

# 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 four business functions within one decision unit: Oversight, Health Studies, and the Radiation Effects Research Foundation (RERF) support; Gaseous Diffusion Plants Initiative, and a Program Direction decision unit.

**Oversight** activities provide 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 and programs. This data and analysis provide critical information on how effectively line management is implementing Integrated Safety Management. The activities to accomplish this mission include Evaluations, Price-Anderson Amendments Act Enforcement, and the Departmental Representative to the Defense Nuclear Facilities Safety Board. The safeguards and security oversight function has been transferred to the Office of Independent Oversight and Performance Assurance.

**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 Initiatives** activities support the efforts to analyze and improve the conditions at the Paducah Gaseous Diffusion Plant, the Portsmouth Gaseous Diffusion Plant, and the K-25/East Tennessee Technology Park.

## Program Goal

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

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(Other Defense Activities)**

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

## **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.
- # 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.
- # Provide medical care to radiation-exposed populations and necessary environmental monitoring in the Marshall Islands.
- # Investigate the effects of radiation exposure on the children and workers 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.
- # 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.
- # 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.
- # Conduct a focused investigation into the historical gaseous diffusion plants' operations use of recycled uranium to identify potential exposures to workers or contamination of the environment and assess the potential impacts of such exposures.

## **Performance Measures**

Performance measures are primarily qualitative rather than quantitative. However, some performance measures are:

- # 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.
  - < 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 Epidemiologic Studies' Access Handbook, providing information on conducting research at DOE sites, will be updated biennially.
  - < A beryllium registry will be established within one calendar year of release of the final Beryllium Rule.
  - < Public access to the Office of Epidemiologic Studies' 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 Epidemiologic Studies' home page.
- # Identification of at-risk worker populations and employment of appropriate 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 former workers 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 RERF, Marshall Islands, and Russians 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, the EH Other Defense Activities appropriation will be the sole source of funding. The safeguards and security oversight function has been transferred to the Office of Independent Oversight and Performance Assurance (OA). The funding for OA continues in the Other Defense Activities appropriation under Independent Oversight and Performance Assurance.

Significant Accomplishments and program shifts are defined within the respective business line description that follows.

### Funding Profile

(dollars in thousands)

	FY 1999 Current Appropriation	FY 2000 Original Appropriation	FY 2000 Adjustments	FY 2000 Current Appropriation	FY 2001 Request
Other Defense Activities					
Operating Expenses					
Oversight <sup>a</sup> . . . . .	13,300	10,775	-34	10,741	7,990
Health Studies . . . . .	41,031	48,956	-324	48,632	52,956
RERF . . . . .	14,000	13,500	0	13,500	13,500
Gaseous Diffusion Plants . . . . .	0	0	0	0	12,000
Program Direction . . . . .	24,769	24,769	0	24,769	22,604
Subtotal, Other Defense Activities . . . .	93,100	98,000	-358	97,642	109,050
Use of prior year balances <sup>b</sup> . . . . .	-2,108	0	0	0	0

<sup>a</sup>The Safeguards and Security Evaluations program has been transferred to the Office of Independent Oversight and Performance Assurance. Includes \$1,600,000 reprogrammed by 99-R-27 in FY 1999 for the Office of Independent Oversight and Performance Assurance.

<sup>b</sup>Allocated share of the congressionally prescribed general reduction in the Other Defense Activities appropriation.

(dollars in thousands)

Total, Other Defense Activities . . . . .	90,992	98,000	-358 <sup>a</sup>	97,642	109,050
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**Public Law Authorization:**

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

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

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<sup>a</sup>Allocated share of the congressionally prescribed .38% rescission.

## Funding by Site

(dollars in thousands)

	FY 1999	FY 2000	FY 2001	\$ Change	% Change
Albuquerque Operations Office					
Los Alamos National Laboratory . . . . .	250	250	250	0	0.0%
Sandia National Laboratories . . . . .	135	150	150	0	0.0%
Albuquerque Operations Office . . . . .	298	298	298	0	0.0%
Total, Albuquerque Operations Office . . . . .	683	698	698	0	0.0%
Chicago Operations Office					
Brookhaven National Laboratory . . . . .	185	200	200	0	0.0%
Chicago Operations Office . . . . .	545	545	545	0	0.0%
Total, Chicago Operations Office . . . . .	730	745	745	0	0.0%
Idaho Operations Office					
Idaho National Engineering & Environmental Laboratory . . . . .	130	100	100	0	0.0%
Nevada Operations Office . . . . .	2,780	3,034	3,034	0	0.0%
Oakland Operations Office					
Lawrence Berkeley Laboratory . . . . .	590	550	550	0	0.0%
Lawrence Livermore National Laboratory . . . . .	2,859	2,800	2,800	0	0.0%
Oakland Operations Office . . . . .	23,650	23,000	27,000	+4,000	+17.4%
Total, Oakland Operations Office . . . . .	27,099	26,350	30,350	+4,000	+15.2%
Oak Ridge Operations Office					
Oak Ridge National Laboratory . . . . .	239	250	250	0	0.0%
Oak Ridge Operations Office . . . . .	5,002	5,000	5,000	0	0.0%
Total, Oak Ridge Operations Office . . . . .	5,241	5,250	5,250	0	0.0%
Richland Operations Office					
Pacific Northwest National Laboratory . . . . .	1,435	1,435	1,435	0	0.0%
Richland Operations Office . . . . .	1,171	1,175	1,175	0	0.0%
Total, Richland Operations Office . . . . .	2,606	2,610	2,610	0	0.0%
Savannah River Operations Office					
Savannah River Operations Office . . . . .	80	75	75	0	0.0%
All Other Sites					
Washington Headquarters . . . . .	53,751	58,780	66,188	+7,408	+12.6%
Subtotal, Defense . . . . .	93,100	97,642	109,050	+11,408	+11.7%
Use of prior year balances . . . . .	-2,108 <sup>a</sup>	0	0	0	0.0%

<sup>a</sup>Allocated share of the Congressionally prescribed general reduction in the Other Defense Activities appropriation.

(dollars in thousands)

	FY 1999	FY 2000	FY 2001	\$ Change	% Change
Total, Defense . . . . .	90,992	97,642	109,050	+11,408	+11.7%

## 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.

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## **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.

## **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.

## **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.

## **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 action, 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 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 and programs. 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 an independent evaluation and analysis of the status of environment, safety, and health programs; accurately reporting the status 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 can be a key factor in DOE management decisions about contracts or the future of DOE facilities (e.g., the decision to terminate the Brookhaven contract). 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 that are at least comparable to Federal personnel at the excepted service level. 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 (e.g., the Brookhaven tritium contamination prompted a need for expert-level groundwater modeling personnel). 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 safeguards and security evaluations have been transferred to the Office of Independent Oversight and Performance Assurance within the Other Defense Activities appropriation. The mission previously had been accomplished by Evaluations, as well as the EH Residents, Accident Investigation Program, and Analysis. As part of the overall Analysis Program, the EH Residents program has been eliminated, thereby consolidating and streamlining the Analysis Program. The Accident Investigation Program has been incorporated within the Evaluations Program. The Oversight mission has been realigned with the Department's changing conditions. The mission of the independent Oversight program is accomplished through the following key activities:

**Evaluations** of environment, safety, and health management, policies, and performance by DOE and contractor line management organizations are conducted. These evaluations are divided into categories including integrated safety management and project/process safety. Integrated safety management evaluations are performed on a defined frequency to determine the status and effectiveness of implementation of the policy across the complex. Project/process safety evaluations utilize specific opportunities over the life of selected projects or processes to assess environment, safety, and health performance, safety management, and a "systems approach" to life cycle management.

Authorization Basis Review and Oversight provides independent reviews and evaluations of the authorization basis designed to support the safe operation of hazardous facilities and processes. Oversight serves as DOE's 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 facility life cycle stages of maintenance.

Environmental Oversight provides 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.

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 resulting from accident investigations. The 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.

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. The Office of Oversight conducts systematic investigations of the most serious (Type A) accidents and guides and monitors the conduct of less serious accidents (Type B) that are performed by the field elements. The Office of Oversight also provides guidance for performing investigations and analysis of trends and precursors.

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

## Significant Accomplishments

### Evaluations

# Conduct on-site 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. In FY 1999, Integrated Safety Management Evaluations were conducted at the Y-12 Site and Oak Ridge National Laboratory, Rocky Flats Environmental Technology Site, Nevada Test Site, and Yucca Mountain Project. In addition, there was an Occupational Medicine Programs Review across the DOE complex in two phases. A review of Argonne National Laboratory-West was conducted on a Radiation Contamination Incident, and a complete review of Paducah is being performed which will continue into FY 2000. Also in FY 2000, evaluations of Portsmouth and East Tennessee Technology Park will be conducted. These areas will be focused along the same lines of inquiry as the Paducah review. An Integrated Safety Management Evaluation of Hanford (including an Occupation Medical Program Review) will be conducted. Focused project reviews of the Los Alamos National Laboratory and Idaho National Engineering and Environmental Laboratory will be performed. There will be an Occupational Medical Program Review at Sandia National Laboratories/New Mexico. Other sites will be determined. These evaluations are supplemented by diagnostic reviews or smaller focused reviews of a particular program. Issues and vulnerabilities identified during these evaluations, 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 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. (FY99: \$3,540; FY 00: \$3,240; FY01: \$3,240)

# Conduct process safety evaluations (10 to 15 per annum) of major Departmental projects on processes at selected opportunities over the life of the activity. The internal 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 evaluations 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 on 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. These projects currently include the Spent Nuclear Fuel Project and Tank Waste Remediation Project at Hanford, Defense Waste Processing Facility and Basins at Savannah River, the Advanced Mixed Waste Treatment Project at Idaho, the Yucca Mountain Repository, Molten Salt Reactor at Oak Ridge, and the Oak Ridge Spallation Neutron Source Project. EH also evaluates major nuclear programs or technical issue resolution to provide information for program management decisions. These evaluations include the resolution of Defense Nuclear Facilities Safety Board Recommendations 97-1, Safe Storage of Uranium-233, and 97-2, Continuation of Criticality Safety, on vulnerabilities associated with Uranium-233 and nuclear criticality safety infrastructure, facility life cycle management decisions, and DOE-wide nuclear materials disposition paths and activities. Conduct DOE's dam safety program 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). (FY99: \$1,000; FY00: \$1,000; FY01: \$1,000)

# Authorization Basis Analysis and Oversight performs 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, basis for interim operation, positive unreviewed safety question determination, 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 development of facility specific standards, integrated safety management development activities, evaluations of 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. 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. (FY99: \$455; FY00: \$430; FY01: \$430)

- # Conduct independent oversight of environmental protection and restoration, including environmental audits and review of Environmental Impact Statements. 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. (FY99: \$50; FY00: \$50; FY01: \$445)
- # 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 resulting from accident investigations. The Department's Defense Nuclear Facilities Safety Board Recommendation 98-1, Resolution of DOE's Internal Oversight Findings Implementation Plan, commit 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, such as Los Alamos, Brookhaven, Rocky Flats, and Hanford. 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. FY 1999 activities included Follow-up Review of the Status of DOE's Year 2000 Compliance and Follow-up of Review of the Department's Aviation Safety Programs. In FY 2000, a Follow-up Review will be conducted at Los Alamos National Laboratory. (FY99: \$655; FY00: \$655; FY01: \$1,000)
- # Conduct Type A accident investigations at DOE facilities. This is accomplished with a focus on management systems to achieve the ultimate objective of preventing accidents and injuries. Continue streamlining and enhancing the accident investigation program to be more effective in reducing accidents (e.g., over 600 videotapes disseminated throughout the Department describing lessons learned from the Idaho National Engineering and Environmental Laboratory Carbon Dioxide fatality) and more useful to management (e.g., streamlined reporting procedures that result in more concise reports in a shorter period of time). Continue to update policies and procedures (overlying the principles of Integrated

Safety Management in the Accident Investigation Process) and to enhance the investigative process. Continue a program to present accident investigation techniques, revise methods for implementing the accident investigation program, develop functional program materials for DOE Headquarters and field personnel, identify precursors to accidents including a review of the Type B accident investigations performed by the field, disseminate lessons learned, and follow-up on corrective actions. (FY99: \$300; FY00: \$300; FY01: \$300)

- # The safeguards and security oversight program has been transferred to the Office of Independent Oversight and Performance Assurance in the Other Defense Activities appropriation. The transfer includes operating funds of \$4,400,000 reported in the Office's budget, as well as funds for 25 FTEs, all from EH. The activities in FY 1999 and FY 2000 included safeguards and security inspections across the DOE complex. (FY99: \$4,400; FY00: \$3,674; FY01: \$0)

### **Enforcement**

- # In FY 1999, the Office of Enforcement and Investigation conducted investigation activities for the Price-Anderson Amendments Act Nuclear Safety Enforcement Program, resulting in fourteen findings of non-compliance. It is anticipated that a similar number of findings will occur in FY 2000. These activities encourage contractors to proactively identify and correct nuclear safety deficiencies using an enforcement approach similar to the commercial nuclear industry. (FY99: \$800; FY00: \$792; FY01: \$975)

### **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. Historically, the Department receives 4 to 5 major Board recommendations each year and is actively working 15 to 20 open recommendations. (FY99: \$150; FY00: \$200; FY01: \$200)
- # 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 Department staff and Board staff. (FY99: \$150; FY00: \$150; FY01: \$150)
- # Coordinate responses to Board reports and inquiries. Manage the Department's Safety Issues Management System (SIMS) for Board-related issues, commitments, and actions, which tracks over 1000 Departmental commitments and actions related to Board recommendations and other correspondence. (FY99: \$100; FY00: \$100; FY01: \$100)
- # Maintain the Department's central repository of official Board communications and make this information available to Department and contractor personnel complex-wide. Annually, 250-350 pieces of Board/Department correspondence are received and addressed. This information is available to the public on the Internet. Over 2000 pieces of Board/Department correspondence are available on

the web site in multiple file formats for customer convenience. Documents are posted in 1 to 3 business days to facilitate action. (FY99: \$100; FY00: \$150; FY01: \$150)

## Funding Schedule

(dollars in thousands)

	FY 1999	FY 2000	FY 2001	\$ Change	% Change
Evaluations . . . . .	12,000 <sup>a</sup>	9,349	6,415	-2,934	-31.4%
Enforcement . . . . .	800	792	975	+183	+23.1%
DNFSB Liaison . . . . .	500	600	600	0	0.0%
<b>Total, Oversight . . . . .</b>	<b>13,300</b>	<b>10,741</b>	<b>7,990</b>	<b>-2,751</b>	<b>-25.6%</b>

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<sup>a</sup>The Safeguards and Security Evaluations program has been transferred to the Office of Independent Oversight and Performance Assurance. Includes \$1,600,000 reprogrammed by (number 99-R-27) in FY 1999 for the Office of Independent Oversight and Performance Assurance.

## Detailed Program Justification

(dollars in thousands)

FY 1999	FY 2000	FY 2001
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### Evaluations

#	<p>Conduct an ongoing program of environment, safety, and health evaluations 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 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 unwise 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. Environment, safety, and health is one of the three areas critical to the success of the DOE business lines outlined in the DOE strategic plan. . . . .</p>	3,540	3,240	3,240
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(dollars in thousands)

FY 1999	FY 2000	FY 2001
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#	Special 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). For example, reports have included the Spent Fuel Report and Molten Salt Reactor. 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 issue. 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. By providing senior managers with an independent view of particular issues, this function directly supports DOE's business lines listed in its strategic plan: energy resources, environmental quality, and science and technology. . . . .	1,000	1,000	1,000
#	Authorization Basis Analysis and Oversight performs independent review and evaluation of the authorization basis designed to support the safe operation of hazardous facilities, processes, or activities. These reviews identify issues such as delays in approval of safety basis documentation and inadequate technical reviews by line management. This also includes independent analysis of significant safety issues arising from the operation of facilities, processes, or activities to assure effective mitigation and resolution. For example, a facility moving from operations to decontamination and decommissioning in accordance with DOE Standard 1120-98, "Integration of Environment, Safety and Health into Facility Disposition Activities," and the necessary revisions to the safety basis documentation to reflect changing conditions have not been made. 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. . . . .	455	430	430

(dollars in thousands)

FY 1999	FY 2000	FY 2001
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#	Conduct independent oversight of environmental protection and restoration. These evaluations serve 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. The funding level has been determined by experience of similar evaluations and zero-based budgeting techniques, and is considered appropriate .....	50	50	445
#	The follow-up function (10 to 12 follow-up activities per annum) has gained a great deal of momentum over the past few years. "Follow-up" 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 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. All follow-up activities directly relate to accomplishment of the environment, safety, and health goals discussed in the DOE and EH strategic plans (i.e., environmental quality). .....	655	655	1,000

**Other Defense Activities/  
Environment, Safety and Health/  
(Other Defense Activities)/Oversight**

**FY 2001 Congressional Budget**

(dollars in thousands)

FY 1999	FY 2000	FY 2001
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#	The Accident Investigation Program has been streamlined. Accidents are now responded to in a highly coordinated, timely, and focused manner. Develop functional program materials and present accident investigation techniques and revised methods for implementing the accident investigation program to DOE Headquarters and field personnel. 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. Ongoing program enhancement activities include incorporating integrated safety management program elements into the investigation framework. The functions related to the program link directly to the downward trend in the recurrence of accidents as a performance measure. Also, the program is linked to the strategic plans relative to worker safety and environmental quality. . . . .	300	300	300
#	Safeguards and Security Evaluations were transferred to the Office of Independent Oversight and Performance Assurance (OA) in the Other Defense Activities appropriation. Includes a reprogramming of \$1,600,000 in FY 1999 for OA (number 99-R-27). . . . .	6,000	3,674	0
Total, Evaluations . . . . .		12,000	9,349	6,415
<b>Enforcement</b>				
#	Continue to conduct approximately 10 full field investigations resulting in formal enforcement actions involving Notices of Violation related to Price-Anderson Amendment Act's enforcement activities. The funding level was determined to be appropriate by previous experience . . . . .	800	792	975
Total, Enforcement . . . . .		800	792	975

(dollars in thousands)

FY 1999	FY 2000	FY 2001
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**Defense Nuclear Facilities Safety Board Liaison**

#	Conduct an on going program of coordinating Defense Nuclear Facilities Safety Board recommendations process. The funding level is based on experience in performing the process. . . . .	150	200	200
#	Continue to manage the Department's interface activities with the Defense Nuclear Facilities Safety Board. The funding level was determined through experience . . . . .	150	150	150
#	Continue to coordinate responses to Defense Nuclear Facilities Safety Board reports and inquiries. The funding level was determined appropriate through experience and the actual cost of working on the Department's Safety Issues Management System . .	100	100	100
#	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 posting documents. . . . .	100	150	150
Total, Defense Nuclear Facilities Safety Board Liaison . . . . .		500	600	600
Total, Oversight . . . . .		13,300	10,741	7,990

## Explanation of Funding Changes from FY 2000 to FY 2001

FY 2001 vs. FY 2000 (\$000)
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**Evaluations**

#	Increase reviews and emphasis on a more robust environmental Oversight program and the transfer of the safeguards and security evaluations program to the Office of Independent Oversight and Performance Assurance .....	-2,934
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**Enforcement**

#	Funding request for FY 2001 represents a more robust enforcement program .....	+183
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**Defense Board Liaison**

#	Funding request for FY 2001 is the same as the request for FY 2000 .....	0
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Total Funding Change, Oversight .....	-2,751
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# 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. Additional funding for Public Health Activities is included in the Defense Environmental Restoration and Waste Management appropriation.

**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. 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. In 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, research 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

- # Provide medical monitoring for current and former DOE employees at risk for occupational disease, particularly chronic beryllium disease (CBD). Over 20,000 current and former workers have been contacted to date, and there have been about 9,000 individuals who have been screened. More than 100 cases of CBD have been detected. Plan and implement expanded medical surveillance and disease prevention and exposure control programs across DOE sites for workers who have been exposed to beryllium. Continue medical monitoring of former radiation workers at the Rocky Flats Environmental Technology Site with lifetime exposure levels of 20 rem or more. Continue to support the research and innovation in exposure assessment and medical surveillance. Continue support for the DOE former workers program, in response to Section 3162 of the Defense Authorization Act of 1993, by continuing the medical screening phase of the ongoing projects at nine DOE sites for evaluating the health of former workers who may be at significant risk due to past occupational exposures. (FY99: \$10,681; FY00: \$10,681; FY01: \$14,681)
- # Complete pilot linkups with two sites (Y-12, K-25) to the Medical Surveillance Information System (MSIS) to demonstrate the capability of the relational software. Provide reports of the results of these pilot linkups to DOE occupational medicine managers and staff (and other Headquarters and site health professionals). Complete the survey of DOE site clinics as a planning tool for future MSIS site linkages. (FY99: \$850; FY00: \$850; FY01: \$350)
- # Continue policy and corporate services to support Operations Office efforts in providing direction in the efficient delivery of 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 section of DOE Order 440.1, "Worker Protection Management for DOE Federal and Contractor Employees." Complete medical standards rulemaking for the Protective Force Medical Standards (10 CFR 1046) and the Personnel Security Assurance Program (10 CFR 710). Continue to survey DOE sites on the degree of workplace violence, issue a Departmental workplace violence policy and analyze and report on workplace violence information. Conduct specific studies to address concerns associated with the operation of DOE site occupational medicine programs. Issue guidance for the medical aspects of the site Contractor Employee Assistance Program. (FY99: \$400; FY00: \$400; FY01: \$400)
- # Continue to assist DOE with the Radiation Emergency Accident Center/Training Site (REAC/TS) support. REAC/TS assists DOE by maintaining state-of-the-art expertise in radiation medicine and biodosimetry. The REAC/TS Central Registry contains data on over 1,700 radiation accident cases involving over 142,000 individuals. (FY99: \$300; FY00: \$300; FY01: \$300)

## **Public Health Activities**

- # Implement the prioritized FY 2000 “Agenda for Public Health Activities at U.S. Department of Energy Sites” and initiate a 5-year plan for the agenda for 2001-2005. Continue the collaboration under the Memorandum of Understanding with the Department of Health and Human Services, including environmental dose reconstruction projects, single and multi-site cancer mortality studies of DOE workers, and community outreach and educational efforts. (FY99: \$13,900; FY00: \$21,501; FY01: \$22,825)

## **Epidemiologic Studies**

- # Continue epidemiologic surveillance of DOE workers; complete expansion of program to include 14 sites and facilities including all Oak Ridge facilities, Kansas City Plant, and Nevada Test Site, adding almost 19,000 additional workers to the existing 65,000 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 collection of information on medical monitoring program enrollments at participating sites; integrate data from the Medical Surveillance Information System in epidemiologic analyses for Oak Ridge as these data become available; make additional reports, health 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 approximately ten briefings with supporting written materials on completed studies to stakeholders; identify emerging health issues requiring evaluation; initiate a beryllium exposure registry for current and former workers and complete data entry for registrants from at least ten sites; continue communication activities with affected workforces and surrounding communities with at least ten presentations and briefings; and conduct investigations of reported illnesses and injuries among workers as needed. (FY99: \$2,300; FY00: \$2,300; FY01: \$2,300)
- # Continue national and international efforts to analyze biokinetic parameters for deposition and retention of transuranics in humans to improve dosimetry models and occupational radiation standards. About 270 individuals have registered to donate post mortem tissues for radiochemical analyses. Evaluate registry data in relation to radiation protection standards. Publish approximately ten peer-reviewed articles documenting research findings. (FY99: \$1,000; FY00: \$1,000; FY01: \$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. (FY99: \$6,800; FY00: \$6,800; FY01: \$6,300)
  - < Complete sampling and initiate analysis of data related to the environmental mitigation and ecological and agricultural assessment studies at Bikini and make findings available for local community use.
  - < Initiate 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.
  - < Establish two primary care clinics at Kwajalein and Majuro to provide year-around health care capability for the mandated Rongelap and Utirik patients.
  - < Issue a final environmental report on the radiological condition of the Utirik Atoll.

### **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. (FY99: \$1,500; FY00: \$1,500; FY01: \$1,500)
- # Continue U.S.-Russian collaborative research efforts involving the conduct of full-scale cohort studies in the South Urals region to investigate the health effects on workers and local populations associated with radiation exposures from the operations of the Mayak weapons facility in Russia. Begin support of molecular epidemiology, biomarker, and biological tissue bank projects. (FY99: \$3,000; FY00: \$3,000; FY01: \$3,000)
  - < Complete four long-term studies, including a population dose reconstruction study, a data preservation effort, a population cancer incidence study, and a worker plutonium metabolism and dosimetry study; and
  - < Initiate three new long-term molecular epidemiology/biodosimetry studies, as well as several new epidemiologic and dosimetric feasibility studies.
- # Continue U.S. collaboration with Spain in the Project Indalo program of medical surveillance environmental monitoring for the effects of plutonium contamination. (FY99: \$300; FY00: \$300; FY01: \$300)

- < Analyze the final report of the Palomares Scientific Review Committee (SRC) and initiate conduct of a quantitative health risk assessment to help characterize the risk of plutonium exposure to humans.
- < Review and work with the Spanish Government to jointly implement the recommendations of the SRC.

## Funding Schedule

(dollars in thousands)

	FY 1999	FY 2000	FY 2001	\$ Change	% Change
Occupational Medicine . . . . .	12,231	12,231	15,731	+3,500	+28.6%
Public Health Activities . . . . .	13,900	21,501	22,825	+1,324	+6.2%
Epidemiologic Studies . . . . .	3,300	3,300	3,300	0	0.0%
International Health Programs					
Marshall Islands . . . . .	6,800	6,800	6,300	-500	-7.4%
European Programs . . . . .	4,800	4,800	4,800	0	0.0%
Subtotal, International Health Programs . . . . .	11,600	11,600	11,100	-500	-4.3%
<b>Total, Health Studies . . . . .</b>	<b>41,031</b>	<b>48,632</b>	<b>52,956</b>	<b>+4,324</b>	<b>+8.9%</b>

## Detailed Program Justification

(dollars in thousands)

FY 1999	FY 2000	FY 2001
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### Occupational Medicine

#### Medical Surveillance of Current and Former Workers

# In light of the number of cases of chronic beryllium disease in the DOE workforce, continue expansion of the current program of medical screening of former workers exposed to beryllium to complete screening of all former workers at 16 sites where beryllium was used but testing has not been conducted to date. Pilot programs conducted at Rocky Flats and Y-12 facilities provide the basis for estimating the costs of identifying, locating and screening beryllium-exposed former workers for the additional sites to be added to this program. Continue program to support research and innovation in the early detection of sensitization to beryllium in DOE workers.

Continue support for execution of a beryllium disease prevention and exposure control program for current and future workers exposed to beryllium which establishes improved medical surveillance programs and facilitates information exchange for the prevention of chronic beryllium disease.

Continue support for medical surveillance of former DOE workers exposed to radiation at lifetime levels of 20 rem and above.

Continue support for the DOE former workers program, in response to Section 3162 of the Defense Authorization Act of 1993, by continuing the medical screening phase of the ongoing pilot program of ten projects at nine DOE sites for evaluating the health of former workers which may be at significant risk due to past occupational exposures. This pilot program will cover approximately one quarter of all the DOE sites and approximately 5 percent of DOE's former workforce. The budget requested for FY 2001 allows all ten ongoing projects to continue in the medical monitoring phase (Phase II).

(dollars in thousands)

FY 1999	FY 2000	FY 2001
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The need for full scale deployment of the pilot program was demonstrated on the basis that all the initial Phase I reports identified groups of former DOE workers at each site with significant exposures to selected hazards. Experience from the conduct of Phase II pilot projects have provided the basis for establishing the budgets necessary for full scale program deployment. This portion of the program will be completed by the end of FY 2003. Based on the findings of occupational disease among former workers in the Phase II pilot projects, prepare and issue a request for applications for up to six additional Phase I needs assessments and expanded Phase II screening programs. . . . .

10,681      10,681      14,681

# After successful demonstration of the Medical Surveillance Information System (MSIS), develop a cost-sharing arrangement with additional sites for linkages to the MSIS. As the system becomes operational at each site, annual costs will be limited to those necessary for system maintenance and upgrades.

850              850              350

# 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. Develop implementation guidance for the revised occupational medicine section of DOE Order 440.1, "Worker Protection Management for DOE Federal and Contractor Employees." 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 web sites, and facilitating formal and informal communications which help disseminate DOE policies and guidance as well as information from health studies and surveillance projects. . . . .

400              400              400

(dollars in thousands)

	FY 1999	FY 2000	FY 2001
# 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 .....	300	300	300
Total, Occupational Medicine .....	12,231	12,231	15,731

(dollars in thousands)

FY 1999	FY 2000	FY 2001
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**Public Health Activities**

#	Based on the results of a number of studies conducted to date which have suggested the need for further research designed to understand the long-term health impacts of DOE operations, review and update the 5-year plan for public health activities conducted under the Memorandum of Understanding with the Department of Health and Human Services. Build upon the interagency coordination of the “Annual Agenda for Public Health Activities at U.S. Department of Energy Sites” as the basis for this plan. Continue to seek input from stakeholders in order to address their health concerns. . . . .	13,900 <sup>a</sup>	21,501	22,825
Total, Public Health Activities . . . . .		13,900	21,501	22,825

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<sup>a</sup>In addition, \$12,00,000 for Public Health activities was funded in FY 1999 in the Defense Environmental Restoration and Waste Management section of the EH Budget.

(dollars in thousands)

FY 1999	FY 2000	FY 2001
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**Epidemiologic Studies**

# 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 database linked to current workers. It has also contributed to the development of automated medical and industrial hygiene data management systems at several DOE sites. An additional component of the Epidemiologic Studies Program is the Comprehensive Epidemiologic Data Resource. This public use data base provides access to health related data collected for many occupational and environmental epidemiologic studies performed by DOE during the past 40 years. Its Internet capabilities facilitate dissemination of health related information to DOE workers, DOE communities, and the general public. The budget request will support: (1) the ongoing program of epidemiologic surveillance to protect worker health through the identification of potential health risks and occupational illnesses; (2) enhancement of the annual reports and increased stakeholder access to epidemiologic surveillance information; (3) adding a new DOE site into the program; (4) additional focused analyses targeting specific occupational injuries and illnesses; (5) initiation of a comprehensive roll up of health trend information for participating sites through the DOE complex; (6) implementation of the Beryllium exposure registry at DOE sites; and (7) continued operation of the Comprehensive Epidemiologic Data Resource. . . . .

2,300      2,300      2,300

(dollars in thousands)

	FY 1999	FY 2000	FY 2001
# 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 to help ensure a safe workplace. The Registries have become a unique resource of data, capabilities and materials for studying the deposition, biokinetics and dosimetry of long lived, alpha-emitting materials, including uranium and plutonium, in humans. Based on voluntary enrollment of occupationally exposed individuals, the Registries perform postmortem radiochemical and histopathologic analyses of donated tissues to obtain data fundamental to determining internal doses and bioeffects due to intake of these radioactive materials. 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 and accomplish the following major goals: (1) the biokinetic models in use at several DOE sites will be examined to compare parameter values with international models used to calculate internal occupational dose; (2) provide assistance and consultations to other U.S. and foreign researchers, governmental agencies and the public on various aspects of internal dosimetry; (3) improve indexing and availability of repository of donated tissues, histopathology slides, and similar materials from animals. . . . .	1,000	1,000	1,000
Total, Epidemiologic Studies . . . . .	3,300	3,300	3,300

(dollars in thousands)

FY 1999	FY 2000	FY 2001
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**International Health Programs**

Marshall Islands

#	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 Utirik mandated populations. Offer community assistance to improve quality of health care infrastructure to service community-wide preventive medical programs. Complete radiological monitoring support under the Rongelap MOU and begin similar support for the resettlement of Enjebi Island at Enewetak Atoll. Initiate 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. . . . .	6,800	6,800	6,300
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(dollars in thousands)

FY 1999	FY 2000	FY 2001
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European Programs

#	Continue support of Chernobyl-related health effects studies. Combined, the long-term leukemia, thyroid disease and ocular cataract 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. Increase recruitment and medical examination rates for people known to be exposed to high levels of radiation and 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 Joint Coordinating Committee for Civilian Nuclear Reactor Safety (JCCCNRS) 30-year protocols calling for U.S. participation (DOE and NCI) for these three long-term studies through FY 2026 . . . . .	1,500	1,500	1,500
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(dollars in thousands)

	FY 1999	FY 2000	FY 2001
# 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, within the next several years, 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. Four major long-term environmental and occupational health studies have been completed and two remain underway. Preserve valuable records on microfilm. Continue ongoing epidemiologic and dose reconstruction studies which will continue through September 2001. Continue two new long-term molecular epidemiology/biodosimetry studies, as well as several feasibility studies to build on promising results from ongoing work. Issue request for applications for up to five new feasibility studies for epidemiology/dosimetry and epidemiology/biomarkers of disease. 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. . . . . .	3,000	3,000	3,000
# 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. Complete risk assessment to prioritize the recommendations made by the independent panel of experts and implement recommendations accordingly.. . . . .	300	300	300
Total, European Programs . . . . .	4,800	4,800	4,800

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

**FY 2001 Congressional Budget**

(dollars in thousands)

	FY 1999	FY 2000	FY 2001
Total, International Health Studies . . . . .	11,600	11,600	11,100
Total, Health Studies . . . . .	41,031	48,632	52,956

### Explanation of Funding Changes from FY 2000 to FY 2001

	FY 2001 vs. FY 2000 (\$000)
# Based on initial findings of occupational disease in the Phase II programs and Congressional interest in expanding the program to sites not currently covered, the program will be expanded to include up to six additional Phase I needs assessments and expanded Phase II medical monitoring pilot projects. . . . .	+4,000
# Marshall Islands funding reduced due to increased efficiencies with the medical program's (\$200,000) on-site contractor, and completion of some environmental program work (\$300,000) coupled with new technology available. . . . .	-500
# Funding request for Public Health Activities reflects an increase in the number of health assessments and other activities conducted pursuant to the DOE/HHS Public Health Agenda . . . . .	+1,324
# Medical Surveillance Information System funding reduced due to development of a cost sharing arrangement with additional sites. Annual costs will be less, allowing for system maintenance and upgrades instead of expansion . . . . .	-500
Total Funding Change, Health Studies . . . . .	+4,324

# 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

- # Continued analysis of the risks of exposure to radiation by updating epidemiologic data on incidence of cancer and non-cancer diseases in A-bomb survivors. Continued implementation of 1996 Blue Ribbon Panel recommendations, which include annual multi-national reviews of research departments. Continued measurements and analysis of data related to A-bomb dosimetry. (FY99: \$14,000; FY00: \$13,500; FY01: \$13,500)
- < Develop plan for completion of needed atomic bomb dosimetry studies.

## Funding Schedule

(dollars in thousands)

	FY 1999	FY 2000	FY 2001	\$ Change	% Change
RERF .....	14,000	13,500	13,500	0	0.0%
Total, RERF .....	14,000	13,500	13,500	0	0.0%

Other Defense Activities/  
Environment, Safety and Health  
(Other Defense Activities)/  
Radiation Diffusion Plants Initiatives

FY 2001 Congressional Budget

## Detailed Program Justification

(dollars in thousands)

FY 1999	FY 2000	FY 2001
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### Radiation Effects Research Foundation (RERF)

<p># Continue RERF research program and update epidemiologic data. Begin international collaborative studies using molecular biology techniques and tissue specimens from survivors that will provide information on how low-dose radiation causes cancer and other diseases. Begin implementation, with the NAS, of a long-term funding and management strategy for the RERF. In FY 2001, the Department will be in the last year of a five-year funding arrangement with Japan's Ministry of Health and Welfare.....</p>	14,000	13,500	13,500
Total, Radiation Effects Research Foundation .....	14,000	13,500	13,500

### Explanation of Funding Changes from FY 2000 to FY 2001

	FY 2001 vs. FY 2000 (\$000)
<b>RERF</b>	
# Funding request for FY 2001 is the same as the request for FY 2000 .....	0
Total Funding Change, Radiation Effects Research Foundation .....	0

# Gaseous Diffusion Plants Initiatives

## Mission Supporting Goals and Objectives

A number of serious environment, safety and health concerns have been raised by workers concerning the operations of the gaseous diffusion plants in the Department of Energy. While imminent hazard site reviews at the Department's three gaseous diffusion plants at Paducah, Portsmouth and K-25/East Tennessee Technology Park (ETTP) in Oak Ridge found no issues that would warrant immediate shut down of current operations, significant "legacy" issues remain concerning past practices' impact upon the environment, public worker safety and health and the clean up of these sites.

The goal of the Office of Environment, Safety and Health (EH) projects is to conduct a focused investigation into the historical gaseous diffusion plant operations use of recycled uranium, from the environment, safety and health standpoint, to identify potential exposures to workers or contamination of the environment. EH has initiated four projects to investigate legacy issues associated with the DOE's gaseous diffusion plants. These four projects are: (1) oversight inspection at the three plants to investigate and document current and past practices; (2) a mass balance project to review the characteristics and flow of uranium throughout the Department; (3) an exposure assessment project to establish worker radiation exposure profiles at the Paducah, Portsmouth and ETTP sites; and (4) an expanded medical program to include current workers.

### # Oversight Investigation Project Objectives:

The Oversight investigations will determine the appropriateness of actions meant to assure the safety and health of workers and the protection of the environment. The investigations at each of the gaseous diffusion plants will analyze past management practices, worker exposures to workplace hazards (radiological, chemical and industrial safety), determine the adequacy of practices, if ALARA principles were supported and if workers were informed of workplace hazards. This will be accomplished through the satisfaction of the following objectives:

- < Investigate the adequacy of the worker radiation protection and contamination control program, including internal and external dosimetry, waste disposal practices, occupational and medical surveillance, and environmental management, current environment, safety and health practices, corrective actions to resolve identified issues and threats to public and worker safety and health, and to the environment, 1990 to date for each of the gaseous diffusion plants in sequence: Paducah, Portsmouth and ETTP/K-25 in Oak Ridge;
- < Investigate legacy public and worker safety and health and environmental issues, prior to 1990 back to the opening of the plants;
- < Publish site specific reports of findings; and
- < Conduct follow-up reviews, as necessary, to ensure corrective actions are taken.

# Mass Balance Project Objectives:

Recycled uranium was generated at four sites in DOE -- Hanford, Savannah River, Idaho and West Valley, with Hanford being the primary generator. The Mass Balance project will recreate the historical flow over 45 years of recycled uranium, and its contaminants, across the DOE. This information will be important in identifying possible opportunities for worker exposures to recycled uranium and its contaminants at the three gaseous diffusion plants. This information will also be useful in identifying possible implications of recycled uranium exposures to workers beyond the three gaseous diffusion plants. This will be accomplished through the satisfaction of the following objectives:

- < Identify the "movement" of recycled uranium throughout the DOE complex;
- < Identify contaminants in the mass flow;
- < Publish both interim status and final comprehensive reports of the flow of recycled uranium throughout the DOE complex; and
- < Conduct site specific mass balance for recycled uranium activities sufficiently thorough to identify environmental, safety and health concerns.

# Exposure Assessment Project Objectives:

The Exposure Assessment project will determine how workers at the gaseous diffusion plants were exposed to radiation, which work activities provided opportunities for radiation exposure, when workers were exposed to radiation and what levels of worker radiation exposure were received from recycled uranium and its contaminants. This information will be critical to the cost and scope of implementation of the DOE legislation for the compensation of workers at the Paducah plant. This will be accomplished through the satisfaction of the following objectives:

- < Identify and document historical hazards, including transuranics and other contaminants in the material processed at the three gaseous diffusion plants;
- < Conduct a radiological records search and analysis;
- < Develop worker radiation exposure profiles that bound potential worker radiation exposures and provide data, if feasible and supportable, for establishing compensation eligibility for workers under the proposed legislation;
- < Determine the advisability and feasibility of the conduct of radioassay of residual materials to identify radioactive materials, and the concentration of these materials workers may have been exposed to; and
- < Publish a comprehensive report of the worker radiation exposure profiles for gaseous diffusion plants.

# Expanded Medical Surveillance Project Objective:

The Expanded Medical Surveillance Project will accelerate 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. By October 2001, the expanded program will provide medical screening to 5,750 current and former workers at the DOE gaseous diffusion plants. The project will determine the presence and prevalence of worker adverse health effects from employment at the gaseous diffusion plants.

## Significant Accomplishments

- # Oversight inspections of the Paducah Gaseous Diffusion Plant and the Portsmouth Gaseous Diffusion Plant will be completed in FY 2000. Inspection of the East Tennessee Technology Park will begin at end of FY 2000. (FY99: \$0; FY00: \$0; FY01: \$3,000)
- # Mass Balance Project is scheduled to be completed in the summer of 2000, at which time a final report will be issued. The mass balance project information, will be useful in establishing worker medical surveillance protocols and characterizing materials that may have been released to the environment. (FY99: \$0; FY00: \$0; FY01: \$0)
- # The first phase of the Exposure Assessment Project is scheduled to be completed in the summer of 2000, at which time the Department will issue a final report identifying radiological issues that may have affected worker health and safety. Also, the report will include preliminary worker occupational radiation exposure profiles for Paducah and Portsmouth. (FY99: \$0; FY00: \$0; FY01: \$3,000)
- # Expanded Medical Surveillance was initiated in FY 2000 and will continue in FY 2001. The timing of the Paducah worker radiation exposure profiles availability, in March 2000, will be instrumental in providing data, if feasible and supportable, to help establish eligibility for workers as part of the proposed compensation legislation. (FY99: \$0; FY00: \$0; FY01: \$6,000)

## Funding Schedule

(dollars in thousands)

	FY 1999	FY 2000	FY 2001	\$ Change	% Change
Gaseous Diffusion Plants .....	0	0	12,000	+12,000	100.0%
Total, Gaseous Diffusion Plants .....	0	0	12,000	+12,000	100.0%

**Other Defense Activities/  
Environment, Safety and Health  
(Other Defense Activities)  
Gaseous Diffusion Plants Initiatives**

**FY 2001 Congressional  
~~BY 2001~~ Congressional Budget**

## Detailed Program Justification

(dollars in thousands)

FY 1999	FY 2000	FY 2001
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### Gaseous Diffusion Plants

# Oversight

Will substantially increase the level of independent oversight of safety and safety management at the three gaseous diffusion plants. This includes oversight of the implementation of the Department's Integrated Safety Management Policy, as well as inspections of industrial safety and health, radiation protection, work and hazard controls, criticality safety, fire protection, and environmental protection and restoration. The Office of Oversight will also evaluate the facility authorization bases to assure they reflect changing conditions and hazards, and conduct independent investigations of events and accidents as warranted.

In addition to these increased inspection responsibilities, the Office of Oversight will monitor and assess the implementation of the comprehensive corrective action plans being developed by each of the three plants in response to the investigations. This essential activity assures the effective resolution of the numerous safety issues identified, and that has the potential to impact worker or public safety and health of the environment if not properly dispositioned. These follow-up inspections will be conducted in coordination with line management and the closure of specific issues and corrective actions . . . . .

	0	0	3,000
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**Other Defense Activities/  
Environment, Safety and Health  
(Other Defense Activities)  
Gaseous Diffusion Plants Initiatives**

**FY 2001 Congressional  
~~FY 2001~~ Congressional Budget**

# Exposure Assessment Corrective Action

Funds will be used to establish and document worker radiation exposure profiles for the former K-25 facility at Oak Ridge, with expanded assessments completed at Paducah and Portsmouth; the objective being classification, by work activity or job description, and to quantify worker radiation exposures at the three DOE gaseous diffusion plants. The program will also provide specialized, isotope specific radiobioassay services, on a voluntary basis, to exposed workers to quantify better the amount of radioactive material in their bodies and determine the radiation exposure to the workers. These actions will quantify worker radiation exposure and provide additional assurance to workers concerning their radiation exposure and provide the worker radiation exposure data necessary to determine the need and structure of a worker compensation program.

0            0            3,000

# Medical Surveillance

The expanded medical surveillance project, initiated in FY 2000, will include medical surveillance of 900 current and 1,000 former workers at Paducah; 1,000 current and 1,000 former workers at Portsmouth; and 850 current and 1,000 former workers at the East Tennessee Technology Plant . . . . .

0            0            6,000

Total, Gaseous Diffusion Plants . . . . .

0            0<sup>a</sup>            12,000

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<sup>a</sup>FY 2000 activities were accomplished using \$6 million of prior year and FY 2000 appropriated funds.

**Explanation of Funding Changes from FY 2000 to FY 2001**

FY 2001 vs. FY 2000 (\$000)
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**Gaseous Diffusion Plants**

#	The funds represent activities directly related to improving conditions at the gaseous diffusion plants . . . . .	+12,000
	Total Funding Change, Gaseous Diffusion Plants . . . . .	<u>+12,000</u>

Other Defense Activities/  
 Environment, Safety and Health  
 (Other Defense Activities)  
 Gaseous Diffusion Plants Initiatives

FY 2001 Congressional  
~~FY 2001~~ Congressional Budget

# 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 (FY99: 221 FTE; FY00: 221 FTE; FY01: 186 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.

**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 2001 provide funding of \$21,204,000 for 186 Federal full-time-equivalents (FTEs) working on EH Defense activities; the 186 FTEs are based on Workforce 21 allocations. Overall, salaries and benefits are in line with the full-time-equivalents requested and include the Economic Assumption 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. The lower level of funding in FY 2001 reflects the transfer of 10 FTE field inspectors to Field Management and 25 FTEs to the Office of Independent Oversight and Performance Assurance. (FY99: \$23,618; FY00: \$23,669; FY01: \$21,204)

Other Defense Activities/  
Environment, Safety and Health/  
Program Direction/  
(Other Defense Activities)

FY 2001 Congressional Budget

**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. (FY99: \$1,058; FY00: \$1,000; FY01: \$1,250)

**Other Related Expenses**

# Includes training and tuition costs for EH Federal employees. (FY99: \$93; FY00: \$100; FY01: \$150)

**Funding Schedule**

(dollars in thousands)

	FY 1999	FY 2000	FY 2001	\$ Change	% Change
Headquarters					
Salaries and Benefits . . . . .	23,618	23,669	21,204	-2,465	-10.4%
Travel . . . . .	1,058	1,000	1,250	+250	+25.0%
Other Related Expenses . . . . .	93	100	150	+50	+50.0%
Total, Program Direction . . . . .	24,769	24,769	22,604	-2,165	-8.7%
Full-Time-Equivalents . . . . .	221	221	186	-35	-15.8%

## Detailed Program Justification

(dollars in thousands)

	FY 1999	FY 2000	FY 2001
<b>Salaries and Benefits</b>			
# Salaries and Benefits reflect the FTE split between Energy Supply and Other Defense Activities. The decrease in salaries and benefits results primarily from the transfer of 10 FTEs to various field offices and 25 FTEs to Office of Independent Oversight and Performance Assurance. 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, payments to worker's compensation. ....	23,618	23,669	21,204
<b>Travel</b>			
# EH travel requirements are in line with the overall EH Federal staff. ....	1,058	1,000	1,250
<b>Other Related Expenses</b>			
# Training, which includes tuition costs for the EH Federal employees, was previously budgeted in Management and Administration. ....	93	100	150
Total, Program Direction .....	24,769	24,769	22,604

## Explanation of Funding Changes from FY 2000 to FY 2001

FY 2001 vs.  
FY 2000  
(\$000)

### Salaries and Benefits

# Funding requirements are commensurate with the allocation of Federal Staff among EH programs. The decrease in FY 2001 requirements results primarily from the transfer of 10 FTEs to Field Management and 25 FTEs to the Office of Independent Oversight and Performance Assurance. In addition to base salary and benefits, funding provides for cost of living, locality pay, within-grades, promotions, lump sum payments and awards. . . . . -2,465

### Travel

# Funding requirements are commensurate with the allocation of Federal Staff among EH programs. The increase reflects escalation of costs for airfare, and lodging. . . . . +250

### Other Related Expenses

# Funding requirements are commensurate with the allocation of Federal Staff among EH programs. The increase reflects higher tuition costs for Federal employees. . . . . +50

Total Funding Change, Program Direction . . . . . -2,165

## Other Related Expenses

(dollars in thousands)

	FY 1999	FY 2000	FY 2001	\$ Change	% Change
Training . . . . .	93	100	150	+50	+50.0%
Total, Other Related Expenses . . . . .	<u>93</u>	<u>100</u>	<u>150</u>	<u>+50</u>	<u>+50.0%</u>

**Other Defense Activities/  
Environment, Safety and Health/  
Program Direction/  
(Other Defense Activities)**

**FY 2001 Congressional Budget**