396	+21.8%
Enforcement .....	792	973	973	0	-
DNFSB Liaison .....	600	599	599	0	-
Total, Oversight .....	7,041	7,973	9,369	+1,396	+17.5%

# Detailed Program Justification

(dollars in thousands)

FY 2000	FY 2001	FY 2002
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**Evaluations** ..... **5,649**    **6,401**    **7,797**

Performance measures for this activity are as follows: Downward trends in the numbers of previously identified environmental releases that reoccur from the current level of 372 per year; decrease rates of occupational injury and illness from the current rate of 1.7 cases per 200,000 person hours worked; reduce worker health and safety impacts; reduce the number of fatalities from the current average of four per year; and reduce serious injuries from the current average of 1.7 cases per 200,000 person hours worked; fewer instances of significant worker exposures, and lower worker expose to radiological material as measured by the overall collective total dose equivalent from the current level of 1299 person/rem. In addition to the above specific EH performance measures, this activity also supports development and implementation of Department-wide policy and procedures for the following Department-wide performance measures:

Prevent fatalities, serious accidents, and environmental released at Departmental sites.

Implement Integrated Safety Management Systems in all management and operations contracts.

Clearly identify environment, safety and health priorities and ensure resources are appropriately spent on those priorities.

Collect data, analyze, and report on Departmental Environment, Safety and Health performances including worker radiation dose, occupational safety cost index, total reportable case rate, and hypothetical radiation dose to the public.

(dollars in thousands)

FY 2000	FY 2001	FY 2002
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**Comprehensive Evaluations ..... 3,214 3,150 3,050**

An ongoing program of environment, safety, and health safety management evaluations are to be conducted at major sites (5 to 7 per annum). Oversight identifies significant, systemic environment, safety, and health vulnerabilities. These evaluations serve as the Department's comprehensive and integrated approach to internal, independent oversight of DOE and contractor line management, as well as assessing the Department's corrective actions as delineated by the Secretary's response to Defense Nuclear Facilities Safety Board Recommendation 98-1, Resolution of DOE's Internal Oversight Findings Implementation Plan. They provide a clear, positive benefit to the Department through safety risk and liability reduction, significant cost reduction, and the elimination of unnecessary expenditures. In short, these comprehensive evaluations have become the focal point of the independent Oversight program in the areas of environment, safety and health. The funding level is based on experience in conducting the evaluations, as well as zero-based budgeting determinations. Integrated management evaluations of environment, safety, and health programs directly relate to the performance measures relative to environment, safety, and health issues, oversight priorities, injury and illness, and the safety and health of workers and the public. Effective environment, safety, and health programs are critical to the success of the various DOE business lines.

**Inspections ..... 1,000 986 1,100**

Special project and program evaluations (10 to 15 per annum) have been an important part of the Oversight process that includes issues and problems not normally covered by the more traditional oversight functions (i.e., safety management evaluations). The issues may also have complex-wide implications and result in Department-wide corrective actions. This has been a recurring and appropriate function for the independent Oversight program, a program best suited to provide an unbiased evaluation of a particular Departmental activity. Focused inspections involve a wide range of functional programs, processes, projects, and activities essential to the protection of workers, the public, and the environment. These inspections assure adherence to applicable DOE and industry safety and health, radiation protection, waste management, and fire protection. This activity also includes periodic oversight of safety management and ES&H performance in all phases of major projects such as construction and startup of new facilities, the recovery and stabilization of hazardous materials, and decommissioning and environmental restoration projects. The funding level is appropriate, especially with increased efficiencies of operations, and is determined over time through experience in dealing with the more non-traditional type of oversight reviews and studies.



(dollars in thousands)

FY 2000	FY 2001	FY 2002
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**Environmental Oversight . . . . . 50 335 650**

Independent oversight of environmental protection and restoration serves as the Department’s comprehensive and integrated approach to compliance with environmental regulations. Some environmental areas for review are toxic release inventory and emergency planning, environmental monitoring, pollution prevention effectiveness, and waste characterization. On April 21, 2000 the President signed Executive Order (EO) 13148 “Greening the Government through Leadership in Environmental Management.” This EO requires among other things that within 12 months of the date of the EO, the Department must establish and implement environmental compliance audit programs and begin to oversee those programs. In accordance with the EO, the Office of Oversight has increased emphasis on environmental oversight. In FY 2002 the Office of Oversight will expand the environmental oversight program to include selectively conducting environmental audits at highest risks sites or projects (8 to 10 per annum), as well as overseeing line management environmental audit programs, including follow-up on corrective actions. The funding level has been determined by experience of similar evaluations and zero-based budgeting techniques, and is considered appropriate.

**Safety Authorization Basis Analysis & Oversight . . . . . 430 430 430**

Safety Authorization Basis Analysis and Oversight entails independent review and evaluation of the authorization basis designed to support the safe operation of hazardous facilities, processes, or activities. This includes new safety analysis reports, major Safety Analysis Reports (SAR) revisions, bases for interim operation, positive unreviewed safety question determinations, and reviews for compliance with DOE Standard 1120-98, “Integration of Environment, Safety and Health into Facility Disposition Activities.” This activity is important to the Department, its workers, the public, and the environment in assuring the maintenance of an adequate safety margin under all conditions and facility life cycle stages. These reviews and analyses provide a positive benefit to the Department through safety risk and liability reduction. The funding level is considered appropriate based on recent experience and zero-based budgeting techniques. This activity provides a positive benefit by identifying the quality and accuracy of Authorization Basis documentation and the implementation of the controls they prescribe.

(dollars in thousands)

FY 2000	FY 2001	FY 2002
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**Special Investigations and Reviews . . . . . 300 300 600**

Special independent investigations and reviews are to be conducted (15 to 20 activities per annum), including rapid response to issues of immediate concern and investigation of significant operating events. Also included are functional reviews of essential safety systems such as nuclear criticality safety and reestablishing a robust program for independent oversight of operational readiness reviews conducted by line management. These activities provide DOE senior, line management and stakeholders an independent and expert assessment of a wide variety of safety issues and concerns which arise in the Department and the steps being taken or planned to assure protection of the public, workers and environment. In addition to the above activities, the Safety Concerns Processing and Investigation Program established in FY 2000 provides for proper review and resolution of safety concerns identified to EH. The Accident Investigation Program, now streamlined, provides highly coordinated, timely, and focused reviews designed to ensure causes of accidents are understood and acted upon. The funding level was determined through experience by zero-based budget processes, and by comparison to the previous program and the actual cost of developing the necessary materials and methods used in fulfilling the goals of the program. In FY 2002, this function must maintain a high state of readiness to respond quickly to safety concerns and accidents, and disseminate lessons-learned.

**Oversight Follow-Up . . . . . 655 900 1,078**

(dollars in thousands)

FY 2000	FY 2001	FY 2002
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The follow-up function (10 to 12 follow-up activities per annum) is an essential ingredient in the Oversight program in determining the effectiveness of actions taken to correct weaknesses identified as the result of evaluations, accident investigations, vulnerability assessments, and special studies and reviews. The funding level has been determined through careful study and zero-based budgeting techniques, and as the result of recent experience in this important area, as well as change in procedures for efficiency and streamlining of operations. The performance measures linked to this important function are: (1) downward trends in previously identified issues; (2) decreased rates of occupational injury and illness; (3) downward trends in recurrence of accidents; and (4) a significant reduction in recurrence of environment, safety, and health issues. Also, the function is directly related to the Secretary's response to Defense Nuclear Facilities Safety Board Recommendation 98-1, Resolution of DOE's Internal Oversight Findings Implementation Plan, that commits the Office of Oversight to assure line management is effectively implementing corrective actions in response to Oversight findings. The DNFSB Recommendation 98-1 requires Office of Oversight to review and monitor the status and effectiveness of line management corrective actions. In FY 2002, the Office of Oversight anticipates an increase in the number of corrective actions being followed as a result of safety improvements required by findings from previous evaluations and accident investigations. There will also be increased scrutiny by the DNFSB on the Department's progress on maintaining a strong follow-up program in response to the DNFSB Recommendation 98-1.

(dollars in thousands)

FY 2000	FY 2001	FY 2002
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**Oversight Information Technology Support . . . . . 0 0 589**

The Oversight program uses enhanced web-based portal technology to provide DOE field organizations and contractors high-speed on-line access to data and information. The Technical Experts data system will provide for web-based collection of information on individuals who are qualified to serve on oversight inspection teams and accident investigations and expedite the assignment of experts needed to conduct an inspection or investigation on short notice. Enforcement actions and vulnerability assessments are shared with the DOE complex and stakeholders using the Internet to increase awareness and achieve management performance improvements.

**Operational Analysis . . . . . In Energy Supply 300 300**

Operational analysis and trending of environment, safety and health (ES&H) and integrated safety management (ISM) performance across the DOE complex is essential to the conduct of effective and efficient independent oversight. This analysis and trending provides an understanding of key information, such as; adverse performance trends, significant individual events or accidents, degrading facilities, systems or equipment, decreasing margins of safety, or deficiencies in the implementation of ISM or supporting programs. This information will provide a focus for the prioritization and scheduling of independent ES&H oversight activities, enabling Oversight to focus on activities such as assessments, inspections, event reviews, authorization basis reviews, investigations, and special reviews where most needed. This will assist in assuring that the limited independent oversight resources are applied where there is the greatest opportunity to improve ES&H and ISM performance and provide the most value-added to line management. Operational analysis will also include design and support of the Occurrence Reporting and Processing System (ORPS) and independent identification of emerging generic performance issues and lessons learned to facilitate more effective and efficient resolution of significant, generic ES&H issues and long-term performance trends.

(dollars in thousands)

FY 2000	FY 2001	FY 2002
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**Enforcement** ..... **792**      **973**      **973**

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 10-14 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 PAAA 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.

**Defense Nuclear Facilities Safety Board Liaison** ..... **600**      **599**      **599**

**Recommendation Process** ..... **200**      **199**      **199**

Conduct an on going program of 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.

**Interface Activities** ..... **150**      **150**      **150**

Continue to manage the Department’s interface activities with the Defense Nuclear Facilities Safety Board. The funding level was determined through experience.

**Coordinate Responses** ..... **100**      **100**      **100**

Continue to coordinate responses to Defense Nuclear Facilities Safety Board reports and inquiries. The funding level was determined appropriate through experience and the actual costs for maintaining the Department’s Safety Issues Management System.

(dollars in thousands)

FY 2000	FY 2001	FY 2002
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**Central Communications Repository** ..... **150**      **150**      **150**

Maintain the Department's central repository of official Defense Nuclear Facilities Safety Board communications. The level has been deemed appropriate by previous experience and the actual costs of maintaining this essential services.

**Total, Oversight** ..... **7,041**      **7,973**      **9,369**

### Explanation of Funding Changes from FY 2001 to FY 2002

FY 2002 vs. FY 2001 (\$000)
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#### Oversight

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As part of the Secretary's direction, The Office of Oversight must visit major sites more frequently. This will be accomplished by using a number of oversight activities. This strengthened approach to oversight was started in FY 2001. Increases in certain program activities are necessary to assure the program is fully implemented in FY 2002. Increases in FY 2002 are required to provide increased project oversight in the area of decontamination and decommissioning and increased focus on conducting essential systems functional inspections (e.g., fire protection, radiation protection and environmental monitoring). . . . .

+14

FY 2002 vs. FY 2001 (\$000)
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- Carry out environmental protection and restoration, including environmental audits. On April 21, 2000 the President signed EO 13148 “Greening the Government through Leadership in Environmental Management.” This EO requires, among other things, that within 12 months of the date of the EO, the Department establish and implement environmental compliance audit programs and begin to oversee those programs. In FY 2001 in accordance with the Secretary’s direction to strengthen oversight and the EO, Oversight will begin to increase emphasis on environmental oversight. In FY 2002 Oversight will establish an oversight program for selectively conducting environmental audits at the highest risk sites or projects, as well as overseeing line management environmental audit programs, including follow-up of corrective actions. . . . . +315
- Continue to conduct systematic follow-up program, and determine effectiveness of corrective actions taken to correct weaknesses identified as a result of oversight evaluations including, inspections, and accident investigations. The DNFSB Recommendation 98-1 requires Oversight to review and monitor the status and effectiveness of line management corrective actions. In FY 2001, particular attention will continue to be placed on sites previously identified as having significant environment, safety and health problems such as Los Alamos National Laboratory, Hanford, Y-12 and the three gaseous diffusion plants. In FY 2002, Oversight anticipates an increase in the number of corrective actions being followed as a result of safety improvements required by findings from previous evaluations and accident investigations. There will also be increased scrutiny by the DNFSB on the Department’s progress on maintaining a strong follow-up program in response to the 98-1 Recommendation. . . . . +178

FY 2002 vs. FY 2001 (\$000)
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•	Respond to emerging safety concerns, allegations, events, or accidents. In FY 2000, in addition to conducting accident investigations, Oversight broadened it's capability to respond to other emerging environment, safety and health issues or significant events. This also included establishing a program to respond to safety concerns being brought to the attention of EH and re-establishing (as also encouraged by the DNFSB) a robust program for the oversight of Operational Readiness Reviews and Readiness Assessments conducted by line management. In FY 2002, Oversight will continue to increase it's capability to respond to emerging safety concerns, allegations, events, or accidents. The program will be fully implemented for the conduct of special reviews or investigations, event or accident investigations, nuclear safety oversight, and the independent oversight of operational readiness reviews and readiness assessments. The function must maintain a high state of readiness to respond quickly to safety concerns and accidents, and to disseminate lessons-learned. . . . .	+300
•	Relocate information technology support using enhanced web-based tools and centralized databases for strengthened environment, safety and health oversight from the Energy Supply R&D account to more properly reflect actual usage.	+589
	<b>Total Funding Change, Oversight . . . . .</b>	<b>+1,396</b>



# Health Studies

## Mission Supporting Goals and Objectives

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 worker 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. It also supports the medical screening of former DOE workers whose health may be at risk from exposure to hazards at 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. Additional funding for Public Health Activities was provided in the Defense Environmental Restoration and Waste Management appropriation in FY 1999 and FY 2000, but these studies are completely managed by EH. Beginning with FY 2001, these activities are fully funded in this section of the budget.

**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.

## **Significant Accomplishments**

### **Occupational Medicine**

#### **Medical Surveillance of Current and Former Workers**

Medical surveillance of current and former workers provides medical monitoring for current and former DOE employees at risk for occupational disease. (FY00: \$10,681; FY01: \$14,681; FY 02: \$15,396)

Continue to provide expanded medical monitoring for current and former DOE employees at risk for chronic beryllium disease (CBD). Over 45,000 current and former workers have been contacted and offered an opportunity to participate in the beryllium worker medical surveillance program. In FY 2001, more than 2,000 participants were provided medical examinations, bringing the total number of workers who have participated in the program to approximately 15,000. More than 400 cases of CBD and beryllium sensitization have been found. Expanded medical surveillance and disease prevention exposure control programs will be planned and implemented across DOE sites for workers who have been exposed to beryllium.

For DOE workers at risk for other occupational diseases due to past work-related exposures including Beryllium, continue implementation of the DOE Former Workers Program in response to 42 USC Section 7274, "Program to monitor Department of Energy workers exposed to hazardous and radioactive substances," by conducting the medical screening phase of the 12 ongoing projects at 11 DOE sites, including Amchitka, Alaska and Burlington, Iowa. In FY 2001, more than 6,000 participants were provided medical examinations, bringing the total number of workers who have participated in the program to approximately 13,000. Exam results to date have provided evidence of pulmonary disease (including asbestosis and silicosis), Beryllium Sensitization, skin disease, thyroid disease, hearing loss, and other possible work-related health conditions in those screened.

Competitively solicit, evaluate and award one new cooperative agreement for a Phase I needs assessment at the Pantex Plant site.

Continue medical monitoring of former radiation workers at the Rocky Flats Environmental Technology Site with lifetime exposure levels of 20 rem or more.

Successfully demonstrate transmission of de-identified medical data from the Y-12 and the East Tennessee Technology Park sites to DOE-HQ and demonstrate the utilization of this data for monitoring the health of site contractor employees. Complete studies of the expansion of the system to additional DOE sites. Provide routine reports of the results of the pilot linkups of the Y-12 and the Tennessee Technology Park sites to the Medical Surveillance Information System to DOE

occupational medicine managers and staff (and other Headquarters and site health professionals). (FY00: \$850; FY01: \$350; FY02: \$100)

Continue providing policy and corporate services to support Operations Office 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 within the Department on occupational health by preparing and disseminating health risk and protection data and facilitating the sharing of information between and among research and operating organizations. Issue a revised Occupational Medicine chapter of DOE Order 440.1A, "Worker Protection Management for DOE Federal and Contractor Employees." Complete medical assessment standards for Subpart B, 10 CFR 712, "Human Reliability Program." Complete revised medical standards for the revised 10 CFR 1046, "Physical Protection of Security Interests." Issue a new chapter to DOE Order 440.1A on "Workplace Violence" and continue to survey DOE sites on the degree of workplace violence. Issue a directory of Employee Assistance Programs (EAP) at DOE contractor facilities, and initiate pilot efforts to accredit DOE contractor EAPs through the national accrediting organization, Employee Assistance Society of North America. (FY00: \$400; FY01: \$400; FY02: \$400)

Continue support of the Radiation Emergency Accident Center/Training Site (REAC/TS) program which provides rapid response medical expertise and training to address radiological accidents. Such a capability is of continuing importance, particularly in light of the opening of the Waste Isolation Pilot Plant and the potential for accidents associated with the transport of transuranic waste to New Mexico. Continue support of REAC/TS maintenance of three Food and Drug Administration investigations of drug applications for DOE to be used for the treatment of internal deposition of radiological substances. (FY00: \$300; FY01: \$300; FY02: \$300)

The Office of Health Studies information technology 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. Previously these activities were funded in DOE-Wide ES&H Programs. (FY00: \$0; FY01: \$0; FY02: \$3,500)

## **Public Health Activities**

Undertake a 5-year plan for public health activities at DOE sites for FY 2002-2006, a collaborative effort under the Memorandum of Understanding with the U.S. Department of Health and Human Services, that includes community health studies and activities, environmental dose reconstruction projects, single and multi-site occupational cancer mortality and incidence studies of workers, and community outreach and education efforts. (FY00: \$20,998; FY01: \$22,342; FY02: \$19,342)

Complete the community health studies and public health activities as specified in the previous 5-year plan.

Utilize stakeholder input at public meetings and in other forums in the planning for and design of all public health activities.

## **Epidemiologic Studies**

**Other Defense Activities/  
Environment, Safety and Health/  
Health Studies**

**FY 2002 Congressional Budget**

Continue epidemiologic surveillance of DOE workers: continue expansion of program to add almost 7,000 additional workers to the 75,000 workers now under epidemiologic surveillance. Continue collection and analysis of radiologic dosimetry data for all monitored workers at epidemiologic surveillance sites to enhance assessment of worker health. Continue health assessments of workers in medical monitoring programs at participating sites; integrate data from the pilot Medical Surveillance Information System in epidemiologic analyses for Oak Ridge as these data become available. Make additional reports, health and dosimetry information, and data from completed epidemiology studies available through the Comprehensive Epidemiologic Data Resource. Continue to publish findings in annual epidemiologic surveillance reports for each site; provide briefings with supporting written materials on completed studies to stakeholders. Identify emerging health issues requiring evaluation; continue development of a beryllium exposure registry for workers and complete data entry for registrants from at least ten sites; continue communications activities with affected work forces and surrounding communities with regular presentations and briefings. Conduct investigations of reported illnesses and injuries among workers as needed. (FY00: \$2,300; FY01: \$2,300; FY02: \$2,300)

Continue to study the biokinetics, deposition and dosimetry of uranium and the transuranic elements in humans to provide data fundamental to the verification or refinement of occupational radiation protection standards. The basis for this work is the analysis of hundreds of tissues and bone samples, which were post mortemly donated by volunteer registrants. Results were compared to predictions of biokinetic models and presented at conferences and in peer-reviewed journals. Collaborative projects with researchers in the Russian Federations were completed and indicated that data for samples from workers exposed to much higher levels of transuranics are comparable and can be pooled for further studies. (FY00: \$1,000; FY01: \$1,000; FY02 \$1,000)

## **International Health Programs**

### **Marshall Islands**

Provide special medical care and necessary environmental monitoring in the Marshall Islands. Provide medical surveillance and care for the Rongelap and Utirik populations exposed to fallout from the Castle Bravo atmospheric nuclear test in 1954 and provide environmental monitoring and dose assessment for the Bikini, Enewetak, Rongelap and Utirik atolls, which were most 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. (FY00: \$6,800; FY01: \$6,300; FY02: \$6,300)

Perform analysis of data related to the environmental mitigation and ecological and agricultural assessment studies at Bikini and make findings available for local community use.

Perform radiological monitoring support after soil removal activities conducted pursuant to the MOU with Rongelap to provide data needed to make informed decisions about Rongelap resettlement.

Perform the initial setup and calibration of a whole body counting facility on Enewetak Island and provide technical assistance to help Enewetak

conduct whole body counting and plutonium urinalysis personnel monitoring.

Augment public health initiatives at the two primary care clinics at Kwajalein and Majuro and continue to provide year-round health care capability for the mandated Rongelap and Utrik patients.

Prepare an annual report to Congress on the scope of work and cost of the DOE special medical care program for the DOE patients from Rongelap and Utrik atolls.

## **European Programs**

Continue, in collaboration with the National Cancer Institute and Columbia University, long-term leukemia, thyroid disease and ocular cataract studies of the Chernobyl accident. (FY00: \$1,500; FY01: \$1,500; FY02: \$1,500)

Continue U.S.-Russian collaborative efforts involving the conduct of full-scale cohort studies to investigate the health effects on workers and local populations associated with radiation exposures from the operations of the weapons production facilities in Russia. (FY00: \$3,000; FY01: \$3,000; FY02: \$3,000)

Complete first long term phase of worker dosimetry project and initiate phase II; and

Initiate one additional new study to complement work already completed or underway.

Continue U.S. collaboration with Spain in the Project Indalo program of medical surveillance environmental monitoring for the effects of plutonium contamination. As recommended by the final report of the Palomares Scientific Review Committee (SRC), assist the Spanish Government during the conduct of a quantitative health risk assessment to help characterize the risk of plutonium exposure to humans. Work with the Spanish Government to jointly implement the recommendations of the SRC. (FY00: \$300; FY01: \$300; FY02: \$300)

## Funding Schedule

(dollars in thousands)

	FY 2000	FY 2001	FY 2002	\$ Change	% Change
Occupational Medicine .....	12,231	15,731	19,696	+3,965	+25.2%
Public Health Activities .....	20,998	22,342	19,342	-3,000	-13.4%
Epidemiologic Studies .....	3,300	3,300	3,300	—	—
International Health Programs					
Marshall Islands .....	6,800	6,300	6,300	—	—
European Programs .....	4,800	4,800	4,800	—	—
Subtotal, International Health Programs .....	11,600	11,100	11,100	—	—
Total, Health Studies .....	48,129	52,473	53,438	+965	+1.8%

## Detailed Program Justification

(dollars in thousands)

FY2000	FY 2001	FY 2002
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<b>Occupational Medicine</b> .....	<b>12,231</b>	<b>15,731</b>	<b>19,696</b>
 <b>Worker Medical Surveillance</b> .....	 <b>10,681</b>	 <b>14,681</b>	 <b>15,396</b>

Medical surveillance of current and former workers: Continue to fully implement medical surveillance programs for current and former beryllium workers. The program offers a medical screening examination, diagnostic evaluations to individuals with positive screening results, and medical care to those who have chronic beryllium disease (CBD) but are not eligible for workers' compensation coverage of their medical costs. Many DOE sites are now known to have had beryllium operations. Due to this fact, the program is expanding within the currently planned budget to ensure early detection of CBD among these workers and provide the opportunity for prompt medical intervention where needed.

Continue support for execution of a beryllium disease prevention and exposure control program for workers exposed to beryllium through routine collection and analysis of medical information from DOE sites to identify deficient working conditions and communicate lessons learned to all who can use it. Continue support for development and promulgation of standards of occupational medical care for DOE beryllium workers. Continue program to support research and innovation in the early detection of sensitization to beryllium.

Continue support for the DOE Former Workers Program in response to 42 U.S.C. Section 7274, "Program to monitor Department of Energy workers exposed to hazardous and radioactive substances," by conducting the medical screening phase of the ongoing program of 12 projects at 12 DOE sites, including Amchitka, Alaska and Burlington, Iowa, for evaluating the health of former workers that may be at significant risk due to past occupational exposures. Begin "needs assessment" at the Pantex Plant. The budget requested for FY 2002 also allows all the ongoing projects to continue in the medical monitoring phase. This pilot program will cover high risk former workers at the major DOE defense nuclear facilities, and approximately 5 to 10 percent of DOE's former workforce. The increase is due to the expansion of the beryllium medical surveillance program for current and former workers. Participants in the program are expected to increase from 3,000 to about 4,000.

(dollars in thousands)

FY2000	FY 2001	FY 2002
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**Medical Surveillance Information System . . . . . 850 350 100**

Adapt system for compatibility with additional medical records systems and complete link-ups of system to additional sites to provide DOE-HQ with de-identified medical information from these sites. Prepare routine reports of the Medical Surveillance Information System (MSIS) from ongoing pilot projects at Y-12 and K-25 and invite additional sites to link up to the system. As the system becomes operational at additional sites, annual costs will be limited to those necessary for report preparation and system maintenance and upgrades

**Line Management Support . . . . . 400 400 400**

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 and guidance development and dissemination. Issue a guide for the new Occupational Medicine chapter of DOE Order 440.1A, Chapter 19, "Worker Protection Management for DOE Federal and Contractor Employees." Establish a repository for workplace violence information and analysis consistent with the new chapter on Workplace Violence added to DOE Order 440.1A. Establish accreditation standards and guidance for medical and psychological assessments of DOE Human Reliability Programs. Continue to play a central role in facilitating communication and coordination among the occupational medicine clinics and occupational health researchers in the complex by sponsoring meetings, establishing and maintaining web sites, and facilitating formal and informal communications that help disseminate DOE policies and guidance, as well as information from health studies and surveillance projects.

**REAC/TS . . . . . 300 300 300**

Continue support of the Radiation Emergency Accident Center/Training Site (REAC/TS) program which provides rapid response medical expertise and training to address radiological accidents. Such a capability is of continuing importance, particularly in light of the opening of the Waste Isolation Pilot Plant and the potential for accidents associated with the transport of transuranic waste to New Mexico. Continue support of REAC/TS maintenance of three Food and Drug Administration investigations of drug applications for DOE to be used for the treatment of internal deposition of radiological substances.



(dollars in thousands)

FY2000	FY 2001	FY 2002
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**Health Information Technology Support . . . . . 0 0 3,500**

The massive amount of information and data needed to support the health studies program requires a dedicated and focused information technology 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 carryout 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.

**Public Health Activities . . . . . 20,998 22,342 19,342**

Evidence from completed public health activities at sites throughout the DOE complex, health concerns voiced by workers and the community, and input from other stakeholders have defined the need for a directed research program designed to fill in gaps in our scientific knowledge about the long-term health impacts of DOE operations. This program has been incorporated into a 5-year plan for FY 2002-2006, developed collaboratively with the Department of Health and Human Services (DHHS) under a Memorandum of Understanding.

Continue collaboration with the DHHS in implementing public health activities at each DOE site communicating their results.

Review and update the 5-year plan for public health activities at DOE sites in consultation with the DHHS.

Continue to seek input from stakeholders in order to ensure their health concerns are addressed in ongoing and planned public health activities. Through studies of DOE community and worker populations, increase information defining the relationship between exposures resulting from DOE facility operations and their effects on human health.

(dollars in thousands)

FY2000	FY 2001	FY 2002
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**Epidemiologic Studies** ..... **3,300**      **3,300**      **3,300**

**Epidemiologic Surveillance** ..... **2,300**      **2,300**      **2,300**

Continue the multi-site Epidemiologic Surveillance Program which conducts ongoing health monitoring of active workers, enhancing DOE's ability to protect worker health and identify potential health risks and occupational illnesses. The program provides a mechanism to improve the understanding of health effects associated with work at DOE sites and facilitates communication of this improved understanding to workers. 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 and management 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 number of holdings in the Comprehensive Epidemiologic Data Resource's catalog will be increased as data from research studies become available. 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) continued operation of the Beryllium exposure registry at DOE sites; and (9) expansion of the public access data base maintained by the Comprehensive Epidemiologic Data Resource.

(dollars in thousands)

FY2000	FY 2001	FY 2002
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<b>International Health Programs</b> .....	<b>11,600</b>	<b>11,100</b>	<b>11,100</b>
<b>U.S. Transuranium Registries</b> .....	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>

Continue support of the U.S. Transuranium and Uranium Registries (USTUR), a major component of DOE's long-standing programs to develop and refine radiological protection standards that are in world-wide use in the workplace. The Registries are a unique resource of data, capabilities and materials for studying the deposition, biokinetics and dosimetry of long lived, alpha-emitting materials in humans. The proposed budget is based on past experience in running the program, the waiting list of donors, and the continued demand on the Registries' analytical capabilities. Funding at this level will support continued operation of the USTUR in accomplishing the following: (1) development of biodosimetric methods to assess individual doses and risks from intakes of actinide elements and stable chemicals; (2) function as archive and library of donated tissues, histopathology slides, and similar materials from animals for use by researchers worldwide; (3) provide assistance and consultations to other U.S. and foreign researchers, agencies and the public on various aspects of internal dosimetry and radiation protection standards.

<b>Marshall Islands</b> .....	<b>6,800</b>	<b>6,300</b>	<b>6,300</b>
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Continue to provide mandated special medical care and ensure full follow-up on diseases potentially associated with radiation exposure resulting from the nuclear tests in the Marshall Islands. 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 as needed at Bikini, Enewetak, Rongelap and Utrik atolls. Continue preparation of final reports regarding information on the residual levels of radionuclides in the environment, effective mitigation strategies for reducing uptake of these radionuclides in local food products, and dose assessments to local atoll communities for use in making informed decisions on plans to resettle Bikini, Enjebi and Rongelap Islands.

(dollars in thousands)

FY2000	FY 2001	FY 2002
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**European Programs** ..... **4,800**      **4,800**      **4,800**

**JCCCNRS (Chernobyl)** ..... **1,500**      **1,500**      **1,500**

Continue support of Chernobyl-related health effects studies. Combined, the long-term leukemia and thyroid disease studies of populations and workers affected by the Chernobyl accident represent the largest prospective research of the health effects of environmental exposure to radiation outside of the study of Japanese A-bomb survivors. Increased recruitment and medical examination rates for people known to be exposed to high levels of radiation offer a basis for the development of better tools for assessing populations at risk and improved radiation standards for workers and the general populations. Use results of the thyroid disease studies in Ukraine and Belarus to provide information relevant to populations living downwind from Hanford, the Nevada Test Site, and other DOE sites, as well as populations throughout the U.S. who were exposed to radioiodine (I-131) as a result of atmospheric testing of nuclear weapons. Continue implementing 30-year protocols calling for U.S. participation (DOE and the National Cancer Institute) for these two long-term studies through FY 2026.

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

Continue the Joint Coordinating Committee for Radiation Effects Research (JCCRER) program in collaboration with Russia and other U.S. agencies. Continue studies which have the potential for a very strong return on investment by providing a continuing source of new information on the effects of chronic exposure to low dose rate radiation. Develop information for use in setting worker and public radiation protection standards in the U.S. and worldwide. Continue focus on epidemiologic and dose reconstruction studies based on worker and population radiation health data. Six major long-term environmental and occupational health studies have been completed. A major effort will be to integrate several databases into a single database that will link several cohorts, thereby increasing the power of studies. Continue ongoing long-term studies and initiate new studies to build on promising results from ongoing work. In contrast to DOE's support of studies of Japanese atomic bomb survivors, which has been ongoing for over 50 years, analysis of available long-term, low dose exposure Russian data has just begun. The outcomes of this research will determine whether and what kind of future work will be conducted to support the development of improved radiation protection practices and standards in the U.S.

(dollars in thousands)

FY2000	FY 2001	FY 2002
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**Project Indalo** . . . . . **300 300 300**

Continue the Project Indalo program which consists of medical surveillance and environmental monitoring conducted since 1966. Over 1,500 residents have been tested throughout the 35-year program. Since 1984, approximately 150 different people are tested annually. In 1998, the U.S. and Spain chartered a four-person panel of outside, independent experts who reviewed and summarized the scientific and technological aspects of the program in Palomares and made recommendations in 1999 on future directions for the program. Reach agreement with the Spanish Government to prioritize the recommendations made by the independent panel of experts and implement recommendations accordingly. Provide input to the Spanish Government on the quantitative health risk assessment of Palomares residents.

**Total, Health Studies** . . . . . **48,632 52,473 53,438**

**Explanation of Funding Changes from FY 2001 to FY 2002**

FY 2001 vs. FY 2002 (\$000)
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Adjusted scope for Public Health Activities . . . . . -3,000

Increase due to the expansion of the beryllium medical surveillance program for current and former workers. Participants in the program are expected to increase from 3,000 to about 4,000. . . . . +715

Decrease funding for the Medical Surveillance Information System (MSIS). As the system becomes operational at additional sites, annual costs will be limited to that necessary for report preparation and system maintenance and upgrades . . . . . -250

Increase due to transfer of information technology support for former and current worker health studies activities and the new Energy Employees Occupational Illness Compensation Program from Energy Supply to more closely identify with the programs supported. . . . . +3,500

**Total Funding Change, Health Studies** . . . . . **+965**

# Radiation Effects Research Foundation (RERF)

## Mission Supporting Goals and Objectives

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, with the National Academy of Sciences (NAS) as the support services grantee responsible for setting up and running the laboratories in accordance with a U.S. Presidential directive. In 1975, the Radiation Effects Research Foundation (RERF) was established as the full successor to the ABCC and was designated to continue the research 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 59,000 survivors are currently being followed in the RERF studies.

## Significant Accomplishments

Continue analysis of the risks of exposure to radiation by updating epidemiologic data on incidence of cancer and non-cancer diseases in A-bomb survivors. Continue implementation of 1996 Blue Ribbon Panel recommendations, which include annual multi-national reviews of research departments.

Continue measurements and analysis of data related to A-bomb dosimetry. (FY00: \$13,500; FY01: \$13,354; FY02: \$13,500)

Develop plan for completion of needed atomic bomb dosimetry studies.

Complete work under last year of current five-year funding agreement and negotiate new five-year agreement for work beginning in FY 2002.

## Funding Schedule

(dollars in thousands)

	FY 2000	FY 2001	FY 2002	\$ Change	% Change
RERF .....	13,500	13,354	13,500	+146	+1.0%

## Detailed Program Justification

(dollars in thousands)

FY 2000	FY 2001	FY 2002
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**Radiation Effects Research Foundation (RERF) . . . . . 13,500 13,354 13,500**

Continue RERF research program and update epidemiologic data. Current emphasis is on a reassessment of the A-bomb dosimetry system, which will be published in FY 2002. Finalize new five-year funding arrangement with Japan's Ministry of Health and Welfare. The increase is required to complete a revision of the 1986 dosimetry estimates for the radiation doses received by the A-bomb survivors. The additional funding is required to support the work of a joint U.S.-Japan group that will issue a final document, and implementation of the new dosimetry system.

### Explanation of Funding Changes from FY 2001 to FY 2002

FY 2002 vs. FY 2001 (\$000)
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**RERF**

- An increase is required to complete a revision of the 1986 dosimetry estimates for the radiation doses received by the A-bomb survivors. The additional funding is required to support the work of a joint U.S.-Japan group that will issue a final document, and implementation of the new dosimetry system. . . . . +146

# **Gaseous Diffusion Plants**

## **Mission Supporting Goals and Objectives**

The Department of Energy has operated three gaseous diffusion plants (GDP): Paducah in Kentucky, Portsmouth in Pike County, Ohio, and K-25/East Tennessee Technology Park (ETTP) in Oak Ridge, Tennessee.

A number of serious environment, safety and health concerns have been raised by workers, the public and State and local government officials concerning past and present operations of the gaseous diffusion plants in the Department of Energy. In response to these concerns, the Secretary of Energy directed EH to conduct a number of environment, safety and health reviews, and to expand the existing worker medical surveillance program. Congress provided funding for these activities in FY 2000 supplemental appropriation and FY 2001 appropriation. These special reviews concluded that current operations do not present an immediate risk to workers or the public, however, significant “legacy” issues remain concerning past practices impact upon the environment, the public, worker safety and health, and clean-up of these sites.

These special reviews will be essentially completed in FY 2001, and no additional funding is required in FY 2002. EH will continue to monitor safety and health progress at these facilities.

## **Significant Accomplishments**

### **Gaseous Diffusion Plants**

In response to a number of environment, safety, and health (ES&H) allegations and concerns, the Secretary of Energy initiated an independent investigation at the three DOE Gaseous Diffusion Plants located in Paducah, Kentucky, Portsmouth, Ohio, and Oak Ridge, Tennessee. The ES&H concerns centered on areas such as improper onsite and offsite disposal of hazardous and radioactive materials, release of contamination into site streams and drainage ditches, inadequate posting and control of contaminated areas, exposure of workers to uranium and transuranic elements, and ineffective communication of hazards to workers. Consequently, the Office of Oversight initiated a two-phase investigation at the Paducah Plant, the Portsmouth Plant, and the East Tennessee Technology Park (formally the K-25 Gaseous Diffusion Plant). Phase I covered the period from 1990 to the present. Phase II evaluated environment, safety and health performance and concerns about plant operations prior to 1990. The investigation involved hundreds of interviews with current and former workers, review of thousands of historical records and documents, first-hand work place examinations, and environmental sampling and analyses. The result of this monumental effort verified that the gaseous diffusion plants operated in a climate of secrecy, with a strong sense of urgency and national need, and without external regulation of worker safety and health environment. The investigation revealed that workers at these facilities were exposed to very hazardous chemicals and in some locations received significant radiation doses. In accordance with Departmental policy, Corrective Action Plans have been compiled to address deficiencies and issues identified at each of the gaseous diffusion plants. Full follow-up reviews will be conducted at least quarterly at each of the three plants to assess the effectiveness



of the corrective action in addressing the systemic weaknesses identified at the three sites (minimum of 12 follow-up reviews per annum). (FY00: \$3,100; FY01: \$0; FY02: \$0)

Due to concerns about the historical worker health and safety programs at the Paducah Gaseous Diffusion Plant, the Department of Energy conducted an evaluation of the historical potentials for worker radiation exposure. The final report was published in February 2001. (FY00: \$300; FY01: \$0; FY02: \$0)

The Medical Surveillance Project will continue the existing medical screening program for former workers at the three gaseous diffusion plants and expand the program to provide medical surveillance of current workers. Medical surveillance was initiated in FY 2000 and will continue in FY 2001. The screening and education program is gradually accelerating the pace of screening from 1200 to 4800 workers per year in FY 2001. In FY 2000, the project also initiated screening for early detection of lung cancer using an advanced scanning technology. The program will continue to offer high risk former and current workers medical screening through FY 2001. (FY00: \$6,600; FY01: \$8,723; FY02: \$0)

The Epidemiology Study by the Universities of Louisville and Kentucky on the Paducah Gaseous Diffusion Plant workforce begins with a feasibility study. This study is managed by the National Institute for Occupational Safety and Health. (FY00: \$0; FY01: \$1,750; FY02: \$0)

In order to predict the behavior of contaminated ground water at and surrounding the Paducah Gaseous Diffusion Plant, the Department has entered into a partnership with the U.S. Army Corps of Engineers and the Environmental Protection Agency to demonstrate the Ground Water Modeling System (GMS). The GMS is a state-of-the-art computational system for subsurface visualization, conceptualization, modeling and analysis in support of a determination of the distribution, movement and clean-up of numerous contaminants. (FY00: \$0; FY01:\$1,500; FY02: \$0)

### Funding Schedule

(dollars in thousands)

	FY 2000	FY 2001	FY 2002	\$ Change	% Change
Gaseous Diffusion Plants .....	10,000	11,973	0	-11,973	-100.0%

## Detailed Program Justification

(dollars in thousands)

	FY 2000	FY 2001	FY 2002
<b>Gaseous Diffusion Plants</b> .....	<b>10,000</b>	<b>11,973</b>	<b>0</b>
<b>Oversight</b> .....	<b>3,100</b>	<b>0</b>	<b>0</b>
Funding for Gaseous Diffusion Plant (GDP) Activity was concluded in FY 2001.			
<b>Exposure Assessment</b> .....	<b>300</b>	<b>0</b>	<b>0</b>
Funding for GDP activity was concluded in FY 2001.			
<b>Expanded Medical Surveillance</b> .....	<b>6,600</b>	<b>8,723</b>	<b>0</b>
Funding for GDP activity was concluded in FY 2001.			
<b>Epidemiology (Louisville &amp; Kentucky)</b> .....	<b>0</b>	<b>1,750</b>	<b>0</b>
Funding for GDP activity was concluded in FY 2001.			
<b>Ground Water Modeling</b> .....	<b>0</b>	<b>1,500</b>	<b>0</b>
Funding for Ground Water was concluded in FY 2001.			

### Explanation of Funding Changes from FY 2001 to FY 2002

FY 2002 vs. FY 2001 (\$000)
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#### Gaseous Diffusion Plants

- Funding for Gaseous Diffusion Plant activity was concluded in FY 2001. .... -11,973

# Employee Compensation Initiative

## Mission Supporting Goals and Objectives

Title XXXVI of the Defense Authorization Act of 2001 (the “Act”) establishes the Energy Employees Occupational Illness Compensation Program to provide benefits to DOE contractor workers made ill as a result of exposures from nuclear weapons production. Subtitle D of the Act, “Assistance in State Workers’ Compensation Proceedings,” directs the Secretary of Energy to establish procedures to assist workers in filing compensation claims “under the appropriate State workers’ compensation system” for work-related illnesses that are not covered by the program administered by the Department of Labor.

In order to assist workers, the Act provides that the Secretary:

- Establish procedures to submit applications for review and assistance.
- Review applications to determine that there is a reasonable evidence that it was filed by or on behalf of a DOE employee and that the illness or death may have been related to employment at a DOE facility.
- Submit the application to a physicians panel to determine whether the illness or death arose out of and in the course of employment.
- Assist the employee in obtaining additional evidence within the DOE’s control that is relevant to the panel’s deliberations.
- Assist the applicant to file a claim based on the outcome of the panel’s review under the appropriate State workers’ compensation system.

Worker Advocacy activities recognize the special needs of DOE workers who were unknowingly exposed to dangerous materials or who were not adequately protected from these exposures. When illnesses force workers into retirement, many are left with little or no medical and/or wage benefits. The EH Office of Advocacy will assist DOE workers in understanding worker compensation requirements, and where appropriate, will assist in filing compensation claims. Program requirements establishing a toll-free hot line phone number; establishing liaison with state worker compensation programs; establishing contacts with DOE Operations Offices; establishing medical contacts; developing outreach and education programs for the DOE community, workers, unions, and states; and developing policies and procedures to assist workers with appropriate claims.

## Significant Accomplishments

- EH will respond to letters within 14 days and telephone inquiries within 7 days.
- All appropriate compensation claims will be reviewed by the physician’s panels.
- EH will assist claims filing at State Compensation Programs, to include, but not be limited to, gathering the information for a claim, assembling it, reviewing it, and forwarding it to a State Compensation Program. (FY00: \$0; FY01: \$16,963; FY02: \$15,000)
- EH will establish and manage an Advisory Committee consisting of diverse stakeholders (workers, occupational physicians, and union representatives) to advise the office on its policies and procedures;

develop and implement a program to educate and reach out to workers and their families, unions and others about the benefits and assistance available to sick workers and their survivors; work with State benefits administrators to review and track compensation claims for occupational illnesses in the Department; operate a toll-free hotline for workers who are interested in filing workers' compensation claims with their state programs or need assistance with previously filed claims; expedite claims that can be processed without further review and help workers get any additional information needed; provide worker advocates, who will serve as liaison with DOE workers, State workers' compensation officials, benefits administrators, occupational physicians, union representatives, and workers' compensation experts, and others.

### Funding Schedule

(dollars in thousands)

	FY 2000	FY 2001	FY 2002	\$ Change	% Change
Employee Compensation Initiative .....	0	16,963	15,000	-1,963	+11.6%

## Detailed Program Justification

(dollars in thousands)

FY 2000	FY 2001	FY 2002
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<b>Employee Compensation Initiative</b> . . . . .	<b>0</b>	<b>16,963</b>	<b>15,000</b>
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On December 7, 2000, the President signed an Executive Order directing the DOE to:

Provide the Secretary of Department Health and Human Services Department (HHS) and the Advisory Board on Radiation and Worker Health access to all relevant information pertaining to worker exposures.

Provide HHS and Department Of Labor any information relevant to claims made under this program.

Identify and notify potentially eligible individuals of the availability of compensation under this program.

Designate qualified atomic weapons employers and beryllium vendors whose employees may be eligible for this program.

Negotiate with States to provide assistance to DOE contractor employees on filing a State workers' compensation claim.

Establish a Worker Assistance Program to help potential claimants by administering the physician panel review process and assisting in filing State workers' compensation claims.

Report to Congress at least yearly on performance of the Worker Assistance Program.

In addition, the Executive Order called on the DOE to publish a list of atomic weapons employer facilities, DOE employer facilities, and beryllium vendors by January 15, 2001. This milestone was accomplished.

The purpose of this program is to recognize the special needs of DOE workers who were unknowingly exposed to dangerous materials or who were not adequately protected from these exposures. When illnesses force workers into retirement, many are left with little or no medical and/or wage benefits. The EH Office of Advocacy will assist DOE workers in understanding worker compensation requirements, and where appropriate, will assist in filing compensation claims. Program requirements include identifying and training staff, obtaining administrative support, establishing a toll-free hot line phone number, establishing liaison with state worker compensation programs, establishing contacts with DOE Operations Offices, and establishing medical contacts. Also, EH will develop outreach and education programs for the DOE community, workers, unions, and states, and develop policies and procedures to assist workers with appropriate plans.

## Explanation of Funding Changes from FY 2001 to FY 2002

FY 2002 vs. FY 2001 (\$000)
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### Employee Compensation Initiative

- The decrease reflects changes to the program and different DOE responsibilities with regard to the Department of Labor and the Department of Health and Human Services -1,963

# Environment, Safety and Health - Other Defense Activities

## Program Direction

### Mission Supporting Goals and Objectives

Program Direction in this 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 (FY00: 186 FTE; FY01: 186 FTE; FY02: 185 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 independent oversight capability, as well as health studies endeavors; and perform activities relative to environment, safety, and health programs across the DOE complex. The FTE level for FY 2002 reflects the transfer of one staff person to the Oak Ridge Operations Office.

**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, consistent with Congressional direction.

**Other Related Expenses** includes training for Federal staff. Training includes tuition for EH Federal employees.

### Significant Accomplishments

#### Salaries and Benefits

Salaries and Benefits for FY 2002 provide funding of \$21,911 for 185 Federal full-time-equivalents (FTEs) working on EH Defense activities; the 185 FTEs are based on Workforce 21 allocations adjusted for personnel transfers. Overall, salaries and benefits are in line with the full-time-equivalents requested and include the Economic Assumption as provided by the Office of Management and Budget (OMB). This also includes a recalculation of the funding required to support the skills mix of a smaller workforce. In addition, funding is provided for workers' compensation payment to the Department of Labor, benefits associated with permanent change of station, transit subsidies and incentive awards. (FY00: \$20,442; FY01: \$21,172; FY02: \$21,911)

**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. (FY00: \$1,000; FY01: \$1,232; FY02: \$1,232)

**Other Related Expenses**

This includes training and tuition costs for EH Federal employees. (FY00: \$100; FY01: \$150; FY02: \$150)

**Funding Schedule**

(dollars in thousands, whole FTEs)

	FY 2000	FY 2001	FY 2002	\$ Change	% Change
Headquarters					
Salaries and Benefits .....	20,442	21,172	21,911	+739	+3.5%
Travel .....	1,000	1,232	1,232	0	0%
Other Related Expenses .....	100	150	150	0	0%
<b>Total, Program Direction .....</b>	<b>21,542</b>	<b>22,554</b>	<b>23,293</b>	<b>+739</b>	<b>+3.3%</b>
Full Time Equivalents .....	186	186	185		

**Detailed Program Justification**

(dollars in thousands)

	FY 2000	FY 2001	FY 2002
<b>Salaries and Benefits .....</b>	<b>20,442</b>	<b>21,172</b>	<b>21,911</b>
<p>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 (inflation rate of 3.8%) for Federal personnel costs.</p>			
<b>Travel .....</b>	<b>1,000</b>	<b>1,232</b>	<b>1,232</b>
<p>EH travel requirements are in line with the overall EH Federal staff.</p>			
<b>Other Related Expenses .....</b>	<b>100</b>	<b>150</b>	<b>150</b>
<p>Training, which includes tuition costs for the EH Federal employees, was previously budgeted in Management and Administration.</p>			



## Explanation of Funding Changes from FY 2001 to FY 2002

FY 2002 vs.  
FY 2001  
(\$000)

### Salaries and Benefits

- Funding requirements are commensurate with the allocation of Federal staff among EH programs. Increases for Salaries and Benefits are based on the latest OMB economic assumptions (inflation rate of 3.8%) for Federal personnel costs. The increase is for cost of living adjustments, locality pay, within-grade increases, lump sum payments, and awards. . . . . +739

### Other Related Expenses

(dollars in thousands)

	FY 2000	FY 2001	FY 2002	\$ Change	% Change
Training . . . . .	100	150	150	-	--
Total, Other Related Expenses . . . . .	100	150	150	-	-