



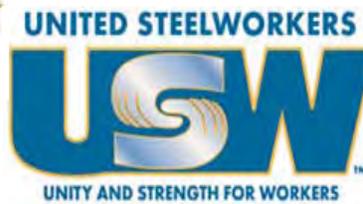
# HSS/Labor Union Meeting



## DOE Former Worker/Energy Compensation CAIRS Central Worker Data Tracking



September 16, 2008



The information contained in this package is intended to be reference materials pertaining to the September 16, 2008 HSS/Union working group meeting. The informational pieces have been retrieved from the Internet or submitted by HSS and Union representatives for inclusion in the package, and does not necessarily reflect the view, support, or endorsement of all of the participating organizations.

# Agenda

HSS/Union Working Group Meeting  
September 16, 2008  
1:00 – 3:00 pm EST  
FORS 7E-069

**SUBJECT: Former Worker/Energy Compensation Programs  
CAIRS Reporting  
Central Worker Data Tracking**

**Meeting Facilitation: Building & Construction Trades Department Center for  
Construction Research & Training [Pete Stafford, Patricia Quinn]**

**Agenda**

- I. Former Worker Screening: Outreach, Improved Facilitation, Collective efforts and issues
  1. Screening Programs (historical and future needs)
    - OccMed/contractor interaction
    - Program improvements [i.e., aspects of latent chronic illness]
    - Subcontractor population
    - Improved program management
      - Standards for preventing future cases [Proper screening/tracking]
      - Address contractor; production vs. construction; Complex wide portability elements
  2. Compensation Programs: Public Outreach Tools/Website
    - Awareness, Information Resources/Response
    - Expanded communications vehicles [i.e., HSS Public Outreach Website]
    - Improve Program efficacy
- II. CAIRS Reporting
  1. Utility/quality issues
  2. Requirements to include subcontractor workforce in reporting
  3. Data entry, assignment and characterization
  4. Ability to organize/analyze data to create a meaningful management tool
  5. Create a meaningful tool for various users to parse data for populations/operations of interest
  6. How can this fit with the need for worker data tracking
- III. Central Worker Data Tracking
  1. Federal role and data disclosure issues--- Role of the unions/gatekeepers; Role of the contractors; Interface with DOE
  2. DOE system exit/entrance requirements for “temporary workers”
  3. Interface with 851 requirements
  4. Data Tracking as a means to avoid future issues for injured workers and their compensation
- IV. Meeting Recap
  1. Related efforts addressing above areas
  2. Key points/actions from this meeting
  3. Other topical interface developments of interest

## September 16 Meeting: Union/HSS Working Group

- Building & Construction Trades Department Center for Construction Research & Training - **Lead**
- Metal Trades Department AFL-CIO
- Operative Plasterers' & Cement Masons' International Association
- International Association of Bridge, Structural, Ornamental & Reinforcing Iron Workers
- International Union of Operating Engineers (IUOE)
- Sheet Metal Workers International Union
- United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied Industrial and Service Workers International Union
- Office of Health, Safety and Security
- Office of Corporate Safety Analysis
- Office of Health and Safety
- Office of Nuclear Safety and Environment
- National Training Center



DOE Office of Health Safety and  
Security

Office of Health and  
Safety



## Office of Health and Safety

(Direct Report to the Deputy Chief for Operations, Office of Health, Safety and Security)

### Mission and Functions

#### Mission

The Office of Health and Safety establishes worker safety and health requirements and expectations for the Department to ensure protection of workers from the hazards associated with Department operations. The Office conducts health studies to determine worker and public health effects from exposure to hazardous materials associated with Department operations and supports international health studies and programs. It implements medical surveillance and screening programs for current and former workers and supports the Department of Labor in the implementation of the Energy Employees Occupational Illness Compensation Program Act (EEOICPA). Additionally, the Office provides assistance to Headquarters and field elements in implementation of policy and resolving worker safety and health issues.

#### Functions

- Assures that the Office implements an integrated approach to customer and stakeholder needs in the development and maintenance of worker safety and health policy and assisting Headquarters and field elements in implementation and resolving cross cutting issues.
- Maintains effective liaison with line managers and other offices within the Office of Health, Safety and Security and external organizations to identify issues and concerns related to worker safety and health policy.
- Manages activities to develop, promulgate, and maintain worker safety and health policy.
- Maintains liaison with regulatory agencies with respect to worker safety and health matters.
- Provides recommendations to the Chief Health, Safety and Security Officer regarding approval of requests for planned special exposures in accordance with 10 CFR 835.204.
- Provides recommendations to the Chief Health, Safety and Security Officer regarding approval of alternative individual dosimetry monitoring in accordance with 10 CFR 835.402.
- Provides recommendations to the Chief Health, Safety and Security Officer regarding requests for exemptions to requirements of 10 CFR 835.
- Provides recommendations to the Chief Health, Safety and Security Officer regarding approval or denial or variances to 10 CFR 851.

[http://www.hss.energy.gov/HealthSafety/mission\\_functions.html](http://www.hss.energy.gov/HealthSafety/mission_functions.html)

## **Office of Former Worker Screening Programs**

**(Reports to the Office of Health and Safety)**

### **Mission and Functions**

#### **Mission**

The Office of Former Worker Screening Programs implements the Former Worker Medical Screening Program and supports the Department of Labor (DOL) in the implementation of the Energy Employees Occupational Illness Compensation Program Act (EEOICPA).

#### **Functions**

- Manages and conducts medical screening initiatives for the approximately 600,000-person former workforce (employees, contractors, and subcontractors) who may be subject to significant health risks due to exposures they may have experienced while employed at DOE sites. Screening is provided through consortia of universities, unions, and a nationwide network of occupational health providers.
- Funds and coordinates records retrieval activities at all DOE sites to support the claims adjudication process for individual claims submitted by current and former DOE federal and contractor workers under EEOICPA. Records requests include requests from DOL for employment verification, claimants' work history, and possible exposures as well as requests from the National Institute of Occupational Safety and Health (NIOSH) for dose reconstruction support documentation.
- Funds and coordinates large scale records retrieval activities for all DOE sites to support DOL, NIOSH, and the Presidential Advisory Board's EEOICPA-related activities, including DOL site exposure matrix projects, the Advisory Board's research and evaluation of Special Exposure Cohort petitions, and technical reviews of NIOSH site profiles.
- Manages the "covered facilities database," a database of over 350 facilities whose employees are eligible for benefits under EEOICPA, and the "covered periods" during which employees would need to have worked in order to receive these benefits.

## **Former Worker Medical Screening Program**

### **Background:**

The Former Worker Medical Screening Program (FWP) supports the Office of Health and Safety's mission and strategic response by funding external teams of health experts to independently offer medical screening to former workers who may be at significant risk for occupational diseases.

The FWP teams collect available site and de-identified worker health information from these projects, which is made available to DOE and other interested parties. Individual project final reports will also be made available to DOE workers and communities.

The FWP was first established in 1994, following the issuance of the 1993 Defense Authorization Act (PL 102-484)", which called for DOE to assist workers with determining whether they had health issues related to their prior work with DOE. Site- and population-specific medical screening

efforts were initiated in 1996. The FWP has been conducted using cooperative agreements held by consortia of universities, labor unions, and commercial organizations with expertise in administration of medical programs.

These medical screening projects provide notification to members of the at-risk groups and medical screening examinations for interested individuals. These examinations have been designed to check for adverse health outcomes related to occupational exposures (such as beryllium, asbestos, silica, welding fumes, lead, cadmium, chromium, and solvents).

Workers eligible for this program include all former DOE federal and contractor employees from all DOE sites.

In FY 2005, DOE also initiated a separate beryllium sensitization screening effort for employees of defunct DOE beryllium vendors who were employed with these companies while they performed work for DOE. These individuals typically have no other access to the beryllium sensitization screening, because their employers are no longer in business.

Most participants of the FWP and the beryllium vendor screening program have been reassured that they were not harmed, and those with medical findings have been assisted with referral for medical follow-up and/or to the Department of Labor's Energy Employee Occupational Illness Compensation Program (EEOICP).

Program Manager: [Mary Fields](#)

## **Energy Employees Occupational Illness Compensation Program**

The Energy Employees Occupational Illness Compensation Program Act (EEOICPA) was enacted to provide compensation and medical benefits to employees who worked at certain Department of Energy (DOE) facilities, including contractors and subcontractors at those locations, and certain of its vendors.

Adjudication of issues pertaining to all claims for benefits under the EEOICPA is the responsibility of the Department of Labor (DOL). The DOL is supported in its role by the DOE, the Department of Health and Human Services (HHS), and the Department of Justice (DOJ).

If you would like more information about the benefits available under the EEOICPA, please visit [DOL's web page](#).

The DOL has also established Resource Centers around the country to provide information about the EEOICPA and to assist the public with claim filing. To locate the Resource Center nearest you, please call toll free (866) 888-3322 or visit the DOL's webpage on its [Resource Centers](#).

For those individuals who are seeking information about the state workers compensation assistance program that was administered by the DOE under Part D of EEOICPA, that program was abolished in an amendment enacted on October 28, 2004. The claims filed under the Part D program have been transferred to DOL for consideration to the benefits that are now available under Part E. If you are seeking information about your claim, please contact the DOL.

**The DOE Role** The DOE provides worker and facility records and data to the DOL to help in their decision-making and in support of the administration of the EEOICPA. In addition, DOE maintains a list of facilities covered under the EEOICPA. This list is published in **the Federal Register** and is periodically updated.

In addition to periodic publication of the list in the Federal Register, the DOE also maintains the searchable **covered facility database**. This database contains additional information pertaining to each of the facilities noted in the Federal Register, including years of activity and a general overview of what the facility did.

The Department welcomes comments or additional information regarding the facilities covered under EEOICPA. When new information supports new listings or expanded time periods, updates are made accordingly. Contact Information:

U. S. Department of Energy  
Office of Health, Safety and Security  
Office of Former Worker Screening Programs (HS-15)  
1000 Independence Avenue, SW  
Washington, D. C. 20585

## Other EEOICP Links

[Department of Labor](#)  
Division of Energy Employees Occupational Illness Compensation.

[National Institute for Occupational Safety and Health \(NIOSH\), Office of Compensation Analysis and Support \(OCAS\)](#) NIOSH performs dose reconstructions for claims under EEOICPA.

[Department of Justice](#)  
Radiation Exposure Compensation Program

[Linking Legacies](#) - the story of the creation and development of the U.S. nuclear weapons complex

[Considered Sites Database](#) - contains information about facilities covered under EEOICPA

[CDC Radiation Studies](#) - health effects of environmental radiation exposures from nuclear weapons production facilities

[OpenNet](#) - includes declassified documents made public after October 1, 1994

[Hanford Declassified Document Retrieval System](#) - Contains more than 125,000 formerly classified documents available for public viewing dating back to the Manhattan District.

For further information, please contact [Gina Cano](#)

Format (PDF) on the Internet at the following site: <http://www.ed.gov/news/fedregister>.

To use PDF you must have Adobe Acrobat Reader, which is available free at this site. If you have questions about using PDF, call the U.S. Government Printing Office (GPO), toll free, at 1-888-293-6498; or in the Washington, DC, area at (202) 512-1530.

**Note:** The official version of this document is the document published in the **Federal Register**. Free Internet access to the official edition of the **Federal Register** and the Code of Federal Regulations is available on GPO Access at: <http://www.gpoaccess.gov/nara/index.html>.

Dated: August 18, 2004.

**Sally L. Stroup,**

*Assistant Secretary for Postsecondary Education.*

[FR Doc. 04-19277 Filed 8-20-04; 8:45 am]

BILLING CODE 4000-01-P

## DEPARTMENT OF ENERGY

### Energy Employees Occupational Illness Compensation Program Act of 2000; Revision to List of Covered Facilities

**AGENCY:** Department of Energy.

**ACTION:** Notice of revision of listing of covered facilities.

**SUMMARY:** Periodically, the Department of Energy ("Department" or "DOE") publishes a list of facilities covered under the Energy Employees Occupational Illness Compensation Program Act of 2000 ("Act"), Title 36 of Public Law 106-398 (66 FR 4003; 66 FR 31218). The Act establishes a program to provide compensation to individuals who developed illnesses as a result of their employment in nuclear weapons production-related activities and at certain federally owned facilities in which radioactive materials were used. This notice revises the previous lists and provides additional information about the covered facilities, atomic weapons employers, and beryllium vendors. The original notice provides detailed background information about this matter. Previous lists were published on July 21, 2003, December 27, 2002, June 11, 2001, and January 17, 2001.

**FOR FURTHER INFORMATION CONTACT:** Office of Worker Advocacy, 1-877-447-9756.

**ADDRESSES:** The Department welcomes comments on this list. Individuals who wish to suggest changes should provide information to: Office of Worker Advocacy (EH-8), U.S. Department of

Energy, 1000 Independence Avenue, SW., Washington, DC 20585; e-mail: [worker\\_advocacy@eh.doe.gov](mailto:worker_advocacy@eh.doe.gov); toll free: 1-877-447-9756; URL: <http://www.eh.doe.gov/advocacy/>.

#### SUPPLEMENTARY INFORMATION:

##### Purpose

The Energy Employees Occupational Illness Compensation Program Act of 2000 ("Act"), Title 36 of Public Law 106-398, establishes a program to provide compensation to individuals who developed illnesses as a result of their employment in nuclear weapons production-related activities and at certain federally owned facilities in which radioactive materials were used. On December 7, 2000, the President issued Executive Order 13179 ("Order") directing the Department of Energy ("Department" or "DOE") to list covered facilities in the **Federal Register**. This notice revises the previous lists and provides additional information about the covered facilities, atomic weapons employers, and beryllium vendors.

Section 2.c.iv of the Order instructs the Department to designate, pursuant to sections 3621(4)(B) and 3622 of the Act, atomic weapons employers (AWE's). In addition, Section 2.c.vii of the Order instructs the Department to list three types of facilities defined in the Act:

- (1) Atomic weapons employer facilities, as defined in section 3621(4);
- (2) Department of Energy facilities, as defined by section 3621(12); and
- (3) Beryllium vendors, as defined by section 3621(6).

Compensation options and mechanisms are defined differently for each of these facility categories. The atomic weapons employer category includes atomic weapons employer facilities in which the primary work was not related to atomic weapons, and consequently these facilities are not commonly known as atomic weapons facilities. Their inclusion in this list is consistent with the Act, and is not intended as a classification for any other purpose.

The list at the end of this notice represents the Department's best efforts to date to compile a list of facilities under these three categories. This listing includes 363 facilities in 46 jurisdictions. Today's publication of the list newly designates General Electric's X-ray Division in Milwaukee, WI as an AWE, and additionally designates the Nevada Site Office as a DOE facility. It also alters slightly the designation for Blockson Chemical (broadens it by saying "building 55 and related activities" which is meant to include the AEC-funded laboratory, pilot plant

and oxidation process). Other corrections include: B&T Metals (OH) (the DOE designation was in error and has been removed), Foote Mineral (PA) (the BE designation has been on the program's Web site (noted below) since inception, but was inadvertently missing from the **Federal Register** notice), Swenson Evaporator (is located in Harvey, not Chicago, IL) and C.H. Schnorr, PA (previously Schnoor). This notice also deletes the listing for Ledoux (NY) entirely because it was learned that no radioactivity was used at that location.

In addition to continuing its research efforts, the Department has developed information dissemination mechanisms to make facility-specific data available to the public. Information about each listed facility, including the dates and type of work done there, is available by contacting the Office of Worker Advocacy. These descriptions are available in print form and also electronically (via the World Wide Web at <http://tis.eh.doe.gov/advocacy/>).

The list that follows covers facilities under the three categories of employers defined by the Act: atomic weapons employers ("AWE"), Department of Energy facilities ("DOE"), and beryllium vendors ("BE"). Each of the categories has been defined in the original notice and include:

#### 1. Atomic Weapons Employers and Atomic Weapons Employer Facilities

The lines between research, atomic weapons production, and non-weapons production are often difficult to draw. For the purposes of this notice, and as directed by the Act, only those facilities whose work involved radioactive material that was connected to the atomic weapons production chain are included. This includes facilities that received radioactive material that had been used in the production of an atomic weapon, or the "back end" of the production cycle, such as waste handling or reprocessing operations. For the purposes of this listing, the Department considers commercial nuclear fuel fabrication facilities to be covered facilities for those periods when they either supplied radioactive materials to the Department or received radioactive materials that had been used in the Department's production reactors.

Corporate information regarding many of the listed facilities is often not readily available. The Department welcomes comments or additional information regarding facilities that may have supported atomic weapons production that are not on this list, as well as information that clarifies the work done at facilities named below.

2. Department of Energy Facilities

The listing of Department of Energy facilities is only intended for the context of implementing this Act and does not create or imply any new Departmental obligations or ownership at any of the facilities named on this list.

3. Beryllium Vendors and Beryllium Vendor Facilities

Section 3621(6) of the Act defines beryllium vendor as the following:

“(A) Atomics International.

(B) Brush Wellman, Incorporated, and its predecessor, Brush Beryllium Company.

(C) General Atomics.

(D) General Electric Company.

(E) NGK Metals Corporation and its predecessors, Kaweck-Beryllco, Cabot Corporation, BerylCo, and Beryllium Corporation of America.

(F) Nuclear Materials and Equipment Corporation.

(G) StarMet Corporation, and its predecessor, Nuclear Metals, Incorporated.

(H) Wyman Gordan, Incorporated.

(I) Any other vendor, processor, or producer of beryllium or related products designated as a beryllium vendor for purposes of this title under Section 3622.”

The list identifies facilities that processed, produced, or provided beryllium metal for the Department, as defined by the Act.

Jurisdiction and facility name	Location	Facility type	State
AL—Southern Research Institute	Birmingham	AWE	Alabama.
AL—Speedring, Inc.	Culman	BE	Alabama.
AL—Tennessee Valley Authority	Muscle Shoals	AWE	Alabama.
AK—Amchitka Nuclear Explosion Site	Amchitka Island	DOE	Alaska.
AK—Project Chariot Site	Cape Thompson	DOE	Alaska.
AZ—Ore Buying Station at Globe	Globe	DOE	Arizona.
CA—Arthur D. Little Co	San Francisco	AWE	California.
CA—Atomics International	Los Angeles County	BE DOE	California.
CA—California Research Corp	Richmond	AWE	California.
CA—Ceradyne, Inc	Costa Mesa	BE	California.
CA—Ceradyne, Inc	Santa Ana	BE	California.
CA—City Tool & Die MFG	Santa Clara	BE	California.
CA—C.L. Hann Industries	San Jose	BE	California.
CA—Dow Chemical Co	Walnut Creek	AWE	California.
CA—EDM Exotics	Hayward	BE	California.
CA—Electro Circuits, Inc	Pasadena	AWE	California.
CA—Electrofusion	Fremont	BE	California.
CA—Energy Technology Engineering Center (ETEC)	Santa Susana, Area IV	DOE	California.
CA—General Atomics	La Jolla	AWE BE DOE	California.
CA—General Electric Vallecitos	Pleasanton	AWE DOE	California.
CA—Hafer Tool	Oakland	BE	California.
CA—Hexcel Products	Berkeley	BE	California.
CA—Hunter Douglas Aluminum Corp	Riverside	AWE	California.
CA—Jerry Carroll Machining	San Carlos	BE	California.
CA—Lab. for Energy-Related Health Research	Davis	DOE	California.
CA—Lab. of Biomedical & Environmental Sciences	Los Angeles	DOE	California.
CA—Lab. of Radiobiology and Environmental Health	San Francisco	DOE	California.
CA—Lawrence Berkeley National Laboratory	Berkeley	DOE	California.
CA—Lawrence Livermore National Laboratory	Livermore	DOE	California.
CA—Lebow	Goleta	BE	California.
CA—Philco-Ford	Newport Beach	BE	California.
CA—Pleasanton Tool & Manufacturing	Pleasanton	BE	California.
CA—Poltech Precision	Fremont	BE	California.
CA—Robin Materials	Mountain View	BE	California.
CA—Ron Witherspoon, Inc	Campbell	BE	California.
CA—Sandia Laboratory, Salton Sea Base	Imperial County	DOE	California.
CA—Sandia National Laboratories—Livermore	Livermore	DOE	California.
CA—Stanford Linear Accelerator	Palo Alto	DOE	California.
CA—Stauffer Metals, Inc	Richmond	AWE	California.
CA—Tapemation	Scotts Valley	BE	California.
CA—University of California	Berkeley	AWE DOE	California.
CO—Coors Porcelain	Golden	BE	Colorado.
CO—Grand Junction Operations Office	Grand Junction	DOE	Colorado.
CO—Green Sludge Plant	Uraven	DOE	Colorado.
CO—Project Rio Blanco Nuclear Explosion Site	Rifle	DOE	Colorado.
CO—Project Rulison Nuclear Explosion Site	Grand Valley	DOE	Colorado.
CO—Rocky Flats Plant	Golden	DOE	Colorado.
CO—Shattuck Chemical	Denver	AWE	Colorado.
CO—University of Denver Research Institute	Denver	AWE BE	Colorado.
CO—Uranium Mill in Durango	Durango	DOE	Colorado.
CT—American Chain and Cable Co	Bridgeport	AWE	Connecticut.
CT—Anaconda Co	Waterbury	AWE	Connecticut.
CT—Bridgeport Brass Co., Havens Laboratory	Bridgeport	AWE	Connecticut.
CT—Combustion Engineering	Windsor	AWE	Connecticut.
CT—Connecticut Aircraft Nuclear Engine Laboratory	Middletown	BE DOE	Connecticut.
CT—Dorr Corp.	Stamford	AWE	Connecticut.
CT—Fenn Machinery	Hartford	AWE	Connecticut.
CT—Machlett Laboratories	Springdale	BE	Connecticut.
CT—New England Lime Co	Canaan	AWE	Connecticut.

Jurisdiction and facility name	Location	Facility type	State
CT—Seymour Specialty Wire	Seymour	AWE DOE	Connecticut.
CT—Sperry Products, Inc	Danbury	AWE	Connecticut.
CT—Torrington Co	Torrington	AWE	Connecticut.
DE—Allied Chemical and Dye Corp	North Claymont	AWE	Delaware.
DC—National Bureau of Standards	Washington	AWE	District of Columbia.
DC—Naval Research Laboratory	Washington	AWE DOE	District of Columbia.
FL—American Beryllium Co	Sarasota	BE	Florida.
FL—Armour Fertilizer Works	Bartow	AWE	Florida.
FL—Gardinier, Inc	Tampa	AWE	Florida.
FL—International Minerals and Chemical Corp.	Mulberry	AWE	Florida.
FL—Pinellas Plant	Clearwater	DOE	Florida.
FL—University of Florida	Gainesville	AWE	Florida.
FL—Virginia-Carolina Chemical Corp	Nichols	AWE	Florida.
FL—W.R. Grace Co., Agricultural Chemical Div	Ridgewood	AWE	Florida.
HI—Kauai Test Facility	Kauai	DOE	Hawaii.
ID—Argonne National Laboratory—West	Scoville	DOE	Idaho.
ID—Idaho National Engineering Laboratory	Scoville	DOE	Idaho.
ID—Northwest Machining & Manufacturing	Meridian	BE	Idaho.
IL—Allied Chemical Corp. Plant	Metropolis	AWE	Illinois.
IL—American Machine and Metals, Inc	E. Moline	AWE	Illinois.
IL—Argonne National Laboratory—East	Argonne	DOE	Illinois.
IL—Armour Research Foundation	Chicago	AWE	Illinois.
IL—Blockson Chemical Co. (Building 55 and related activities).	Joliet	AWE	Illinois.
IL—C-B Tool Products Co	Chicago	AWE	Illinois.
IL—Crane Co	Chicago	AWE	Illinois.
IL—Dow Chemical (Madison Site)	Madison	AWE	Illinois.
IL—ERA Tool and Engineering Co	Chicago	AWE	Illinois.
IL—Fansteel Metallurgical Corp	North Chicago	BE	Illinois.
IL—Fermi National Accelerator Laboratory	Batavia	DOE	Illinois.
IL—Granite City Steel	Granite City	AWE DOE	Illinois.
IL—Great Lakes Carbon Corp	Chicago	AWE	Illinois.
IL—GSA 39th Street Warehouse	Chicago	AWE	Illinois.
IL—International Register	Chicago	AWE	Illinois.
IL—Kaiser Aluminum Corp	Dalton	AWE	Illinois.
IL—Lindsay Light and Chemical Co	W. Chicago	AWE	Illinois.
IL—Metallurgical Laboratory	Chicago	AWE BE DOE	Illinois.
IL—Midwest Manufacturing Co	Galesburg	AWE	Illinois.
IL—Museum of Science and Industry	Chicago	AWE	Illinois.
IL—National Guard Armory	Chicago	AWE DOE	Illinois.
IL—Podbeliniac Corp	Chicago	AWE	Illinois.
IL—Precision Extrusion Co	Bensenville	AWE	Illinois.
IL—Quality Hardware and Machine Co	Chicago	AWE	Illinois.
IL—R. Krasburg and Sons Manufacturing Co	Chicago	AWE	Illinois.
IL—Sciaky Brothers, Inc	Chicago	AWE	Illinois.
IL—Swenson Evaporator Co	Harvey	AWE	Illinois.
IL—W.E. Pratt Manufacturing Co	Joliet	AWE	Illinois.
IL—Wyckoff Drawn Steel Co	Chicago	AWE	Illinois.
IN—American Bearing Corp	Indianapolis	AWE	Indiana.
IN—Dana Heavy Water Plant	Dana	DOE	Indiana.
IN—General Electric Plant	Shelbyville	AWE	Indiana.
IN—Joslyn Manufacturing and Supply Co	Ft. Wayne	AWE	Indiana.
IN—Purdue University	Lafayette	AWE	Indiana.
IA—Ames Laboratory	Ames	DOE	Iowa.
IA—Bendix Aviation (Pioneer Division)	Davenport	AWE	Iowa.
IA—Iowa Ordnance Plant	Burlington	DOE	Iowa.
IA—Titus Metals	Waterloo	AWE	Iowa.
KS—Spencer Chemical Co., Jayhawk Works	Pittsburgh	AWE	Kansas.
KY—Paducah Gaseous Diffusion Plant	Paducah	DOE	Kentucky.
LA—Ethyl Corp	Baton Rouge	BE	Louisiana.
MD—Armco-Rustless Iron & Steel	Baltimore	AWE	Maryland.
MD—W.R. Grace and Company	Curtis Bay	AWE	Maryland.
MA—American Potash & Chemical	West Hanover	AWE	Massachusetts.
MA—C.G. Sargent & Sons	Graniteville	AWE	Massachusetts.
MA—Chapman Valve	Indian Orchard	AWE DOE	Massachusetts.
MA—Edgerton Germeshausen & Grier, Inc	Boston	AWE	Massachusetts.
MA—Fenwal, Inc	Ashland	AWE	Massachusetts.
MA—Franklin Institute	Boston	BE	Massachusetts.
MA—Heald Machine Co	Worcester	AWE	Massachusetts.
MA—La Pointe Machine and Tool Co	Hudson	AWE	Massachusetts.
MA—Massachusetts Institute of Technology	Cambridge	AWE BE	Massachusetts.
MA—Metals and Controls Corp	Attleboro	AWE	Massachusetts.
MA—National Research Corp	Cambridge	AWE	Massachusetts.
MA—Norton Co	Worcester	AWE BE	Massachusetts.

Jurisdiction and facility name	Location	Facility type	State
MA—Nuclear Metals, Inc	Concord	AWE BE	Massachusetts.
MA—Reed Rolled Thread Co	Worcester	AWE	Massachusetts.
MA—Shpack Landfill	Norton	AWE	Massachusetts.
MA—Ventron Corporation	Beverly	AWE DOE	Massachusetts.
MA—Watertown Arsenal	Watertown	AWE	Massachusetts.
MA—Winchester Engineering & Analytical Center	Winchester	DOE	Massachusetts.
MA—Woburn Landfill	Woburn	AWE	Massachusetts.
MA—Wyman Gordon Inc	Grayton, North Grafton	BE	Massachusetts.
MI—AC Spark Plug	Flint	AWE BE	Michigan.
MI—Baker-Perkins Co	Saginaw	AWE	Michigan.
MI—Bridgeport Brass Co	Adrian	AWE DOE	Michigan.
MI—Brush Beryllium Co	Detroit	AWE	Michigan.
MI—Carboloy Co	Detroit	AWE	Michigan.
MI—Extruded Metals Co	Grand Rapids	AWE	Michigan.
MI—Gerity-Michigan Corp	Adrian	BE	Michigan.
MI—Mitts & Merrel Co	Saginaw	AWE	Michigan.
MI—Oliver Corp	Battle Creek	AWE	Michigan.
MI—Revere Copper and Brass	Detroit	AWE BE	Michigan.
MI—Speedring Systems, Inc	Detroit	BE	Michigan.
MI—Star Cutter Corp	Farmington	AWE	Michigan.
MI—University of Michigan	Ann Arbor	AWE	Michigan.
MI—Wolverine Tube Division	Detroit	AWE BE	Michigan.
MN—Elk River Reactor	Elk River	DOE	Minnesota.
MS—Salmon Nuclear Explosion Site	Hattiesburg	DOE	Mississippi.
MO—Kansas City Plant	Kansas City	DOE	Missouri.
MO—Latty Avenue Properties	Hazelwood	AWE DOE	Missouri.
MO—Mallinckrodt Chemical Co., Destrehan St. Plant	St. Louis	DOE	Missouri.
MO—Medart Co	St. Louis	AWE	Missouri.
MO—Roger Iron Co	Joplin	AWE	Missouri.
MO—St. Louis Airport Storage Site (SLAPS)	St. Louis	AWE	Missouri.
MO—Tyson Valley Powder Farm	St. Louis	AWE	Missouri.
MO—United Nuclear Corp	Hematite	AWE	Missouri.
MO—Weldon Spring Plant	Weldon Spring	DOE	Missouri.
NE—Hallam Sodium Graphite Reactor	Hallam	DOE	Nebraska.
NV—Nevada Site Office	North Las Vegas	DOE	Nevada.
NV—Nevada Test Site	Mercury	DOE	Nevada.
NV—Project Faultless Nuclear Explosion Site	Central Nevada Test Site	DOE	Nevada.
NV—Project Shoal Nuclear Explosion Site	Fallon	DOE	Nevada.
NV—Tonopah Test Range	Tonopah	DOE	Nevada.
NV—Yucca Mountain Site Characterization Project	Yucca Mountain	DOE	Nevada.
NJ—Aluminum Co. of America (Alcoa)	Garwood	AWE	New Jersey.
NJ—American Peddinghaus Corp	Moonachie	AWE	New Jersey.
NJ—Baker and Williams Co	Newark	AWE	New Jersey.
NJ—Bell Telephone Laboratories	Murray Hill	AWE	New Jersey.
NJ—Bloomfield Tool Co	Bloomfield	AWE	New Jersey.
NJ—Bowen Laboratory	North Branch	AWE	New Jersey.
NJ—Callite Tungsten Co	Union City	AWE	New Jersey.
NJ—Chemical Construction Co	Linden	AWE	New Jersey.
NJ—Du Pont Deepwater Works	Deepwater	AWE DOE	New Jersey.
NJ—International Nickel Co., Bayonne Laboratories	Bayonne	AWE	New Jersey.
NJ—J.T. Baker Chemical Co	Phillipsburg	AWE	New Jersey.
NJ—Kelllex/Pierpont	Jersey City	AWE DOE	New Jersey.
NJ—Maywood Chemical Works	Maywood	AWE	New Jersey.
NJ—Middlesex Municipal Landfill	Middlesex	AWE DOE	New Jersey.
NJ—Middlesex Sampling Plant	Middlesex	DOE	New Jersey.
NJ—National Beryllia	Haskell	BE	New Jersey.
NJ—New Brunswick Laboratory	New Brunswick	DOE	New Jersey.
NJ—Picatinny Arsenal	Dover	AWE	New Jersey.
NJ—Princeton Plasma Physics Laboratory	Princeton	DOE	New Jersey.
NJ—Rare Earths/W.R. Grace	Wayne	AWE DOE	New Jersey.
NJ—Standard Oil Development Co. of NJ	Linden	AWE	New Jersey.
NJ—Stevens Institute of Technology	Hoboken	BE	New Jersey.
NJ—Tube Reducing Co	Wallington	AWE	New Jersey.
NJ—U.S. Pipe and Foundry	Burlington	BE	New Jersey.
NJ—United Lead Co	Middlesex	AWE BE	New Jersey.
NJ—Vitro Corp. of America (New Jersey)	West Orange	AWE	New Jersey.
NJ—Westinghouse Electric Corp (New Jersey)	Bloomfield	AWE	New Jersey.
NJ—Wykoff Steel Co	Newark	AWE	New Jersey.
NM—Accurate Machine & Tool	Albuquerque	BE	New Mexico.
NM—Albuquerque Operations Office	Albuquerque	DOE	New Mexico.
NM—Chupadera Mesa	Chupadera Mesa	DOE	New Mexico.
NM—Los Alamos Medical Center	Los Alamos	DOE	New Mexico.
NM—Los Alamos National Laboratory	Los Alamos	DOE	New Mexico.
NM—Lovelace Respiratory Research Institute	Albuquerque	DOE	New Mexico.

Jurisdiction and facility name	Location	Facility type	State
NM—Ore Buying Station at Grants	Grants	DOE	New Mexico.
NM—Ore Buying Station at Shiprock	Shiprock	DOE	New Mexico.
NM—Project Gasbuggy Nuclear Explosion Site	Farmington	DOE	New Mexico.
NM—Project Gnome Nuclear Explosion Site	Carlsbad	DOE	New Mexico.
NM—Sandia National Laboratories	Albuquerque	DOE	New Mexico.
NM—South Albuquerque Works	Albuquerque	DOE	New Mexico.
NM—Trinity Nuclear Explosion Site	White Sands Missile Range	DOE	New Mexico.
NM—Waste Isolation Pilot Plant	Carlsbad	DOE	New Mexico.
NY—Allegheny-Ludlum Steel	Watervliet	AWE	New York.
NY—American Machine and Foundry	Brooklyn	AWE	New York.
NY—Ashland Oil	Tonawanda	AWE	New York.
NY—Baker and Williams Warehouses	New York	AWE DOE	New York.
NY—Bethlehem Steel	Lackawanna	AWE	New York.
NY—Bliss & Laughlin Steel	Buffalo	AWE	New York.
NY—Brookhaven National Laboratory	Upton	DOE	New York.
NY—Burns & Roe, Inc	Maspeth	BE	New York.
NY—Carborundum Company	Niagara Falls	AWE	New York.
NY—Colonie Site (National Lead)	Colonie (Albany)	AWE DOE	New York.
NY—Crucible Steel Co	Syracuse	AWE	New York.
NY—Electro Metallurgical	Niagara Falls	DOE	New York.
NY—Environmental Measurements Laboratory	New York	DOE	New York.
NY—Fairchild Hiller Corporation	Farmingdale	BE	New York.
NY—General Astrometals	Yonkers	BE	New York.
NY—Hooker Electrochemical	Niagara Falls	AWE	New York.
NY—International Rare Metals Refinery, Inc	Mt. Kisco	AWE	New York.
NY—Ithaca Gun Co	Ithaca	AWE	New York.
NY—Lake Ontario Ordnance Works	Niagara Falls	DOE	New York.
NY—Linde Air Products	Buffalo	AWE	New York.
NY—Linde Ceramics Plant	Tonawanda	AWE DOE	New York.
NY—New York University	New York	AWE	New York.
NY—Peek Street Facility <sup>1</sup>	Schenectady	DOE	New York.
NY—Radium Chemical Co	New York	AWE BE	New York.
NY—Rensselaer Polytechnic Institute	Troy	BE	New York.
NY—Sacandaga Facility <sup>1</sup>	Glenville	DOE	New York.
NY—SAM Laboratories, Columbia University	New York	DOE	New York.
NY—Seaway Industrial Park	Tonawanda	AWE	New York.
NY—Seneca Army Depot	Romulus	AWE	New York.
NY—Separations Process Research Unit (at Knolls Lab.) <sup>1</sup>	Schenectady	DOE	New York.
NY—Simonds Saw and Steel Co	Lockport	AWE	New York.
NY—Staten Island Warehouse	New York	AWE	New York.
NY—Sylvania Corning Nuclear Corp.—Bayside Lab	Bayside	AWE BE	New York.
NY—Sylvania Corning Nuclear Corp.—Hicksville Plant	Hicksville	AWE	New York.
NY—Titanium Alloys Manufacturing	Niagara Falls	AWE	New York.
NY—Trudeau Foundation	Saranac Lake	BE	New York.
NY—University of Rochester Atomic Energy Project	Rochester	DOE	New York.
NY—Utica St. Warehouse	Buffalo	AWE	New York.
NY—West Valley Demonstration Project	West Valley	AWE DOE	New York.
NY—Wolff-Alport Chemical Corp	Brooklyn	AWE	New York.
NC—Beryllium Metals and Chemical Corp	Bessemer City	BE	North Carolina.
NC—University of North Carolina	Chapel Hill	BE	North Carolina.
OH—Ajax Magnethermic Corp	Youngstown	AWE	Ohio.
OH—Alba Craft	Oxford	AWE DOE	Ohio.
OH—Associated Aircraft Tool and Manufacturing Co	Fairfield	AWE DOE	Ohio.
OH—B & T Metals	Columbus	AWE	Ohio.
OH—Baker Brothers	Toledo	AWE DOE	Ohio.
OH—Battelle Laboratories—King Avenue	Columbus	AWE BE DOE	Ohio.
OH—Battelle Laboratories—West Jefferson	Columbus	AWE DOE	Ohio.
OH—Beryllium Production Plant (Brush Luckey Plant)	Luckey	BE DOE	Ohio.
OH—Brush Beryllium Co. (Cleveland)	Cleveland	AWE BE	Ohio.
OH—Brush Beryllium Co. (Elmore)	Elmore	BE	Ohio.
OH—Brush Beryllium Co. (Lorain)	Lorain	BE	Ohio.
OH—Cincinnati Milling Machine Co	Cincinnati	AWE	Ohio.
OH—Clifton Products Co	Painesville	BE	Ohio.
OH—Copperweld Steel	Warren	AWE	Ohio.
OH—Du Pont-Grasselli Research Laboratory	Cleveland	AWE	Ohio.
OH—Extrusion Plant (Reactive Metals Inc.)	Ashtabula	DOE	Ohio.
OH—Feed Materials Production Center (FMPC)	Fernald	DOE	Ohio.
OH—General Electric Company (Ohio)	Cincinnati/Evendale	AWE BE DOE	Ohio.
OH—Gruen Watch	Norwood	AWE	Ohio.
OH—Harshaw Chemical Co	Cleveland	AWE	Ohio.
OH—Herring-Hall Marvin Safe Co.	Hamilton	AWE DOE	Ohio.
OH—Horizons, Inc	Cleveland	AWE	Ohio.
OH—Kettering Laboratory, University of Cincinnati	Cincinnati	BE	Ohio.

Jurisdiction and facility name	Location	Facility type	State
OH—Magnus Brass Co	Cincinnati	AWE	Ohio.
OH—McKinney Tool and Manufacturing Co	Cleveland	AWE	Ohio.
OH—Mitchell Steel Co	Cincinnati	AWE	Ohio.
OH—Monsanto Chemical Co	Dayton	AWE	Ohio.
OH—Mound Plant	Miamisburg	DOE	Ohio.
OH—Painesville Site (Diamond Magnesium Co.)	Painesville	AWE	Ohio.
OH—Piqua Organic Moderated Reactor	Piqua	DOE	Ohio.
OH—Portsmouth Gaseous Diffusion Plant	Piketon	DOE	Ohio.
OH—R. W. Leblond Machine Tool Co	Cincinnati	AWE	Ohio.
OH—Tech-Art, Inc	Milford	AWE	Ohio.
OH—Tocco Induction Heating Div	Cleveland	AWE	Ohio.
OH—Vulcan Tool Co	Dayton	AWE	Ohio.
OK—Eagle Picher	Quapaw	BE	Oklahoma.
OK—Kerr-McGee	Guthrie	AWE	Oklahoma.
OR—Albany Research Center	Albany	AWE DOE	Oregon.
OR—Wah Chang	Albany	AWE	Oregon.
PA—Aeroprojects, Inc	West Chester	AWE BE	Pennsylvania.
PA—Aliquippa Forge	Aliquippa	AWE DOE	Pennsylvania.
PA—Aluminum Co. of America (Alcoa) (Pennsylvania)	New Kensington	AWE	Pennsylvania.
PA—Beryllium Corp. of America (Hazleton)	Hazleton	BE	Pennsylvania.
PA—Beryllium Corp. of America (Reading)	Reading	BE	Pennsylvania.
PA—Birdsboro Steel & Foundry	Birdsboro	AWE	Pennsylvania.
PA—C.H. Schnorr	Springdale	AWE DOE	Pennsylvania.
PA—Carnegie Institute of Technology	Pittsburgh	AWE	Pennsylvania.
PA—Carpenter Steel Co	Reading	AWE	Pennsylvania.
PA—Chambersburg Engineering Co	Chambersburg	AWE	Pennsylvania.
PA—Foote Mineral Co	East Whiteland Twp	AWE/BE	Pennsylvania.
PA—Frankford Arsenal	Philadelphia	AWE	Pennsylvania.
PA—Heppenstall Co	Pittsburgh	AWE	Pennsylvania.
PA—Jessop Steel Co	Washington	AWE	Pennsylvania.
PA—Koppers Co., Inc	Verona	AWE	Pennsylvania.
PA—Landis Machine Tool Co	Waynesboro	AWE	Pennsylvania.
PA—McDanel Refractory Co	Beaver Falls	BE	Pennsylvania.
PA—Nuclear Materials and Equipment Corp. (NUMEC)	Apollo	AWE BE	Pennsylvania.
PA—Nuclear Materials and Equipment Corp. (NUMEC)	Parks Township	AWE BE	Pennsylvania.
PA—Penn Salt Co	Philadelphia/Wyndmoor	AWE	Pennsylvania.
PA—Philadelphia Naval Yard	Philadelphia	AWE	Pennsylvania.
PA—Shippingport Atomic Power Plant 1	Shippingport	DOE	Pennsylvania.
PA—Superior Steel Co	Carnegie	AWE	Pennsylvania.
PA—U.S. Steel Co., National Tube Division	McKeesport	AWE	Pennsylvania.
PA—Vitro Manufacturing (Canonsburg)	Canonsburg	AWE BE	Pennsylvania.
PA—Westinghouse Atomic Power Dev. Plant	East Pittsburgh	AWE	Pennsylvania.
PA—Westinghouse Nuclear Fuels Division	Cheswick	AWE	Pennsylvania.
PR—BONUS Reactor Plant	Punta Higuera	DOE	Puerto Rico.
PR—Puerto Rico Nuclear Center	Mayaguez	DOE	Puerto Rico.
RI—C.I. Hayes, Inc	Cranston	AWE	Rhode Island.
SC—Savannah River Site	Aiken	DOE	South Carolina.
SD—Ore Buying Station at Edgemont	Edgemont	DOE	South Dakota.
TN—Clarksville Facility	Clarksville	DOE	Tennessee.
TN—Manufacturing Sciences Corp	Oak Ridge	BE	Tennessee.
TN—Oak Ridge Gaseous Diffusion Plant (K-25)	Oak Ridge	DOE	Tennessee.
TN—Oak Ridge Hospital	Oak Ridge	DOE	Tennessee.
TN—Oak Ridge Institute for Science Education	Oak Ridge	DOE	Tennessee.
TN—Oak Ridge National Laboratory (X-10)	Oak Ridge	DOE	Tennessee.
TN—S-50 Oak Ridge Thermal Diffusion Plant	Oak Ridge	DOE	Tennessee.
TN—Vitro Corporation of America (Tennessee)	Oak Ridge	AWE BE	Tennessee.
TN—W.R. Grace (Tennessee)	Erwin	AWE	Tennessee.
TN—Y-12 Plant	Oak Ridge	DOE	Tennessee.
TX—AMCOT	Ft. Worth	AWE	Texas.
TX—Mathieson Chemical Co	Pasadena	AWE	Texas.
TX—Medina Facility	San Antonio	DOE	Texas.
TX—Pantex Plant	Amarillo	DOE	Texas.
TX—Sutton, Steele and Steele Co	Dallas	AWE	Texas.
TX—Texas City Chemicals, Inc	Texas City	AWE	Texas.
UT—Ore Buying Station at Marysville	Marysville	DOE	Utah.
UT—Ore Buying Station at Moab	Moab	DOE	Utah.
UT—Ore Buying Station at Monticello	Monticello	DOE	Utah.
UT—Ore Buying Station at White Canyon	White Canyon	DOE	Utah.
UT—Uranium Mill in Monticello	Monticello	DOE	Utah.
VA—BWXT	Lynchburg	AWE BE	Virginia
VA—Thomas Jefferson National Accelerator Facility	Newport News	DOE	Virginia.
VA—University of Virginia	Charlottesville	AWE	Virginia.
WA—Hanford	Richland	DOE	Washington.
WA—Pacific Northwest National Laboratory	Richland	DOE	Washington.

Jurisdiction and facility name	Location	Facility type	State
WV—Huntington Pilot Plant .....	Huntington .....	DOE .....	West Virginia.
WI—Allis-Chalmers Co .....	West Allis, Milwaukee .....	AWE .....	Wisconsin.
WI—A.O. Smith .....	Milwaukee .....	BE .....	Wisconsin.
WI—Besley-Wells .....	South Beloit .....	AWE .....	Wisconsin.
WI—General Electric (X-Ray Division) .....	Milwaukee .....	AWE .....	Wisconsin.
WI—LaCrosse Boiling Water Reactor .....	LaCrosse .....	DOE .....	Wisconsin.
WI—Ladish Co .....	Cudahy .....	BE .....	Wisconsin.
WY—Ore Buying Station at Crooks Gap .....	Crooks Gap .....	DOE .....	Wyoming.
WY—Ore Buying Station at Riverton .....	Riverton .....	DOE .....	Wyoming.
MR—Pacific Proving Ground <sup>2</sup> .....	Marshall Islands .....	DOE .....	Marshall Islands.

<sup>1</sup> Consistent with the Act, coverage is limited to activities not performed under the responsibility of the Naval Nuclear Propulsion program.

<sup>2</sup> Pacific Proving Ground includes Bikini Atoll, Enewetak Atoll, Johnston (U.S. nuclear weapons testing activities only), and Christmas Island (U.S. nuclear weapons testing activities only).

Issued in Washington, DC, August 17, 2004.

**T.A. Rollow,**

*Director, Office of Worker Advocacy, Office of Environment, Safety and Health.*

[FR Doc. 04-19228 Filed 8-20-04; 8:45 am]

**BILLING CODE 6450-01-P**

## DEPARTMENT OF ENERGY

### Environmental Management Site-Specific Advisory Board, Nevada

**AGENCY:** Department of Energy.

**ACTION:** Notice of open meeting.

**SUMMARY:** This notice announces a meeting of the Environmental Management Site-Specific Advisory Board (EM SSAB), Nevada Test Site. The Federal Advisory Committee Act (Pub. L. No. 92-463, 86 Stat. 770) requires that public notice of these meetings be announced in the **Federal Register**.

**DATES:** Wednesday, September 8, 2004, 6 p.m.–8:30 p.m.

**ADDRESSES:** Bob Ruud Community Center, 150 North Highway 160, Pahrump, NV.

**FOR FURTHER INFORMATION CONTACT:** Kay Planamento, Navarro Research and Engineering, Inc., 2721 Losee Road, North Las Vegas, Nevada 89130, phone: 702-657-9088, fax: 702-295-5300, e-mail: [NTSCAB@aol.com](mailto:NTSCAB@aol.com).

#### SUPPLEMENTARY INFORMATION:

*Purpose of the Board:* The purpose of the Advisory Board is to make recommendations to DOE in the areas of environmental restoration, waste management, and related activities.

#### *Tentative Agenda:*

- Members of the CAB's Underground Test Area Committee will provide a briefing to update stakeholders on their work related to groundwater issues at the Nevada Test Site.
- CAB members will discuss technical committee focus areas and activities completed in fiscal year 2004.

Copies of the final agenda will be available at the meeting.

*Public Participation:* The meeting is open to the public. Written statements may be filed with the Committee either before or after the meeting. Individuals who wish to make oral statements pertaining to agenda items should contact Kelly Kozeliski, at the telephone number listed above. Requests must be received 5 days prior to the meeting and reasonable provision will be made to include the presentation in the agenda. The Deputy Designated Federal Officer is empowered to conduct the meeting in a fashion that will facilitate the orderly conduct of business. Each individual wishing to make public comment will be provided a maximum of five minutes to present their comments.

*Minutes:* The minutes of this meeting will be available for public review and copying at the Freedom of Information Public Reading Room, 1E-190, Forrestal Building, 1000 Independence Avenue, SW., Washington, DC 20585 between 9 a.m. and 4 p.m., Monday–Friday, except Federal holidays. Minutes will also be available by writing to Kay Planamento at the address listed above.

Issued at Washington, DC, on August 18, 2004.

**Rachel M. Samuel,**

*Deputy Advisory Committee Management Officer.*

[FR Doc. 04-19227 Filed 8-20-04; 8:45 am]

**BILLING CODE 6450-01-P**

## ENVIRONMENTAL PROTECTION AGENCY

[OAR-2004-0228, FRL-7801-5]

### Agency Information Collection Activities: Proposed Collection; Comment Request; Reporting and Recordkeeping Activities Associated With EPA's PFC Reduction/Climate Partnership for the Semiconductor Industry, EPA ICR Number 1823.03, OMB Control Number 2060-0382

**AGENCY:** Environmental Protection Agency.

**ACTION:** Notice.

**SUMMARY:** In compliance with the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*), this document announces that EPA is planning to submit a continuing Information Collection Request (ICR) to the Office of Management and Budget (OMB). This is a request to renew an existing approved collection. This ICR is scheduled to expire on 11/30/2004. Before submitting the ICR to OMB for review and approval, EPA is soliciting comments on specific aspects of the proposed information collection as described below.

**DATES:** Comments must be submitted on or before October 22, 2004.

**ADDRESSES:** Submit your comments, referencing docket ID number OAR-2004-0228, to EPA online using EDOCKET (our preferred method), by e-mail to [a-and-r-Docket@epa.gov](mailto:a-and-r-Docket@epa.gov), or by mail to: EPA Docket Center, Environmental Protection Agency, Air and Radiation Docket and Information Center, MC 6102T, 1200 Pennsylvania Ave., NW., Washington, DC 20460.

**FOR FURTHER INFORMATION CONTACT:** Scott Bartos, Office of Atmospheric Programs, 6202J, Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460; telephone number: 202 343-9167; fax number: 202 343-2208; e-mail address: [bartos.scott@epa.gov](mailto:bartos.scott@epa.gov).



OFFICE OF HEALTH, SAFETY AND SECURITY

FORMER WORKER PROGRAM (FWP)

Former Worker Program (FWP)

Text size: [Smaller](#) - [Normal](#) - [Larger](#) - [Largest](#)

You are Here: [DOE](#) > [HSS](#) > [HealthSafety](#) > [FWSP](#)

- [Home](#)
- [What's New](#)
- [Program Statistics](#)
- [Program Fact Sheets by State](#)
- [Program Brochure](#)

**Former Worker Medical Screening Program FWP**

[What's New](#)

**Covered Sites/Populations**

- [Construction Worker Screening Projects](#)
- [Production Worker Screening Projects](#)
- [Supplemental Screening Program](#)
- [Beryllium Vendor Screening Program](#)

[FWP Project Updates](#)

[Ames Laboratory and Burlington Atomic Energy Commission Plant \(otherwise known as Iowa Army Ammunition Plant\)](#)

[Building Trades National Medical Screening Program - multiple DOE sites](#)

[Lawrence Livermore National Laboratory, Lawrence Berkeley National Laboratory, and Sandia National Laboratory, CA](#)

[Los Alamos National Laboratory and Sandia National Laboratory, NM](#)

[National Supplemental Screening Program - multiple DOE sites](#)

[Pantex](#)

[Worker Health Protection Program - Idaho National Laboratory, Mound, Fernald, Y-12, Oak Ridge National Laboratory, and Portsmouth, Paducah, and K-25 Gaseous Diffusion Plants](#)

[Early Lung Cancer Detection Program](#)

**Related Links**

**Health and Safety**

[Former Worker Medical Screening Program Report](#)

[New screening programs to begin soon for former employees from Lawrence Livermore National Laboratory and Sandia National Laboratory \(CA\)](#)

[Report on Screening for Beryllium Sensitization and Disease in Former DOE Federal and Contractor Workers through December 2005](#)



This page was last updated on June 23, 2008

[Security & Privacy Notice](#) • [HSS Information Inventory](#) • [HSS Organization](#)

[Doing Business with DOE](#) | [Competitive Sourcing](#) | [DOE Directives](#) | [Small Business](#)



U.S. Department of Energy | 1000 Independence Ave., SW | Washington, DC 20585

1-800-dial-DOE | f/202-586-4403 |

[Web Policies](#) | [No Fear Act](#) | [Site Map](#) | [Privacy](#) | [Phone Book](#) | [Employment](#)

## Who Can Benefit from this Program?

- More than 53,000 former workers have been provided with a free customized medical exam through the Former Worker Program.
- These exams can provide important information on health conditions, which if caught early, can be treated.
- Information about Federal and State compensation programs is available to interested individuals.
- Participants whose screening results are in the normal range receive the benefit of this reassurance.
- Current DOE workers may benefit because this program can help identify important health risks at individual sites.



## Who Provides These Services on Behalf of DOE?

- Since 1996, DOE has provided funding to various groups who provide these services.
- These groups include major U.S. universities and medical schools, national health care delivery systems, local health care facilities and major labor unions.

Additional information on the DOE Former Worker Medical Screening Program can be found at:

<http://www.hss.energy.gov/healthsafety/fwsp/formerworkermed>



June 2008

The Department of Energy



# FORMER WORKER MEDICAL SCREENING PROGRAM



## What is the Department of Energy (DOE) Former Worker Medical Screening Program?

The DOE Former Worker Medical Screening Program, otherwise known as the DOE Former Worker Program, offers free medical screening to former DOE workers who may have been exposed to hazardous substances during their work for DOE. The legislative mandate for this program is the 1993 Defense Authorization Act (PL 102-484, Section 3162).

The medical screening includes a physical exam, blood and urine tests, a hearing test, and other special tests depending on work history and exposures, such as a chest x-ray, lung function tests, a test for exposure to asbestos.

This screening is designed to test for such conditions as:

- Chronic respiratory diseases
- Hearing loss
- Liver and kidney problems
- Some forms of cancer

Special tests are available for workers who were exposed to beryllium, asbestos, or silica.

Exam results that are of concern are sent to the participants' personal physicians who will decide the next steps.

## Who is Eligible for the DOE Former Worker Program?

All former DOE workers who separated from DOE at least five years ago are eligible to enroll in this program. This includes about 600,000 DOE Federal employees, contractors, and subcontractors.

## Where is This Screening Offered?

This program is offered to former workers from all DOE sites, including those sites no longer in operation. Site-specific screening clinics are located in the vicinity of most of the major DOE work sites.

In addition, DOE offers access to a large nationwide system of screening clinics that are centrally coordinated to serve former workers who no longer live in the vicinity of their former site. The screening is based on the specific exposures at the DOE site where the participant was employed. This is because most DOE sites are unique in their operations and, therefore, potential exposures will vary with the site.

Interested individuals are provided with a toll-free number for information on how to enroll.

## Who is Encouraged to Enroll?

Anyone who has worked with toxic substances, including the following, is encouraged to enroll:

- Asbestos
- Beryllium
- Radioactive substances
- Metal welding fumes



[ABOUT DOE](#) | [ORGANIZATION](#) | [NEWS](#) | [CONTACT US](#)

SEARCH

GO



U.S. DEPARTMENT OF  
**ENERGY**

SCIENCE &  
TECHNOLOGY

ENERGY  
SOURCES

ENERGY  
EFFICIENCY

THE  
ENVIRONMENT

PRICES &  
TRENDS

NATIONAL  
SECURITY

SAFETY &  
HEALTH

OFFICE OF HEALTH, SAFETY AND SECURITY

FORMER WORKER PROGRAM (FWP)

## Former Worker Program (FWP)

Text size: [Smaller](#) - [Normal](#) - [Larger](#) - [Largest](#)

You are Here: [DOE](#) > [HSS](#) > [HealthSafety](#) > [FWSP](#)

[Home](#)

[What's New](#)

[Program Statistics](#)

[Program Fact Sheets by State](#)

[Program Brochure](#)

### Covered Sites/Populations

[Construction Worker Screening Projects](#)

[Production Worker Screening Projects](#)

[Supplemental Screening Program](#)

[Beryllium Vendor Screening Program](#)

[Related Links](#)

[Health and Safety](#)

## Former Worker Medical Screening Program (FWP)

### PROGRAM STATISTICS (Preliminary Numbers Through May 2008)

Number of potential participants contacted	469,178
Total number of respondents +	109,103
Number of respondents authorized for screening	64,606
Number of participants screened +	52,486
Number of participants re-screened *	6,108

\* Re-screening for participants exposed to asbestos, silica and/or beryllium.

+ Cumulative figures decreased from 1Q08 to 2Q08 due to an adjustment made for several sites resulting from a reporting change.

Program Manager: [Mary Fields](#)



This page was last updated on August 22, 2008

[Security & Privacy Notice](#) • [HSS Information Inventory](#) • [HSS Organization](#)

[Doing Business with DOE](#) | [Competitive Sourcing](#) | [DOE Directives](#) | [Small Business](#)



U.S. Department of Energy | 1000 Independence Ave., SW | Washington, DC 20585

1-800-dial-DOE | f/202-586-4403 |

[Web Policies](#) | [No Fear Act](#) | [Site Map](#) | [Privacy](#) | [Phone Book](#) | [Employment](#)



U.S. DEPARTMENT OF  
**ENERGY**

SCIENCE &  
TECHNOLOGY

ENERGY  
SOURCES

ENERGY  
EFFICIENCY

THE  
ENVIRONMENT

PRICES &  
TRENDS

NATIONAL  
SECURITY

SAFETY &  
HEALTH

OFFICE OF HEALTH, SAFETY AND SECURITY

FORMER WORKER PROGRAM (FWP)

## Former Worker Program (FWP)

Text size: [Smaller](#) - [Normal](#) - [Larger](#) - [Largest](#)

You are Here: [DOE](#) > [HSS](#) > [HealthSafety](#) > [FWSP](#)

[Home](#)

[What's New](#)

[Program Statistics](#)

[Program Fact Sheets by State](#)

[Program Brochure](#)

### Covered Sites/Populations

[Construction Worker Screening Projects](#)

[Production Worker Screening Projects](#)

[Supplemental Screening Program](#)

[Beryllium Vendor Screening Program](#)

[Related Links](#)

### Health and Safety



## Former Worker Medical Screening Program (FWP)

**CONSTRUCTION WORKER PROJECTS:** Sites listed below are the primary DOE sites served. Construction workers from DOE sites not listed below are covered by the [Building Trades National Medical Screening Program](#).

**Alaska:**  
[Amchitka](#)

**California:**  
[Lawrence Berkeley National Laboratory](#)  
[Lawrence Livermore National Laboratory](#)  
[Sandia National Laboratory \(Livermore, CA\)](#)

**Colorado:**  
[Rocky Flats](#)

**Florida:**  
[Pinellas](#)

**Idaho:**  
[Argonne National Laboratory-West](#)  
[Idaho National Laboratory](#)

**Illinois:**  
[Argonne National Laboratory](#)  
[Fermi National Accelerator Laboratory](#)

**Iowa:**  
[Ames Laboratory](#)  
[Iowa Army Ammunition Plant](#)

**Kentucky:**  
[Paducah Gaseous Diffusion Plant](#)

**Missouri:**

[Kansas City Plant](#)  
[Mallinckrodt Chemical Co.](#)  
[Weldon Spring Plant](#)

**Nevada:**  
[Nevada Test Site](#)

**New Jersey:**  
[Princeton Plasma Physics Laboratory](#)

**New Mexico:**  
[Los Alamos National Laboratory](#)  
[Sandia National Laboratory \(Albuquerque, NM\)](#)

**New York:**  
[Brookhaven National Laboratory](#)

**Ohio:**  
[Battelle Laboratories-King Avenue](#)

Battelle Laboratories-West Jefferson  
Brush Luckey Plant  
Fernald  
Mound  
Portsmouth Gaseous Diffusion Plant

**South Carolina:**  
Savannah River

**Tennessee:**  
Oak Ridge K-25 Gaseous Diffusion Plant  
Oak Ridge Y-12 and X-10 (Oak Ridge National Laboratory)

**Texas:**  
Pantex

**Washington:**  
Hanford

---

**Program Manager:** [Mary Fields](#)

This page was last updated on June 23, 2008

[Security & Privacy Notice](#) • [HSS Information Inventory](#) • [HSS Organization](#)

[Doing Business with DOE](#) | [Competitive Sourcing](#) | [DOE Directives](#) | [Small Business](#)



U.S. Department of Energy | 1000 Independence Ave., SW | Washington, DC 20585

1-800-dial-DOE | f/202-586-4403 |

[Web Policies](#) | [No Fear Act](#) | [Site Map](#) | [Privacy](#) | [Phone Book](#) | [Employment](#)



U.S. DEPARTMENT OF  
**ENERGY**

SCIENCE &  
TECHNOLOGY

ENERGY  
SOURCES

ENERGY  
EFFICIENCY

THE  
ENVIRONMENT

PRICES &  
TRENDS

NATIONAL  
SECURITY

SAFETY &  
HEALTH

OFFICE OF HEALTH, SAFETY AND SECURITY

FORMER WORKER PROGRAM (FWP)

## Former Worker Program (FWP)

Text size: [Smaller](#) - [Normal](#) - [Larger](#) - [Largest](#)

You are Here: [DOE](#) > [HSS](#) > [HealthSafety](#) > [FWSP](#)

[Home](#)

[What's New](#)

[Program Statistics](#)

[Program Fact Sheets by State](#)

[Program Brochure](#)

### Covered Sites/Populations

[Construction Worker Screening Projects](#)

[Production Worker Screening Projects](#)

[Supplemental Screening Program](#)

[Beryllium Vendor Screening Program](#)

[Related Links](#)

[Health and Safety](#)



## Former Worker Medical Screening Program (FWP)

**PRODUCTION WORKER PROJECTS:** Sites listed below are the primary DOE sites served. Production workers from DOE sites not listed below are covered by the [National Supplemental Screening Program](#).

### California:

[Lawrence Berkeley National Laboratory](#)  
[Lawrence Livermore National Laboratory](#)  
[Sandia National Laboratory \(Livermore, CA\)](#)

### Colorado:

[Rocky Flats](#)

### Florida:

[Pinellas](#)

### Idaho:

[Argonne National Laboratory-West](#)  
[Idaho National Laboratory](#)

### Illinois:

[Argonne National Laboratory](#)  
[Fermi National Accelerator Laboratory](#)

### Iowa:

[Ames Laboratory](#)  
[Iowa Army Ammunition Plant](#)

### Kentucky:

[Paducah Gaseous Diffusion Plant](#)

### Missouri:

[Kansas City Plant](#)

### Nevada:

[Nevada Test Site](#)

### New Jersey:

[Princeton Plasma Physics Laboratory](#)

### New Mexico:

[Los Alamos National Laboratory](#)  
[Sandia National Laboratory \(Albuquerque, NM\)](#)

### New York:

[Brookhaven National Laboratory](#)

### Ohio:

[Fernald](#)  
[Mound](#)  
[Portsmouth Gaseous Diffusion Plant](#)

### South Carolina:

[Savannah River](#)

### Tennessee:

[Oak Ridge K-25 Gaseous Diffusion Plant](#)

[Oak Ridge Y-12 and X-10 \(Oak Ridge National Laboratory\)](#)

**Texas:**  
[Pantex](#)

**Washington:**  
[Hanford](#)

---

**Program Manager:** [Mary Fields](#)

This page was last updated on June 23, 2008

[Security & Privacy Notice](#) • [HSS Information Inventory](#) • [HSS Organization](#)

[Doing Business with DOE](#) | [Competitive Sourcing](#) | [DOE Directives](#) | [Small Business](#)



U.S. Department of Energy | 1000 Independence Ave., SW | Washington, DC 20585

1-800-dial-DOE | f/202-586-4403 |

[Web Policies](#) | [No Fear Act](#) | [Site Map](#) | [Privacy](#) | [Phone Book](#) | [Employment](#)



OFFICE OF HEALTH, SAFETY AND SECURITY

FORMER WORKER PROGRAM (FWP)

Former Worker Program (FWP)

Text size: [Smaller](#) - [Normal](#) - [Larger](#) - [Largest](#)

You are Here: [DOE](#) > [HSS](#) > [HealthSafety](#) > [FWSP](#)

[Home](#)

[What's New](#)

[Program Statistics](#)

[Program Fact Sheets by State](#)

[Program Brochure](#)

**Covered Sites/Populations**

[Construction Worker Screening Projects](#)

[Production Worker Screening Projects](#)

[Supplemental Screening Program](#)

[Beryllium Vendor Screening Program](#)

[Related Links](#)

[Health and Safety](#)

**Former Worker Medical Screening Program (FWP)**

**NATIONAL SUPPLEMENTAL SCREENING PROGRAM**

For more information regarding the National Supplemental Screening Program, please call toll-free at 1-866-812-6703 or visit their website at <http://www.ornl.gov/nssp>. This program serves the following populations:

- Sites not covered by regional projects (please see Covered Sites/Populations for a complete list of regional [construction worker](#) and [production workers](#) projects); and
- Former workers from sites served by regional programs but who do not reside in close proximity to the regional screening clinics. (Please contact the appropriate regional program first, which will administer a work history questionnaire and coordinate with the National Supplemental Screening Program to identify appropriate medical screening tests given your work history and exposures.)

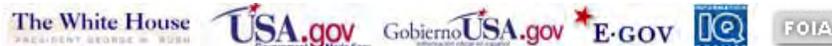
**Program Manager:** [Mary Fields](#)

This page was last updated on June 23, 2008



[Security & Privacy Notice](#) • [HSS Information Inventory](#) • [HSS Organization](#)

[Doing Business with DOE](#) | [Competitive Sourcing](#) | [DOE Directives](#) | [Small Business](#)



U.S. Department of Energy | 1000 Independence Ave., SW | Washington, DC 20585

1-800-dial-DOE | f/202-586-4403 |

[Web Policies](#) | [No Fear Act](#) | [Site Map](#) | [Privacy](#) | [Phone Book](#) | [Employment](#)

## How do I enroll?

You have three options for enrollment and completion of your NSSP Health and Exposure History Enrollment Survey:

1. On the web, go to [www.ORAU.org/NSSP](http://www.ORAU.org/NSSP) to enroll.
2. Call ORAU toll-free at **1-866-812-6703** to speak with an NSSP representative.

3. If you have already received the Enrollment Survey Form, please complete and mail to ORAU.

If you have questions regarding these options, please feel free to contact ORAU toll-free at **1-866-812-6703**.

## Where do I go for the exam?

NSSP participants may choose to use one of the CHS occupational medicine clinics in their area or to use their own personal physician, following specific exam guidelines.

## After my NSSP exam, how long will it take to receive my results?

You should receive the results of your NSSP exam within 8 weeks.

## Should I enroll in the Program today?

The anticipated duration of the NSSP is 5 years, dependent upon available DOE funding. Participation is your choice; you may contact us at your earliest convenience.

NSSP is managed by Oak Ridge Associated Universities (ORAU) and its partners, the National Jewish Medical and Research Center (NJMRC), and Comprehensive Health Services, Inc. (CHS). Data management is provided by Occupational HealthLink (OHL).

These organizations are respected for their expertise and capabilities in occupational medicine. Occupational medicine clinics affiliated with CHS are located within 60 miles of every zip code in the United States.

Call toll-free **1-866-812-6703** for more information about the *National Supplemental Screening Program*.

Partnerships for Innovation



Global Leader in Lung, Allergic and Immune Diseases

Comprehensive Health Services  
INCORPORATED



OCCUPATIONALHEALTHLINK™

# National Supplemental Screening Program (NSSP)

A Worker Health Screening Program for Former Department of Energy Workers



## What is the National Supplemental Screening Program?

The *National Supplemental Screening Program (NSSP)* offers medical screening for former Department of Energy (DOE) site workers who may have been exposed to hazardous substances at work.

The screening includes a health and exposure history questionnaire and an interview to determine the components of your *NSSP* medical exam. The medical screening includes a physical exam, blood testing, urine testing, stool testing for occult blood, and a hearing test.

Depending on your DOE work history, your exam may also include lung function testing, a chest X-ray, and other specialized exams. The medical screening is designed to test for occupational diseases such as:

- chronic respiratory diseases,
- hearing loss,
- kidney or liver disease, and
- some forms of cancer

Special exams for workers who were exposed to beryllium, asbestos, or epoxy resins will be available.

## Am I eligible for the NSSP?

These workers qualify for the NSSP:

- Former DOE employees, contractors, and subcontractors who separated 5 or more years ago from:
  - Argonne National Lab
  - Fermi Lab
  - Pinellas Plant Production Workers
  - Kansas City Plant Production Workers
  - Princeton Plasma Physics Lab

■ Former DOE workers who cannot be served by other site-specific Former Worker Programs because of distance

- Former workers who prefer to see their personal physician

We particularly encourage you to participate if you worked around one or more of the following substances:

- Asbestos
- Beryllium
- Chemicals
- Diesel Exhaust
- Epoxy Resins
- Ionizing Radiation, Plutonium, Uranium
- Metals or Metal Working Fluids
- Methylene Dianiline
- Welding Fumes

## What are the benefits of the NSSP?

- A customized medical examination based on your work history and worksite risks provided **at no cost to you**
- Exam results reviewed by one of the country's best medical centers and experts in occupational health
- A copy of your test results
- A summary of your exam results
- Medical information helpful to you and your personal physician
- Access to the toll-free National Jewish Center Health Hazard Information Line for medical questions at **1-800-708-8931**
- Educational materials about occupational health hazards
- Access to information resources via the Internet
- Health information is protected under the provisions of the Privacy Act (1974) and the Health Insurance Portability and Accountability Act of 1996

# NSSPfacts

National Supplemental Screening Program

## Information Sheet and Consent Form

### What is the purpose of the National Supplemental Screening Program (NSSP)?

The purpose of this screening program is to determine for U.S. Department of Energy (DOE) former workers whether or not they may have developed an occupationally related illness as the result of their work at U.S. DOE facilities. As a former worker, you will be offered job specific medical examinations. There will be no cost for this medical examination. If you are found to possibly have an occupationally related illness, you will be referred to your private physician for follow-up and to the Department of Labor (DOL) to determine your benefit status for further medical evaluation. Participation in the NSSP is completely voluntary. You may choose not to be in the program, or if you agree to be in the program, you may withdraw from the program at any time. Your consent is indicated using the Informed Consent Form at the end of this Information Sheet.

### Who is sponsoring this program?

DOE sponsors and funds this program through the Office of Health, Safety and Security. Oak Ridge Associated Universities (ORAU) in Oak Ridge, Tennessee manages the program for DOE with its program partners: National Jewish Medical and Research Center (NJMRC) and the University of Colorado Health Sciences Center (UCHSC) in Denver, Colorado; Comprehensive Health Services (CHS) in Cape Canaveral, Florida; and Occupational Health Link (OHL) in Denver, Colorado.

### Who can receive a medical examination through the NSSP?

The NSSP can provide medical examinations to former DOE employees from any facility regardless of where they are living.

### Do I have to have the NSSP medical examination or do I have to have all of the tests performed that are offered under the NSSP?

**No.** Your participation in this medical screening program is strictly voluntary. You may refuse any of the tests offered to you. If you change your mind, you are free to participate further in the program at any time. Talking with your family, your doctor, or other people you trust may help you decide. The NSSP medical professionals and staff can also help answer any questions that you might have and may be contacted at 1-866-812-6703.



## What will happen if I decide to have the NSSP medical examination?

You will be scheduled by the NSSP team to have a medical examination and associated tests in an occupational medicine office. Depending on your specific exposures and the type of work you performed while employed at a DOE facility, a typical NSSP medical examination may include the following:

- review of your work/exposure history
- physical examination
- height, weight, and vital measurements
- breathing test
- chest x-ray
- blood draw (for several types of blood tests including a test for beryllium sensitization)
- urine specimen collection
- test for blood in the stool
- hearing test

A blood specimen will be taken from a peripheral vein, usually in your arm. There is little physical risk in the blood draw procedure. In a few people, slight pain and a small area of bruising may occur at the site of the blood draw. The bruising usually subsides in 3-5 days.

## When will I receive the results of my NSSP medical examination?

It should take 6 to 8 weeks for you to receive a letter from the NSSP physicians informing you of your medical examination results.

## What happens if a medical abnormality is found during the medical examination?

The program physician will give you the results of the medical tests with a recommendation that you provide all of this information to your personal physician for inclusion in your medical file and for any appropriate follow-up. The medical screening program will NOT contact your physician directly except in an emergency or at your request. You should be aware that – as with most tests – the medical tests performed during the examination can yield results that are incorrect or unclear. It is important that you share the results of the program examination with your personal physician as part of your continued health care.

## What are the costs and benefits to me if I participate in the program?

There is no financial cost to you for the screening examination. The program will pay for the medical examination and associated tests. Only travel and lodging costs pre-authorized by an ORAU representative will be reimbursed.

The principal benefits to you are the results of the medical examination. You also have the opportunity to contribute to our understanding of health as it may relate to exposures as the result of working at DOE facilities.

The program will not pay for any follow-up medical care. You may or may not elect to follow any recommendation or referral made by the program physicians.

The NSSP staff will make sure you have the information you need if you wish to apply for benefits under the Department of Labor Energy Employees Occupational Illness Compensation Program Act of 2000 (DOL EEOICPA). Only the DOL may determine if a worker meets the qualifications for benefits.

## What will happen to the records of the medical examination results?

Your test results will be treated as confidential medical records (to be maintained for 75 years after your last examination) and used or disclosed only as provided by the Privacy Act of 1974, the Americans with Disabilities Act (ADA), or as required by a court order or under other law. The results of tests and examinations may be published in technical reports or presented at scientific meetings, but will not identify any individuals. The results of your medical examination and other screening tests will be made available to you and, upon your request, to your personal physician.

This voluntary medical screening program will provide a medical examination at no cost to you. Identifiable information about you and your test results will be placed in a secure database that will be used by the surveillance team to notify you of results and keep track of where you are in the medical screening process. It is possible that at some time in the future, other researchers who are studying occupationally related illnesses in the DOE workforce may request access to the information contained in this database. The information will not be given to these researchers unless their proposed use of the information is reviewed and approved by an Institutional Review Board (IRB), which is required by law to review research proposals involving humans as participants to ensure protection of their rights and welfare. Prior to information being released, an IRB review will be performed concerning the scientific merit of the research and the methods proposed to ensure that the human participation is justified and ethical.

The results of your medical examination may be available to the people listed below. Some of these people may require access to records that identify you by name:

1. The ORAU NSSP staff who will review your results and maintain permanent files for your records
2. Physicians from National Jewish Medical and Research Center (NJMRC) and the University of Colorado Health Sciences Center (UCHSC) who will review your results and explain whether further testing is necessary for you
3. Data specialists from Occupational Health Link (OHL) who will maintain the computer records and web site for the NSSP
4. Medical support staff at Comprehensive Health Services (CHS) who will make your appointment for your examination and send you information before your appointment
5. Others as required by the ADA, the Privacy Act of 1974, or as required by court order or under another law

The identifiers will be removed from your test results and the de-identified data will be stored in a database called the Comprehensive Epidemiologic Data Resource (CEDR). This database is maintained by DOE.

## What laws protect my privacy if I consent to participate in the NSSP?

State medical and nursing licensing boards enforce codes of ethics that require doctors and nurses to keep medical information confidential. The Privacy Act prevents unauthorized access to your records without your permission. The information in the records must be handled in accordance with the ADA and the Privacy Act of 1974. The consent form you sign also provides additional protection.

## Can privacy and confidentiality of my medical records be guaranteed?

**No.** Access to or release of records could be required under court order, but it is unlikely. They would also be available as the Freedom of Information Act or Privacy Act provide, such as a showing of compelling circumstances affecting the health and safety of an individual, etc. If you apply for another job or for insurance, you may be requested to release the records to a future employer or an insurance company. Personal identifiers will not be published in any reports.

This page was intentionally left blank.



**NATIONAL SUPPLEMENTAL SCREENING PROGRAM (NSSP)  
INFORMED CONSENT STATEMENT**

Program Manager: Donna L. Cragle, Ph.D.  
Center for Epidemiologic Research  
Oak Ridge Associated Universities  
P.O. Box 117, Oak Ridge, TN 37831-0117  
Telephone (865) 576-2866

Sponsor: Department of Energy/Office of Health, Safety and Security

**PARTICIPANT'S AUTHORIZATION**

I have read: (Please initial items to indicate that you have read them.)

\_\_\_\_\_ the attached information about the NSSP. I have or will contact the NSSP at 1-866-812-6703 to discuss any questions that I may have prior to or after my scheduled appointment. I am aware that I am free to withdraw without penalty or loss of benefits at any time from the program for which I am volunteering. I understand that I will receive the results of any medical tests from the NSSP physicians who are directing and reviewing the medical examination.

\_\_\_\_\_ that medical follow up is not provided by this program. I may or may not pursue any recommendations or referrals made by the project physicians.

\_\_\_\_\_ that the results of any tests, examinations, or analysis of this medical screening program may be published or presented at meetings, but that I will not be identified personally.

\_\_\_\_\_ that the records of my participation in this program and the results of any tests or examinations that I consent to are confidential medical records that may be used or disclosed only as provided by the Americans with Disabilities Act, the Privacy Act of 1974, or as required by a court order or under other law.

\_\_\_\_\_ that if I have additional questions about this program or my participation in it, I can contact Dr. Donna Cragle, ORAU, at (865) 576-2866; Dr John McInerney, ORAU, at (303) 423-9585; the Chair of the Oak Ridge Site-wide Institutional Review Board or the Chair of the Central Beryllium Institutional Review Board at (865) 576-1725.

\_\_\_\_\_ that I will be given a copy of this Informed Consent Form with the results of my NSSP examination.

(continued on the following page)

## CONSENT STATEMENT

The purpose of the NSSP, procedures to be followed, risks, and benefits have been explained to me. **I understand that any questions I may have concerning any part of the physical examination and or medical results should be directed to the NSSP at 1-866-812-6703.** I understand whom to contact if I have additional questions. I have read this consent form and agree to be in this program with the understanding that I may withdraw at any time. I understand that I will be given a signed copy of this consent form with the results from my examination.

\_\_\_\_\_  
Participant Name

\_\_\_\_\_  
SSN

\_\_\_\_\_  
Participant Signature

\_\_\_\_\_  
Date

The Department of Energy may develop new medical screening and/or research studies in the future. Would you like to have your name and address forwarded to DOE so that they can notify you about new programs? [Neither your SSN nor any medical information will be transferred; only your name and address.]

Yes

No

Consent form approved by the Oak Ridge Site-Wide Institutional Review Board (FWA00005031) and Central Beryllium Institutional Review Board, effective June 10, 2008, for a period of up to 12 months ending on June 9, 2009. The approval letter is on file at the ORAU NSSP office.



ABOUT DOE | ORGANIZATION | NEWS | CONTACT US

SEARCH

GO



OFFICE OF HEALTH, SAFETY AND SECURITY

FORMER WORKER PROGRAM (FWP)

## Former Worker Program (FWP)

Home

What's New

Program Statistics

Program Fact Sheets by State

Program Brochure

### Covered Sites/Populations

Construction Worker Screening Projects

Production Worker Screening Projects

Supplemental Screening Program

Beryllium Vendor Screening Program

Related Links

### Health and Safety



Text size: [Smaller](#) - [Normal](#) - [Larger](#) - [Largest](#)

You are Here: [DOE](#) > [HSS](#) > [HealthSafety](#) > [FWSP](#)

## Former Worker Medical Screening Program (FWP)

### BERYLLIUM VENDOR SCREENING PROGRAM

DOE provides beryllium sensitization screening to former employees of defunct DOE beryllium vendors who were employed with these companies while they performed work for DOE. DOE's intent is to ensure that workers who no longer have an employer to turn to for beryllium disease testing can receive this important screening. DOE will offer these individuals a blood test at no cost to check for beryllium sensitization and will pay for both the costs of drawing the blood and the analysis of the blood.

If a screened individual receives a positive test for beryllium sensitization, he/she can receive medical monitoring for beryllium disease through DOL's [EEOICP](#).

DOE beryllium vendor companies that are no longer in business:

- American Beryllium Company (Bradenton, FL)
- Atomics International (all locations)
- Nuclear Metals, Inc. (all locations)
- Beryllium Corporation of America (all locations)
- Nuclear Materials and Equipment Corporation (NUMEC) (all locations)
- Speedring, Inc (Culman, AL)
- Connecticut Aircraft Nuclear Engine Laboratory (Middletown, CT)
- Machlett Laboratories (Springdale, CT)
- Gerity-Michigan Corporation (Adrian, MI)
- Revere Copper and Brass (Detroit, MI)
- Speedring Systems, Inc. (Detroit, MI)
- Wolverine Tube Division (Detroit, MI)
- National Beryllia (Haskell, NJ)
- U.S. Pipe and Foundry (Burlington, NJ)
- United Lead Co. (Middlesex, NJ)
- General Astrometals (Yonkers, NY)
- Radium Chemical Company (New York, NY)
- Sylvania Corning Nuclear Corporation - Bayside Lab (Bayside, NY)
- Beryllium Metals and Chemical Corporation (BERMET) (Bessemer City, NC)
- Clifton Products Company (Painesville, OH)
- Aeroprojects, Inc. (Westchester, PA)
- Foote Mineral Company (East Whiteland Twp, PA)
- McDanel Refractory Company (Beaver Falls, PA)
- Vitro Manufacturing (Canonsburg, PA)
- Vitro Corporation of America (Oak Ridge, TN)

Former workers interested in medical screening can contact the Oak Ridge Institute of Science and Education at 1-866-219-3442.

Program Manager: [Mary Fields](#)

This page was last updated on June 23, 2008

[Security & Privacy Notice](#) • [HSS Information Inventory](#) • [HSS Organization](#)

[Doing Business with DOE](#) | [Competitive Sourcing](#) | [DOE Directives](#) | [Small Business](#)



U.S. Department of Energy | 1000 Independence Ave., SW | Washington, DC 20585

1-800-dial-DOE | f/202-586-4403 |

[Web Policies](#) | [No Fear Act](#) | [Site Map](#) | [Privacy](#) | [Phone Book](#) | [Employment](#)



## OFFICE OF HEALTH, SAFETY AND SECURITY

## HEALTH AND SAFETY PROGRAMS

## Illness and Injury Prevention Programs

Home

Mission and Functions

What's New

HS-13 Staff

Pandemic Influenza

Beryllium-Associated Worker Registry

Statistical Analysis of Non-Detect Data (SAND)

CEDR

Illness and Injury Surveillance Program

Epi Moratorium

United States Transuranium and Uranium Registries

Worker and Community Public Health Activities

Radiation Emergency Assistance Center/Training Site (REAC/TS) Program

Chronic Beryllium Disease Biorepository Initiative

Articles

Links

Health and Safety

Text size: [Smaller](#) - [Normal](#) - [Larger](#) - [Largest](#)You are Here: [DOE](#) > [HSS](#) > [HealthSafety](#)**Beryllium-Associated Worker Registry**

The Office of Illness and Injury Prevention Programs support the operation of a surveillance registry of current workers who are exposed to beryllium in their current job, or may have been exposed to beryllium in the past from work conducted at a DOE site. The goal of the registry is to determine the incidence and prevalence of beryllium sensitization and chronic beryllium disease (CBD). The data will be analyzed to better understand CBD and to identify those at risk. Another goal is to monitor and evaluate the effectiveness of DOE's Chronic Beryllium Disease Prevention Program.

**Current Worker Medical Surveillance Program Screening Results  
(Cumulative through December 31, 2006)**

<u>Number with BeLPT Results</u>	<u>Number Sensitized<sup>1</sup></u>	<u>Number with CBD</u>
12,645	294 (2%)	96 (0.8%)

The registry contains data on both DOE contractor and Federal workers. It consists of three data sets: 1) a roster of beryllium exposed workers; 2) medical screening results for beryllium exposure and medical diagnostic results used to diagnose CBD; and 3) work history, task, and exposure data. Policy, guidelines, and directives for the registry are determined at DOE Headquarters by Office of Illness and Injury Prevention Program epidemiologists with input from industrial hygienists. The registry is maintained by ORISE in Oak Ridge, Tennessee.

**Related Documents and Links**

- [2008 Current Beryllium Associated Worker Registry Summary](#) - The most recent periodic report on data collected by the registry.
- [Archived report - Beryllium Current Worker Health Surveillance Through 2005](#)
- [Report on Screening for Beryllium Sensitization and Disease in Former DOE Federal and Contractor Workers through 2005](#) - the most recent periodic summary of information collected through operation of former worker medical surveillance programs.
- [Chronic Beryllium Disease Prevention Program](#) - provides information on DOE rules and guides for CBD prevention.
- [Beryllium-Associated Worker Registry Data Collection and Management Guidance](#) - DOE Technical Standard DOE-STD-1187-2007, June 2007 establishes procedures used to collect, analyze and report data.
- [Statistical Methods and Software for the Analysis of Occupational Exposure Data with Non-Detectable Values](#) - Oak Ridge National Laboratory Technical Report ORNL/TM-2005/52, which provides methods used to analyze exposure monitoring data.
- [Beryllium Lymphocyte Proliferation Testing \(BeLPT\)](#) - DOE Specification [DOE-SPEC-1142-2001](#) April 2001, which provides a purchase specification for a screening test used in medical surveillance programs.
- [DOE's Former Worker Medical Screening Program](#) - Provides information on medical surveillance of former workers who are retired or separated from employment at a DOE site.

**Program Manager:** [Paul Wambach](#) Phone: 301-903-7373

<sup>1</sup> "Number Sensitized" means the number of individuals found sensitized from two or more peripheral blood BeLPTs or from a bronchoalveolar lavage BeLPT. It does not include individuals who have been diagnosed as having CBD. "Individuals Sensitized" includes individuals who have been evaluated and found not to have CBD and individuals who have declined the offer of a diagnostic evaluation or are awaiting a scheduled evaluation.

This page was last updated on June 23, 2008

[Security & Privacy Notice](#) • [HSS Information Inventory](#) • [HSS Organization](#)

Doing Business with DOE | [Competitive Sourcing](#) | [DOE Directives](#) | [Small Business](#)



U.S. Department of Energy | 1000 Independence Ave., SW | Washington, DC 20585

1-800-dial-DOE | f/202-586-4403 |

[Web Policies](#) | [No Fear Act](#) | [Site Map](#) | [Privacy](#) | [Phone Book](#) | [Employment](#)



The Department of Energy

# Former Worker Medical Surveillance Program



January 2008



## Table of Contents

EXECUTIVE SUMMARY.....	1
1.0 INTRODUCTION .....	3
1.1 Historical Background .....	3
1.2 Program Description .....	5
2.0 PROGRAM STRENGTHS AND ACCOMPLISHMENTS .....	7
2.1 Program Strengths.....	7
2.2 Achievement of Stated Goals .....	7
2.3 Overall Accomplishments .....	8
3.0 PATH FORWARD.....	10
4.0 TABLES.....	11
4.1 Former Workers Contacted .....	11
4.2 Implementing Organizations.....	12
4.3 Health Findings .....	16
4.4 Beryllium Lymphocyte Proliferation Test Results .....	18
APPENDIX: INDIVIDUAL SITE PROJECT DESCRIPTIONS.....	19

## Abbreviations Used in This Report

AEC	Atomic Energy Commission
AFL-CIO	American Federation of Labor and Congress of Industrial Organizations
ANL	Argonne National Laboratory
AT&T	American Telephone and Telegraph Company
BAECP	Burlington Atomic Energy Commission Plant
BeLPT	Beryllium Lymphocyte Proliferation Test
BNL	Brookhaven National Laboratory
CARET	Carotene and Retinol Efficacy Trial
CBD	Chronic Beryllium Disease
C.F.R.	Code of Federal Regulations
CI	Confidence Interval
CPWR	Center to Protect Workers' Rights
CT	Computed Tomography
DOE	Department of Energy
DOL	Department of Labor
EEIOCPA	Energy Employees Occupational Illness Compensation Program Act
ERDA	Energy Research and Development Administration
FEV	Forced Expiratory Volume
FVC	Forced Vital Capacity
FWP	Former Worker Program

(continued on inside back cover)

# Prolog

---

**February 1, 2008**

The Former Worker Program, through its outreach and medical screening activities, has made significant contributions and provided valuable diagnostic health information to numerous former workers since the program began in 1996. These accomplishments are largely due to a comprehensive system of dedicated medical experts from a consortium of universities, unions, and trade associations.

However, there are still many former workers who have not been served by this program, either through initial medical screening or through re-screening after their initial evaluation. It is the responsibility of all of us who manage and implement this program to ensure that we continue to reach out to as many former workers as possible and redouble our efforts to assist all the workers who wish to take advantage of this program's benefits.

The Former Worker Program is a testimony of our collective commitment to all those who served our nation through the important work conducted by the Department of Energy and its predecessor agencies. It is also important that our current workforce see that the Department is not forgetting those who previously worked here, and that they too will be eligible for this program's benefits after their employment ends with the Department.

As the Chief Health, Safety and Security Officer for the Department of Energy, I will ensure that the Office of Health, Safety and Security continues to meet this commitment and that we, together with the consortia, will strengthen this program's implementation using the path forward identified in this report.

**Glenn S. Podonsky**  
**Chief Health, Safety and Security Officer**  
**U.S. Department of Energy**

This page intentionally left blank.

## Executive Summary

The U.S. Department of Energy (DOE) Former Worker Medical Surveillance Program, otherwise known as the Former Worker Program (FWP), provides for the conduct of medical screenings for former employees to identify adverse health conditions that may have resulted from working at DOE facilities. Mandated by Congress in the Defense Authorization Act of 1993 (PL 102-484), the FWP conducts preliminary site assessments to identify groups of former at-risk DOE federal and contractor/subcontractor workers and DOE site-specific exposures. It also provides medical screening, including examinations, to check for adverse health effects that could be related to occupational exposures to radiation, noise, beryllium, asbestos, silica, lead, cadmium, chromium, and solvents.

The program, managed by the DOE Office of Health Safety and Security, uses independent health experts through cooperative agreements held by consortia of universities, labor unions, and commercial organizations throughout the United States with expertise in administration of medical programs. Initiated in 1996, the FWP now provides medical screening services at all DOE sites for the more than 600,000 former construction and production workers who were involved in the nuclear weapons program. As of November 2007, over 455,000 former workers have been contacted, and over 51,000 comprehensive medical screening examinations have been provided to those who volunteer to

participate in the program. In addition, follow-up re-screening exams have been provided to over 5,700 former workers.

The approach that DOE has used to establish and implement the FWP has resulted in recognition of the program's credibility by former workers, participating physicians and other medical providers, and other U.S. Government agencies, e.g., the Department of Labor. The program's strengths include the use of the best available, evidenced-based approach to determine possible causality of disease; the involvement of national occupational medicine leaders and use of independent organizations to administer the medical screenings; aggressive and multi-faceted outreach programs; uniformity of protocol and equity of access across DOE sites; and a respect for the confidentiality of former worker medical screening information.

DOE intends to further improve upon the demonstrated strengths of the FWP by enhancing communications; ensuring cost-effectiveness; improving program planning, reporting, and budgeting; and sharing and applying knowledge throughout the FWP to ensure that the best implementation methods are used. DOE will also explore additional ways that the FWP can benefit former workers and will further study the use of computed tomography within the FWP. Finally, DOE plans to thoroughly review the FWP program structure and operation to increase the number of medical screenings conducted within budget constraints.

This page intentionally left blank.

The Department of Energy (DOE) Former Worker Medical Surveillance Program, or Former Worker Program (FWP), was mandated by the Defense Authorization Act of 1993 (PL-102-484, Section 3162). The FWP is managed by the Department's Office of Health, Safety and Security (HSS). The FWP applies basic principles and a state-of-the-art methodology of general medical screening tests to a set of occupational health conditions that arise among DOE workers in order to provide early detection of work-related diseases and conditions. This program directly benefits former DOE workers by promoting early identification of health problems and improving the understanding of health risks that former workers may face because of possible workplace exposures during their prior employment with DOE.

Since 1996, DOE has made great strides in addressing the occupational health legacy of its 50 years of nuclear weapons design and production. The Department has successfully demonstrated the feasibility and value of conducting targeted medical screening programs for occupational diseases among DOE workers by using third-party medical experts who provide high-quality services, resulting in high credibility with worker populations. These screening programs have been highly responsive to the directives of Congress and to the needs and concerns of DOE workers.

DOE places a high priority on continuing the work required by the Defense Authorization Act of 1993 to establish and carry out a program for the identification and ongoing medical evaluation of its current and former employees who may be subject to significant health risks from possible exposure to hazardous or radioactive substances. The Department has developed the programmatic and institutional infrastructure to provide initial medical screening to all DOE workers. This infrastructure includes designated regional centers located near major DOE sites, as well as a supplemental program to ensure that all former workers have ready access to screening, regardless of their previous worksite or location. This nationwide, comprehensive system of medical screening, constructed through

considerable effort by DOE in conjunction with universities and other organizations, represents tangible evidence of the Department's commitment to its former workers.

The DOE FWP also plays a vital role in assisting other efforts undertaken by Congress and the Department to address the needs of DOE workers. For example, in 2000, Congress passed the Energy Employees Occupational Illness Compensation Program Act (EEOICPA), administered by the Department of Labor (DOL), to compensate current and former workers for illness and injuries that resulted from their work at DOE facilities. The DOE FWP complements EEOICPA, as it provides DOE workers with medical evaluations conducted by expert occupational medicine physicians and laboratories that provide both claimants and the claims evaluators with defensible information for decision-making about the appropriateness of compensation.

The purpose of this report is to provide an overview of the history, goals, accomplishments, and future direction of the FWP.

### 1.1 Historical Background

From the earliest days of the Manhattan Project in the 1940s, DOE and its predecessor organizations, the Atomic Energy Commission (AEC) and the Energy Research and Development Administration (ERDA), developed a nuclear weapons arsenal through a nationwide industrial complex working with hazardous materials and processes. The nuclear weapons industry was unlike any other industry: it utilized materials that did not exist in any other industry and, therefore, had no established exposure framework to ensure the long-term health of the personnel working with these materials.

As the Cold War ramped down in the early 1990s, the U.S. Government realized it had a commitment to remediate its nuclear production facilities and address the health risks of the more than 600,000 construction and production former workers who were involved in the nuclear weapons programs.

In order to address the legacy of the Cold War era and to ensure that current and future workers would be provided a higher level of protection, Congress and DOE implemented three major programs: 1) establishing medical screening for former DOE workers; 2) compensating former DOE workers who had developed diseases as a result of working at DOE facilities; and 3) implementing new regulations concerning worker safety to ensure that mistakes of the past were not repeated.

The first of these programs was initiated in 1992, when Congress passed the Defense Authorization Act of 1993. Section 3162 of this Act authorized DOE to:

**...establish and carry out a program for the identification and on-going medical evaluation of its current and former employees who are subject to significant health risks as a result of the exposure of such employees to hazardous or radioactive substances during such employment.**

The program provides a process to:

- a. Identify the hazardous substances and radioactive substances to which current and former DOE employees may have been exposed as a result of such employment.
- b. Identify employees who received a level of exposure with significant health risks under Federal and State occupational, health, and safety standards.
- c. Determine the appropriate number, scope, and frequency of medical evaluations and laboratory tests to be provided to employees who have received a level of exposure with significant health risks under Federal and State occupational, health, and safety standards to permit the Secretary to evaluate fully the extent, nature, and medical consequences of such exposure.
- d. Make available the evaluations and tests to the employees.
- e. Ensure that privacy is maintained with respect to medical information that personally identifies any such employee.
- f. Ensure that employee participation in the program is voluntary.

The simplicity and common sense conveyed by Section 3162 belied the challenges that DOE faced in bringing this directive to reality. The primary challenges have been: 1) identifying and locating the vast majority of the former workers who had worked within the DOE complex but were no longer employed; 2) overcoming the distrust of former workers who felt that DOE had deceived them about the nature of the risks that they faced; and 3) bringing the needed occupational health expertise to DOE communities, most of which are located in rural areas with few, if any, occupational medicine physicians.

From the start, DOE recognized that a special approach would be needed for some groups but especially for construction workers who had been employed intermittently by subcontractors. The estimated number of such workers was very large—exceeding 600,000. For many of these workers, DOE had no records of employment or even of the employers, and therefore the only way to reach these workers was frequently through the unions where they were members. In addition, exposure records for these employees are likely not to exist or to be incomplete, making it difficult to determine overall exposure levels. Therefore, the screening programs for these workers had to follow a model, in which the first step was a detailed work history interview made specifically for construction work tasks. Interviews were used to establish the kinds of risks to which these workers had been exposed, so that medical exams could be tailored to those risks.

Two pilot projects for construction workers—Hanford and Oak Ridge—were started in 1996 by the Center to Protect Workers' Rights (CPWR) and the University of Cincinnati using identical protocols. In 2005, these two individual projects were merged into one national program which is called The Building Trades National Medical Screening Program. Gradually the protocol was adopted in projects covering other sites.

DOE has forged unique relationships with universities and trade groups throughout the country to administer the FWP protocol. These are shown in the box on the next page. A debt of gratitude is owed to this group for their dedication to this program.

- Boston University School of Public Health
- Drexel University
- Duke University
- Johns Hopkins Bloomberg School of Public Health
- Medical University of South Carolina
- Oak Ridge Associated Universities
- Queens College of the City University of New York
- University of California, San Francisco
- University of Cincinnati
- University of Colorado Health Sciences Center
- University of Iowa College of Public Health
- University of Texas Health Science Center at Tyler
- University of Washington
- Atomic Trades and Labor Council
- Center to Protect Workers' Rights
- Comprehensive Health Services, Occupational HealthLink
- Creative Pollution Solutions, Inc.
- National Jewish Medical and Research Center
- Southern Nevada Building and Construction Trades Council
- United Steel Workers
- Zenith Administrators

## 1.2 Program Description

The FWP has four interrelated program goals:

1. Identify and contact DOE workers who may have been exposed in the course of DOE employment.
2. Conduct appropriate medical screening of former workers who wish to participate in the program.
3. Provide information and assistance to affected workers in gaining medical care and compensation for work-related illnesses.
4. Use the collected information to implement controls for current operations in order to prevent or reduce negative health effects for current and future employees.

These goals have the dual effect of demonstrating DOE's fulfillment of Congress' mandate and gaining the confidence of its workforce that it is both meeting its obligations to former workers and protecting its current workers from preventable injury and illness.

In designing and conducting the FWP, the Department has purposefully integrated a set of core principles that promote program excellence by:

- Ensuring that the medical aspects of the program are designed and overseen by occupational medicine experts
- Utilizing a broad range of outreach methods to ensure maximum participation of former workers

- Utilizing state-of-the-art medical screening techniques and analyses, when possible
- Ensuring the confidentiality and safeguarding of workers' personal and medical data.

The FWP includes two major components: 1) a needs assessment phase to identify groups of at-risk workers and site-specific exposures of concern; and 2) a medical screening phase, which includes notification of members of the at-risk groups and medical screening examinations for interested individuals. The health conditions that are targeted through a uniform national medical protocol are chronic lung disease and other major organ damage that may be associated with occupational exposures to such hazards as noise, radiation, beryllium, asbestos, silica, welding fumes, lead, cadmium, chromium, and solvents.

In order to initiate efficient and inclusive screening programs, rosters of former employees from site contractors and DOE site offices are obtained. Invitations are sent to employees on the rosters, using the most recently known addresses. When addresses are found to be outdated or inaccurate, supplemental methods are used; these include Internal Revenue Service mailings or address-update services. A second method of reaching out to former DOE workers is through personal contact and program visibility within DOE communities. Building and Construction Trade Councils, construction contractors, and local unions are also involved in identifying potential FWP participants. The labor unions that have been centrally involved in administering FWP employ former workers to contact individuals, attend group meetings (e.g., retiree clubs, Lions Clubs, fairs), contact local media, and publish articles in union newsletters to increase awareness of

the FWP. Newspaper ads and public service radio announcements are also used. These outreach methods have the added benefit of making current workers and families of DOE workers aware of this beneficial activity undertaken by DOE.

The medical screening examinations are comprehensive and include physical examinations, occupational and medical history questionnaires, chest x-rays with interpretation for occupational lung disease (B reading), spirometry, beryllium lymphocyte proliferation tests (BeLPT), blood chemistry tests, urinalyses, and audiometry tests. In addition, at certain sites, workers with a history of additional exposures

have received specialized testing (e.g., bladder cancer testing at Oak Ridge K-25, mercury exposure testing for construction workers at Oak Ridge National Laboratory, silicosis testing at the Nevada Test Site). All individuals sign an informed consent and Health Insurance Portability and Accountability Act (HIPPA) authorization prior to participation.

All medical information that is collected as part of this program is managed as confidential, and all FWP activities are conducted with the approval of the Institutional Review Boards (Human Subjects Committees) of DOE and involved universities.

### 2.1 Program Strengths

The approach that DOE has used to establish and implement the FWP has resulted in recognition of the program's credibility by former workers, participating physicians and other medical providers, and other U.S. Government agencies, e.g., DOL. The strengths are:

- Use of best available, evidenced-based approach to determine possible occupational causality of disease
- Independence of project consortia
- Aggressive and multi-faceted outreach programs
- Involvement of national leaders in occupational medicine
- Uniformity of protocol and equity of access across DOE sites
- Respect for the confidentiality of former workers' medical screening information.

### 2.2 Achievement of Stated Goals

#### 1. Identify and contact DOE workers who may have been exposed in the course of DOE employment.

Workers eligible for this program include all former DOE Federal and contractor employees from all facilities. To establish an efficient nationwide medical screening program, DOE entered into cooperative agreements with universities, labor unions, and commercial organizations with expertise in administration of occupational medical programs. Over 450,000 potential FWP participants have been contacted as of November 2007. Table 4.1 illustrates the number of former workers by site that the FWP service providers have attempted to contact.

#### 2. Conduct appropriate medical screening of former workers who wish to participate in the program.

Site and population-specific medical screening was initiated on a pilot basis at 12 sites in 1996-1997 and was gradually expanded to provide medical screening at all DOE sites. The DOE sites, sponsoring organizations, and the year that screening was initiated are provided in Table 4.2. As of November 2007, 51,294 individuals have undergone at least one medical screening examination (Table 4.3). In addition, 5,706 people have undergone re-screening three years after their initial screening and evaluation.

Two important program developments occurred in 2005-2006 to address the special needs of sub-populations of DOE workers. Construction workers throughout the DOE complex are now served by a part of the FWP that is structured to meet the requirements of former workers who have had many different employers, job-related exposures, and unions (more than is typical of full-time workers for DOE prime contractors). Secondly, a supplemental program was created to find and offer medical screening to former workers who have retired to locations distant from their worksites and to workers whose site medical screening programs had been phased out or, in some cases, were never established.

The results of the medical screening conducted thus far are as follows:

- Chest x-ray evidence of occupational lung disease for DOE production, maintenance, and research personnel ranges from 0 to 26 percent. For DOE construction workers, between 17 and 59 percent indicate evidence of occupational lung disease (Table 4.3). Such diseases are principally asbestosis (scarring of the lung and/or pleural tissue) and silicosis, which are both virtually always caused by workplace exposures.
- Approximately 9,599 people, or 21.3 percent of those screened, had evidence of obstructive

airways disease as indicated by spirometry (Table 4.3). Such findings typically indicate chronic obstructive airways disease (or emphysema) and/or asthma. While smoking is the prime cause of chronic obstructive airways disease, occupational exposures to irritants at DOE sites likely contributed to the development of this disorder as well.

- Hearing loss is extremely common among DOE former workers, with 63.3 percent, or 23,426 workers, meeting the definition of noise-induced hearing loss (Table 4.3). Given that the average age of the former worker population screened is 62, hearing impairment in a large percentage of these individuals is most likely a combination of age and noise exposure.
- Beryllium, a light metal that has been heavily used at DOE facilities, sometimes causes sensitivity that may lead to chronic beryllium disease. Table 4.4 illustrates beryllium testing findings.

Between 2000 and 2006, the FWP servicing the gaseous diffusion plants used state-of-the-art computed tomography (CT) scanning to screen 6,220 former and current gaseous diffusion plant workers to detect small, early lung malignancies. In 2006-2007 1,608 former workers from the Y-12 National Security Complex and the Oak Ridge National Laboratory were screened using CT scanning.

While some uncertainty remains about the benefits of CT scan screening to reduce lung cancer mortality, the Department provides this type of screening for participants who meet eligibility requirements in order to gather the data needed to make a final determination as to whether or how this type of testing will be administered within the FWP.

### **3. Provide information and assistance to affected workers in gaining medical care and compensation for work-related illnesses.**

The FWP requires that follow-up activities be conducted when medical screening tests indicate adverse medical findings. Individuals who are found to have adverse medical findings are referred to their personal physicians for follow-up care. They are also informed about the availability of EEOICPA benefits and are referred to DOL resource centers that administer the EEOICPA program. Participants with abnormal beryllium blood test results are urged to avail

themselves of the follow-up diagnostic testing that is funded through the EEOICPA.

### **4. Use the collected information to implement controls for current operations in order to prevent or reduce negative health effects for current and future employees.**

As a result of the FWP, DOE has incorporated significant workplace hazard controls and analysis methods have been enhanced in the areas of maintenance, construction and decontamination and demolition operations.

As a direct result of the data gathered through the FWP, DOE initiated the Chronic Beryllium Disease Prevention Program, codified in Title 10 C.F.R., Part 850, for its current workforce. This program requires DOE sites to inventory and assess beryllium exposure hazards to determine whether employees are at risk for chronic beryllium disease. Sites that identify employees at risk due to ongoing or past work must implement chronic beryllium disease prevention programs that include reporting health and exposure data to the DOE Beryllium-Associated Worker Registry. These sites are required to submit summary data in semi-annual progress reports. Health data are collected through medical surveillance programs for current workers at 20 DOE sites. Exposure data are collected through industrial hygiene programs at 15 sites that had continuing beryllium operations.

## **2.3 Overall Accomplishments**

**The program has resulted in a high level of satisfaction among participating former DOE workers.** A rating of satisfactory was obtained for no less than 85% of customer satisfaction surveys received from FWP participants who receive medical screening over the past several years, as indicated by records maintained by HSS.

**The program has been able to match national occupational medical expertise with local parties throughout the DOE complex.** To overcome both the longstanding shortage of occupational medicine expertise in DOE communities and the perceived lack of objectivity of local physicians expressed by some DOE workers, DOE has attracted renowned occupational medicine physicians from across the country to develop and conduct the FWP medical screening program. These physicians worked with local clinical facilities and local labor unions to ensure

highly accessible and appropriate medical screening services and follow-up.

**The program has created goodwill among former DOE workers and local DOE communities.**

The implementation of the FWP has demonstrated good will and has overcome the distrust of former workers who felt that DOE deceived them concerning the nature of the risks that they faced while working for the Department. The FWP has also instilled a sense of trust in the current workforce. It has resulted

in the identification of pre-cancerous conditions and cancers at early stages, allowing successful treatment and, in some cases, the elimination of the disease, substantially improving the health and well being of many former workers. A valuable added benefit of the medical screenings provided through the FWP is the identification of non-occupational health conditions, such as uncontrolled high blood pressure, diabetes, and highly elevated cholesterol levels.

## 3.0 Path Forward

The FWP has made significant contributions and provided valuable diagnostic health information to numerous former workers since its inception. To assure that the Department continues to meet its obligation and to learn from conducting the FWP, DOE intends to conduct the following activities:

- 1. Maintain the current features of the FWP.** Maintain the implementation of those elements that account for the program's high degree of success.
- 2. Build on current successes.**
  - a. Improve communication with participants and stakeholders.
  - b. Ensure that the most cost-effective means are used to obtain program results while achieving program goals.
  - c. Enhance FWP planning, reporting, and budgeting processes.
  - d. Share and apply knowledge throughout the FWP to ensure that the best methods for

implementing outreach, notification, medical assessment, and follow-up processes are being used.

- 3. Explore additional ways that the FWP can benefit former DOE workers. For example, consider:**
  - a. Evaluating criteria for re-screening former workers
  - b. Informing current workers as they leave DOE employment that they are eligible for FWP benefits.
- 4. Review the use of CT scanning.** Conduct a review to determine whether and how CT scanning should be administered in the FWP.
- 5. Assess program structure and operation.** Conduct a thorough review of the FWP to identify and implement process changes to improve efficiency of operations and increase the number of medical screenings conducted within budget constraints.

## 4.0 Tables

Tables 4.1 through 4.4 summarize the detailed results of FWP operations to date.

**Table 4.1. Former Workers Contacted**

Site	Former Workers Contacted
Amchitka Island Test Site	4,010
Ames Laboratory	7,975
Argonne NL	458
Brookhaven NL	8,674
Fermi National Accelerator Laboratory	13
Fernald (Construction workers)	2,264
Fernald (Production workers)	51,219
Hanford Site (Construction workers)	5,148
Hanford Site (Production workers)	53,034
Idaho NL (Construction workers)	56,496
Idaho NL (Production workers)	42,125
Iowa Army Ammunition Plant	16,029
Kansas City Plant (Construction workers)	1,955
Kansas City Plant (Production workers)	1,820
Lawrence Berkeley NL	35
Lawrence Livermore NL	1,334
Los Alamos NL	34,651
Misc. small sites (Construction workers)	5,699
Mound (Construction workers)	4,665
Mound (Production workers)	13,481
Nevada Test Site	13,422
Oak Ridge (K-25, Y-12, NL Construction workers)	2,201
Oak Ridge K-25 (Production workers)	26,853
Oak Ridge NL (Production workers)	4,152
Oak Ridge Y-12 (Production workers)	6,918
Paducah GDP (Construction workers)	4,808
Paducah GDP (Production workers)	6,110
Pantex Plant	3,889
Pinellas Plant (Construction workers)	1,540
Pinellas Plant (Production workers)	178
Portsmouth GDP (Construction workers)	5,140
Portsmouth GDP (Production workers)	12,909
Princeton Plasma Physics Laboratory	514
Rocky Flats (Construction workers)	3,250
Rocky Flats (Production workers)	15,063
Sandia NL, CA	34
Sandia NL, NM	2,035
Savannah River Site (Construction workers)	4,831
Savannah River Site (Production workers)	30,713
<b>TOTAL</b>	<b>455,645</b>

**Table 4.2. Implementing Organizations**

DOE Site <sup>1</sup>	Location	Year Screening Initiated	Organization	Key Personnel
Amchitka Island Test Site	Alaska	2000	Center to Protect Workers' Rights, University of Cincinnati, Duke University, and Zenith Administrators	Knut Ringen, DrPH, MHA, MPH
Ames Laboratory	Iowa	2006	University of Iowa College of Public Health	Laurence Fuortes, MD, MS
Argonne NL	Illinois	2005	Oak Ridge Associated Universities, Comprehensive Health Services, and Occupational HealthLink	Donna Cragle, PhD John McInerney, MD Lee Newman, MD
Brookhaven NL (Construction workers)	New York	2006	Center to Protect Workers' Rights, University of Cincinnati, Duke University, and Zenith Administrators	Knut Ringen, DrPH, MHA, MPH
Brookhaven NL (Production workers)	New York	Pending	Queens College of the City University of New York	Steven Markowitz, MD
Fermi National Accelerator Laboratory	Illinois	2005	Oak Ridge Associated Universities, Comprehensive Health Services, and Occupational HealthLink	Donna Cragle, PhD John McInerney, MD Lee Newman, MD
Fernald (Construction workers)	Ohio	2005	Center to Protect Workers' Rights, University of Cincinnati, Duke University, and Zenith Administrators	Knut Ringen, DrPH, MHA, MPH
Fernald (Production workers)	Ohio	2006	Queens College of the City University of New York and Atomic Trades & Labor Council	Steven Markowitz, MD Ray Beatty
Hanford Site (Construction workers)	Washington	1998	Center to Protect Workers' Rights, University of Cincinnati, Duke University, and Zenith Administrators	Knut Ringen, DrPH, MHA, MPH
Hanford Site (Production workers)	Washington	1998	University of Washington	Jordan Firestone, MD, PhD, MPH
Idaho NL (Construction workers)	Idaho	2005	Center to Protect Workers' Rights, University of Cincinnati, Duke University, and Zenith Administrators	Knut Ringen, DrPH, MHA, MPH

<sup>1</sup> Sites listed are primary sites served, but multiple small sites are also served by CPWR for construction workers and ORAU for production workers.

**Table 4.2. Implementing Organizations (continued)**

DOE Site <sup>1</sup>	Location	Year Screening Initiated	Organization	Key Personnel
Idaho NL (Production workers)	Idaho	2000	United Steel Workers, Queens College of the City University of New York, and Creative Pollution Solutions, Inc.	Jim Frederick Steven Markowitz, MD
Iowa Army Ammunition Plant	Iowa	2002	University of Iowa College of Public Health	Laurence Fuortes, MD, MS
Kansas City Plant (Construction workers)	Missouri	2005	Center to Protect Workers' Rights, University of Cincinnati, Duke University, and Zenith Administrators	Knut Ringen, DrPH, MHA, MPH
Kansas City Plant (Production workers)	Missouri	2005	Oak Ridge Associated Universities, Comprehensive Health Services, and Occupational HealthLink	Donna Cragle, PhD John McInerney, MD Lee Newman, MD
Lawrence Berkeley NL	California	2008	Boston University School of Public Health and University of California, San Francisco	Lewis Pepper, MD, MPH Robert Harrison, MD, MPH
Lawrence Livermore NL	California	2007	Boston University School of Public Health and University of California, San Francisco	Lewis Pepper, MD, MPH Robert Harrison, MD, MPH
Los Alamos NL	New Mexico	2000	Johns Hopkins Bloomberg School of Public Health	Brian Schwartz, MD, MS Patrick Breyse, PhD, CIH
Mound (Construction workers)	Ohio	2005	Center to Protect Workers' Rights, University of Cincinnati, Duke University, and Zenith Administrators	Knut Ringen, DrPH, MHA, MPH
Mound (Production workers)	Ohio	2006	United Steel Workers, Queens College of the City University of New York, Creative Pollution Solutions, Inc.	Jim Frederick Steven Markowitz, MD
Nevada Test Site and Other Las Vegas Locations	Nevada	1997	Boston University School of Public Health, University of California, San Francisco, and the Southern Nevada Building and Construction Trades Council	Lewis Pepper, MD, MPH Robert Harrison, MD, MPH
Oak Ridge K-25 (Production workers)	Tennessee	1996	United Steel Workers, Queens College of the City University of New York, Creative Pollution Solutions, Inc.	Jim Frederick Steven Markowitz, MD

**Table 4.2. Implementing Organizations (continued)**

DOE Site <sup>1</sup>	Location	Year Screening Initiated	Organization	Key Personnel
Oak Ridge K-25, Y-12 and NL, (Construction workers)	Tennessee	1999	Center to Protect Workers' Rights, University of Cincinnati, Duke University, and Zenith Administrators	Knut Ringen, DrPH, MHA, MPH
Oak Ridge NL (Production workers)	Tennessee	2005	Queens College of the City University of New York and Atomic Trades & Labor Council	Steven Markowitz, MD Garry Whitley
Oak Ridge Y-12 (Production workers)	Tennessee	2005	Queens College of the City University of New York and Atomic Trades & Labor Council	Steven Markowitz, MD Garry Whitley
Paducah GDP (Construction workers)	Kentucky	2004	Center to Protect Workers' Rights, University of Cincinnati, Duke University, and Zenith Administrators	Knut Ringen, DrPH, MHA, MPH
Paducah GDP (Production workers)	Kentucky	1999	United Steel Workers and Queens College of the City University of New York	Jim Frederick Steven Markowitz, MD
Pantex Plant	Texas	2005	Drexel University and The University of Texas Health Science Center at Tyler	Arthur Frank, MD, PhD
Pinellas Plant (Construction workers)	Florida	2005	Center to Protect Workers' Rights, University of Cincinnati, Duke University, and Zenith Administrators	Knut Ringen, DrPH, MHA, MPH
Pinellas Plant (Production workers)	Florida	2005	Oak Ridge Associated Universities, Comprehensive Health Services, and Occupational HealthLink	Donna Cragle, PhD John McInerney, MD Lee Newman, MD
Portsmouth GDP (Construction workers)	Ohio	2004	Center to Protect Workers' Rights, University of Cincinnati, Duke University, and Zenith Administrators	Knut Ringen, DrPH, MHA, MPH
Portsmouth GDP (Production workers)	Ohio	1999	United Steel Workers, Queens College of the City University of New York, Creative Pollution Solutions, Inc.	Jim Frederick Steven Markowitz, MD
Princeton Plasma Physics Laboratory	New Jersey	2005	Oak Ridge Associated Universities, Comprehensive Health Services, and Occupational HealthLink	Donna Cragle, PhD John McInerney, MD Lee Newman, MD

**Table 4.2. Implementing Organizations (continued)**

DOE Site <sup>1</sup>	Location	Year Screening Initiated	Organization	Key Personnel
Rocky Flats (Construction workers)	Colorado	2006	Center to Protect Workers' Rights, University of Cincinnati, Duke University, and Zenith Administrators	Knut Ringen, DrPH, MHA, MPH
Rocky Flats (except beryllium and radiation workers) <sup>2</sup>	Colorado	1999	University of Colorado Health Sciences Center and the National Jewish Medical and Research Center	James Ruttenger, PhD, MD (deceased)
Rocky Flats (Production workers – beryllium and radiation)	Colorado	2005	Oak Ridge Associated Universities, Comprehensive Health Services, and Occupational HealthLink	Donna Cragle, PhD John McInerney, MD Lee Newman, MD
Sandia NL	California	2007	Boston University School of Public Health and University of California San Francisco	Lewis Pepper, MD, MPH Robert Harrison, MD, MPH
Sandia NL	New Mexico	2006	Johns Hopkins Bloomberg School of Public Health	Maureen Cadorette, PhD Patrick Breyse, PhD, CIH
Savannah River Site (Construction workers)	South Carolina	1999	Center to Protect Workers' Rights, University of Cincinnati, Duke University, and Zenith Administrators	Knut Ringen, DrPH, MHA, MPH
Savannah River Site (Production workers)	South Carolina	1999	Medical University of South Carolina	David Hoel, PhD

<sup>2</sup> This cohort was transferred to ORAU in 2006.

**Table 4.3. Health Findings**

DOE Site <sup>1</sup>	Total Participants	Spirometry			Audiograms		
		Tested	Obstructive Airways Disease Detected <sup>2</sup>		Tested	Hearing Loss Detected	
			(No.)	(%)		(No.)	(%)
Amchitka Island Test Site	1,340	1,261	199	15.8	993	631	63.5
Ames Laboratory	358	346	93	26.9	N/A <sup>3</sup>		
Brookhaven NL (Construction workers)	314	250	30	12.0	249	129	51.8
Fernald (Construction workers)	926	827	201	24.3	814	319	39.2
Fernald (Production workers)	550	414	50	12.1	424	118	27.8
Hanford Site (Construction workers)	3,055	2,446	674	27.6	1,410	933	66.2
Hanford Site (Production workers) <sup>4</sup>	3,037	3,548	531	15.0	2,057	1,030	50.1
Idaho NL (Construction workers)	374	282	84	29.8	251	148	59.0
Idaho NL (Production workers)	4,584	3,181	583	18.3	3,010	2,054	68.2
Iowa Army Ammunition Plant	982	976	425	43.5	87	75	86.2
Kansas City Plant (Construction workers)	289	250	45	18.0	236	120	50.8
Kansas City Plant (Production workers)	1,562	1,526	330	21.6	1,524	686	45.0
Los Alamos NL	2,409	1,447 <sup>5</sup>	89	6.2	2,067	1,197	57.9
Mound (Construction workers)	219	206	57	27.7	196	104	53.1
Mound (Production workers)	791	656	154	23.5	672	326	48.5
Nevada Test Site and Other Las Vegas Locations	3,792	3,792	1,233	32.5	3,412	2,798	82.0

1 Data not included for projects where the number of individuals screened to date is less than 100.

2 Using CARET (1997) criteria; obstructive=FVC > 95% CI of predicted, and FEV1 /FVC < 95% CI of predicted. In addition, people with a mixed obstructive and restrictive pattern (FVC < 95% CI of predicted, and FEV1 /FVC < 95% CI of predicted) are included.

3 This project has not provided audiograms, to date.

4 This cohort transferred to ORAU the end of 2007.

5 This project does not use the CARET criteria at this time. The numbers include former workers with a FVC < 80% based on Knudson Prediction Equations.

**Table 4.3. Health Findings (continued)**

DOE Site <sup>1</sup>	Total Participants	Spirometry			Audiograms		
		Tested	Obstructive Airways Disease Detected <sup>2</sup>		Tested	Hearing Loss Detected	
			(No.)	(%)		(No.)	(%)
Oak Ridge K-25 (Production workers)	4,728	4,042	834	20.6	3,713	2,562	69.0
Oak Ridge NL (Production workers)	686	607	142	23.4	606	391	64.5
Oak Ridge Reservation (Construction workers) <sup>6</sup>	2,143	2,032	443	21.8	1,572	1,074	68.3
Oak Ridge Y-12 (Production workers)	1,706	1,532	375	24.5	531	987	64.5
Paducah Gaseous Diffusion Plant (Production workers)	2,835	2,736	436	15.9	2,727	2,223	81.5
Paducah GDP (Construction workers)	650	571	172	30.1	530	386	72.8
Pantex Plant	455	428	110	25.7	N/A <sup>7</sup>		
Pinellas Plant (Production workers)	154	146	47	32.2	148	45	30.4
Portsmouth GDP (Construction workers)	678	591	137	23.2	576	389	67.5
Portsmouth GDP (Production workers)	3,275	3,216	667	20.7	3,178	1,882	59.2
Rocky Flats (Construction workers)	293	232	91	39.2	222	129	58.1
Rocky Flats (except beryllium and radiation workers)	1,303	1,548	460	29.7	N/A <sup>8</sup>		
Rocky Flats (Production workers – beryllium and radiation)	580	558	146	26.2	544	267	49.1
Sandia NL (NM only)	161	122 <sup>7</sup>	6	4.9	134	62	46.3
Savannah River Site (Construction workers)	3,355	3,180	612	19.2	2,735	1,324	48.4
Savannah River Site (Production workers)	3,555	1,331	143	10.7	1,376	1,037	75.4

6 Findings not broken out by specific Oak Ridge facility for the construction project.

7 This project does not provide audiograms.

8 This project did not provide audiograms.

**Table 4.4. Beryllium Lymphocyte Proliferation  
Test Results (through November 2007)**

DOE Site <sup>1</sup>	People who Received ≥1 Blood Test	People with 1+ positive test (No. (%))
Ames Laboratory	322	13 (4.0%)
Argonne NL	64	2 (3.1%)
Brookhaven NL (Construction workers)	290	18 (6.2%)
Fernald (Construction workers)	900	13 (1.4%)
Fernald (Production workers)	303	2 (0.7%)
Hanford Site (Construction workers)	2,057	56 (2.7%)
Hanford Site (Production workers)	2,398	84 (3.5%)
Idaho NL (Construction workers)	321	7 (2.2%)
Idaho NL (Production workers)	3,337	74 (2.2%)
Iowa Army Ammunition Plant	942	34 (3.6%)
Kansas City Plant (Construction workers)	276	12 (4.3%)
Kansas City Plant (Production workers)	1,455	26 (1.8%)
Los Alamos NL	2,297	64 (2.8%)
Mound (Construction workers)	213	1 (0.5%)
Mound (Production workers)	659	20 (3.0%)
Nevada Test Site and Other Las Vegas Locations	2,035	45 (2.2%)
Oak Ridge K-25 (Production workers)	4,125	205 (5.0%)
Oak Ridge NL (Production workers)	616	23 (3.7%)
Oak Ridge Reservation (Construction workers) <sup>2</sup>	1,952	35 (1.8%)
Oak Ridge Y-12 (Production workers)	1,558	82 (5.3%)
Paducah GDP (Construction workers)	605	20 (3.3%)
Paducah GDP (Production workers)	2,368	68 (2.9%)
Pantex Plant	419	5 (1.2%)
Pinellas Plant (Production workers)	139	2 (1.4%)
Portsmouth GDP (Construction workers)	616	15 (2.4%)
Portsmouth GDP (Production workers)	3,035	40 (1.3%)
Rocky Flats (Construction workers)	287	3 (1.0%)
Rocky Flats (Production workers)	543	12 (2.2%)
Sandia NL - NM	129	5 (3.9%)
Savannah River Site (Construction workers)	2,720	51 (1.9%)
Savannah River Site (Production workers)	973	36 (3.7%)

The sites addressed by the DOE FWP are briefly described below, along with activities and results to date.

- 1 Data not included for projects where the number of individuals screened to date is less than 100.
- 2 Findings not broken out by specific Oak Ridge facility for the construction project.

# APPENDIX

---

## INDIVIDUAL SITE PROJECT DESCRIPTIONS

### Amchitka Island Test Site

Amchitka Island Test Site, located in the western Aleutian Islands, Alaska, was established in 1913 as a national wildlife refuge. In 1964, the AEC designated Amchitka as a nuclear testing facility. In 1965, 1969, and 1971, three large underground nuclear detonations were performed at Amchitka. The facility was closed in 1994 to undergo restoration and remediation of its radioactive, chemical, and hazardous waste.

The Building Trades National Medical Screening Program has screened former construction workers from Amchitka beginning in 2000. The project is being conducted by the Center to Protect Workers' Rights, an applied occupational health research and development center of the Building and Construction Trades Department of the AFL-CIO, in partnership with Duke University Medical Center and Zenith Administrators. To date, 1,340 workers have been screened. Results of the screening indicate 631 former workers show signs of hearing loss; 199 with obstructive airways disease, and 1 with abnormal BeLPT.

### Ames Laboratory

The Ames Laboratory (Ames) is located in Ames, Iowa, on the Iowa State University (ISU) campus and was established in 1947 as an AEC research facility. ISU scientists initiated chemical research in 1942 following the U.S. government's request in 1939 for leading scientists to join in a consolidated national effort to develop atomic energy. Ames developed the most efficient process for producing high-purity uranium metal in large quantities for nuclear reactor purposes for the Manhattan Project during World War II. Throughout this time, Ames produced more than 2 million pounds (1,000 tons) of uranium, some of which is still in use today. Ames presently conducts a broad range of applied research in the chemical, materials, engineering, environmental, mathematical, and physical sciences under a variety of Federal contracts.

Medical monitoring of Ames former workers began in 2006 and is being conducted by the University of Iowa College of Public Health. To date, 358 workers

have been screened. The results indicate 93 former workers with obstructive airways disease and 13 with abnormal BeLPT. Audiograms are not provided for this site.

### Argonne National Laboratory

Argonne National Laboratory (ANL) was the first national laboratory; it was chartered in 1946. ANL began as the University of Chicago's Metallurgical Laboratory, part of the Manhattan Project. It was at the Metallurgical Laboratory on December 2, 1942, that Enrico Fermi and his colleagues created the world's first controlled nuclear chain reaction in a racquets court at the University of Chicago. After the war, ANL was given the mission of developing nuclear reactors for peaceful purposes. Over the years, ANL's research expanded to include many other areas of science, engineering and technology.

Workers have been screened since 2005 by Oak Ridge Associated Universities in partnership with Comprehensive Health Services, and Occupational HealthLink. To date, 88 former workers have participated in the program. Results indicate 50 former workers with hearing loss; 26 with obstructive airways disease; and 2 with abnormal BeLPT.

### Brookhaven National Laboratory

Brookhaven National Laboratory (BNL) is located in Upton, New York, on Long Island. The Brookhaven site, formerly Camp Upton army base during World War I and II, was established as a national laboratory to conduct atomic energy research in 1947. Over the years, BNL created three nuclear reactors. In the 1950s, BNL created the Cosmotron, a particle-physics accelerator that eventually led the laboratory to its first Nobel Prize in 1957. Later, the Alternating Gradient Synchrotron was built, leading to the award of additional Nobel Prizes. Presently, BNL conducts basic and applied research and is currently operated by Brookhaven Science Associates. They are also involved in the design, construction, and operation of large research facilities including particle accelerators, nuclear reactors, and synchrotron storage rings.

FWP activities at BNL will begin to screen former production workers in 2008. This project will be conducted by Queens College of the City University of New York and Creative Pollution Solutions, Inc.

The Building Trades National Medical Screening Program began screening former construction workers in 2006. This program is being conducted by the Center to Protect Workers' Rights, the University of Cincinnati, Duke University, and Zenith Administrators. To date, 314 former workers have been screened. Results indicate 129 former workers with hearing loss; 30 with obstructive airways disease; and 18 with abnormal BeLPT.

## Fermi National Accelerator Laboratory

Fermi National Accelerator Laboratory (Fermilab) began in 1967 and was originally called the National Accelerator Laboratory. It was renamed in 1974 in honor of the 1938 Nobel Prize winner Enrico Fermi, one of the preeminent physicists of the atomic age. Scientists at Fermilab carry out research in high-energy physics.

Workers have been screened since 2005 by Oak Ridge Associated Universities in partnership with Comprehensive Health Services, and Occupational HealthLink. To date, 10 workers have been screened. Results indicate 8 former workers with hearing loss; 1 with obstructive airways disease; and none with abnormal BeLPT.

## Fernald

The Fernald facility, now the Fernald Closure Project, is a former uranium processing plant located in Fernald, Ohio. Fernald was established in 1951 to produce high-purity uranium, including slightly enriched and depleted uranium. Smaller amounts of thorium metal also were produced. From 1953 to 1989, Fernald produced these uranium metals and ceased production in 1989. Fernald is currently undergoing environmental restoration.

FWP screening for production workers at Fernald began in 2006 and is conducted by a group led by the Queens College of the City University of New York with the Atomic Trade & Labor Council of Fernald and Creative Pollution Solutions, Inc. To date, 550 former workers have been screened. Results indicate 118

former workers with hearing loss; 50 with obstructive airways disease; and 2 with abnormal BeLPT.

The Building Trades National Medical Screening Program began in 2005 to screen former construction workers. The project is conducted by a consortium led by the Center to Protect Workers' Rights, an applied occupational health research and development center of the Building and Construction Trades Department of the AFL-CIO, in partnership with Duke University Medical Center, University of Cincinnati Medical Center, and Zenith Administrators. To date, 926 former workers have been screened. Results indicate 319 former workers with hearing loss; 201 with obstructive airways disease; and 13 with abnormal BeLPT.

## Hanford Site

The Hanford Site (Hanford), located in Benton County, Washington, covers 586 square miles. It was established in 1943 as part of the Manhattan Project to create plutonium for nuclear weapons production. Between 1943 and 1963, nine plutonium production reactors, five chemical processing plants and various support facilities were constructed and operated. In 1987, the last remaining defense production reactor was shut down. Hanford is currently undergoing environmental remediation.

The Former Hanford Production Worker Medical Monitoring Program began in 1998 and is being conducted by the University of Washington. To date, 3,037 workers have been screened. Results indicate 1,030 former workers with hearing loss; 531 with obstructive airways disease; 84 with abnormal BeLPT.

The Building Trades National Medical Screening Program began in 1998. The project is being conducted by a consortium led by the Center to Protect Workers' Rights, an applied occupational health research and development center of the Building and Construction Trades Department of the AFL-CIO, in partnership with Duke University Medical Center, University of Cincinnati Medical Center, and Zenith Administrators. To date, 3,055 workers have been screened. Results indicate 933 former workers with hearing loss; 674 with obstructive airways disease; and 56 with abnormal BeLPT.

## Idaho National Laboratory

The Idaho National Laboratory (INL), formerly Idaho National Engineering and Environmental Laboratory, is located on a 890 square mile area of the former Naval Proving Grounds in Idaho Falls, Idaho. INL was established in 1949 as the National Reactor Testing Station for the AEC to build, test, and operate various types of nuclear reactors, allied plants, and other related equipment. For many years, INL had the highest concentration of nuclear reactors in the world. Since its inception, 52 nuclear reactors have been built including the U.S. Navy's first prototype nuclear propulsion plant. It is estimated that since inception, a total of approximately 105,000 workers have been employed at INL. The facility is currently undergoing remediation efforts.

FWP screening of production workers at INL began in 2000 and is led by the United Steel, Paper and Forestry, Rubber Manufacturing, Energy, Allied Industrial and Service Workers International Union; with Queens College of the City University of New York and Creative Pollution Solutions, Inc. To date, 4,584 former workers have participated in the program. Results indicate 2,054 former workers with hearing loss; 583 with obstructive airways disease; and 74 with abnormal BeLPT.

The Building Trades National Medical Screening Program for former construction workers began in 2005. The program is being conducted by a consortium led by the Center to Protect Workers' Rights, an applied occupational health research and development center of the Building and Construction Trades Department of the AFL-CIO, and in partnership with Duke University Medical Center, University of Cincinnati Medical Center, and Zenith Administrators. To date, 374 former workers have participated in the program. Results indicate 148 former workers with hearing loss; 84 with obstructive airways disease; and 7 with abnormal BeLPT.

## Iowa Army Ammunition Plant

The Iowa Army Ammunition Plant (IAAP) is located in Middletown, Iowa, and was established in 1941. Its principal mission was to load, assemble, and pack a variety of conventional ammunitions and fusing systems for the U.S. Department of Defense (the Division A portion of the Plant). However, between 1947 and 1975, nuclear weapons were assembled,

disassembled, modified, and tested at the IAAP for the AEC/DOE on what was known as Line 1/Division B/Burlington Atomic Energy Commission Plant (BAECP). In 1975, the nuclear weapons operations (Line 1/Division B) were shut down and transferred to the Pantex Plant in Amarillo, Texas. The IAAP continues to produce conventional weapons and is also currently involved in various remediation efforts, as the facility was placed on the Superfund National Priorities List in 1990.

Medical monitoring of BAECP former workers began in 2002 and is conducted by the University of Iowa College of Public Health. Medical screenings are for individuals who worked for the AEC in atomic weapons manufacturing on Line 1/Division B anytime between 1947 and 1975. To date, 990 former workers have been screened. Results indicate 75 former workers with hearing loss; 425 with obstructive airways disease; and 34 with abnormal BeLPT.

## Kansas City Plant

The Kansas City Plant (KCP) is located in Kansas City, Missouri, and was established in 1949 to build non-nuclear components for nuclear weapons for the AEC. Honeywell operates the plant. Kansas City's current mission is to procure non-nuclear electric, electronic, electromechanical, mechanical, plastic, and non-fissionable metal components. The plant is also involved in environmental remediation efforts.

Production workers have been screened since 2005 by Oak Ridge Associated Universities in partnership with Comprehensive Health Services, and Occupational HealthLink. To date, 1,562 former workers have participated in the program. Results indicate 686 former workers with hearing loss; 330 with obstructive airways disease; and 26 with abnormal BeLPT.

Building Trades National Medical Screening Program at the KCP is conducted by a consortium led by the Center to Protect Workers' Rights, an applied occupational health research and development center of the Building and Construction Trades Department of the AFL-CIO, in partnership with Duke University Medical Center, University of Cincinnati Medical Center, and Zenith Administrators. Screening began in 2005. To date, 289 former workers have participated in the program. Results indicate 120 former workers with hearing loss; 45 with obstructive airways disease; and 12 with abnormal BeLPT.

## Lawrence Berkeley National Laboratory

The Lawrence Berkeley National Laboratory (LBNL), formerly the Radiation Laboratory in Berkeley, is located in Berkeley, California, on a 200-acre site adjacent to the University of California Berkeley campus. The facility was founded in 1931 by Ernest O. Lawrence as a site for physics research on the cyclotron, a circular particle accelerator. LBNL was involved in production of fissionable bomb material such as plutonium. The lab was also involved with nuclear medicine research. After World War II, the laboratory transitioned to basic research. Currently, LBNL conducts unclassified research across a wide range of scientific disciplines including chemical and earth sciences, materials sciences, life sciences, human genome, structural biology, accelerator and fusion research, and nuclear science and physics.

FWP activities at LBNL began in 2008 and are being conducted by Boston University School of Public Health and the University of California at San Francisco. This program is in the assessment phase.

## Lawrence Livermore National Laboratory

Lawrence Livermore National Laboratory (LLNL), located in Livermore, California, was established in 1952 as a nuclear weapons design laboratory. LLNL has worked alongside the Los Alamos National Laboratory to design nuclear weapons. More recently, LLNL was involved more in stockpile stewardship. The facility is part of the National Nuclear Security Administration (NNSA) and is managed by the University of California.

FWP activities at the LLNL began in 2007 and are being conducted by Boston University School of Public Health and the University of California at San Francisco. To date, 246 former workers have been screened. Results indicate 44 former workers with hearing loss; 33 with obstructive airways disease; and 5 with 1 or more abnormal BeLPT.

## Los Alamos National Laboratory

The Los Alamos National Laboratory (LANL) is located in Los Alamos, New Mexico, and was founded in 1943 to build an atomic bomb. LANL was originally a secret Manhattan Project research laboratory and

was involved in nuclear weapons design. The work of the laboratory culminated in the creation of three atomic bombs, including those that were dropped on Hiroshima and Nagasaki, Japan. LANL also created the first hydrogen bomb. LANL is one of the largest multidisciplinary science institutions in the world and was operated by the University of California (UC) from 1943 until 2005, when UC lost the contract to Los Alamos National Security, LLC (LANS). LANS is a private, limited liability company formed between UC, Bechtel, BWX Technologies, and the Washington Group International. Currently, the Los Alamos mission is the safety, security, and reliability of the U.S. nuclear deterrent.

The FWP has screened LANL former workers employed from 1943 to the present. Screening for this program, conducted by the Johns Hopkins Bloomberg School of Public Health, began in 2000. To date, 2,409 former workers have been screened. Results indicate 1,197 former workers with hearing loss; 89 with obstructive airways disease; and 64 with abnormal BeLPT.

## Mound

The Mound facility, now known as the Miamisburg Closure Project, is located in Miamisburg, Ohio, and was established in 1947 to produce detonation devices for nuclear weapons. Mound was also involved in nuclear fuels and isotope separation research. Later missions included process development, production engineering, manufacturing and surveillance of detonators, explosive timers, transducers, firing sets, explosive pellets, components, and specific test equipment. The site is currently in the process of decontamination and remediation.

FWP activities for production workers began at Mound in 2006. The project is conducted by a group led by the United Steel, Paper and Forestry, Rubber Manufacturing, Energy, Allied Industrial and Service Workers International Union, with Queens College of the City University of New York and Creative Pollution Solutions, Inc. To date, 791 former workers have been screened. Results indicate 326 former workers with hearing loss; 154 with obstructive airways disease; and 20 with abnormal BeLPT.

Building Trades National Medical Screening Program for former Mound construction workers began in 2005. The project is conducted by a consortium led by the Center to Protect Workers' Rights, an applied occupational health research and development center

of the Building and Construction Trades Department of the AFL-CIO, in partnership with Duke University Medical Center, University of Cincinnati Medical Center, and Zenith Administrators. To date, 219 former workers have been screened. Results indicate 104 former workers with hearing loss; 57 with obstructive airways disease; and 1 with abnormal BeLPT.

## Nevada Test Site

The Nevada Test Site (NTS) is located on former proving grounds in southern Nevada and was established in 1951 for nuclear weapons testing. From 1951-1992, NTS was the primary location for nuclear testing. During this time, 928 nuclear tests were conducted, including 100 atmospheric tests between 1951 and 1958. After 1961, most tests took place in shafts, drill holes, and underground tunnels that were mined, drilled, and constructed for this purpose. From 1961 to 1992, more than 800 tests were conducted, mostly above ground.

FWP activities began at NTS in 1998. The project is being conducted by investigators from Boston University School of Public Health, the University of California at San Francisco, and the Southern Nevada Building and Construction Trades Council. To date, 3,792 former workers have been screened. Results indicate 2,798 former workers with hearing loss; 1,233 with obstructive airways disease; and 45 with abnormal BeLPT.

## Oak Ridge K-25 Gaseous Diffusion Plant

Oak Ridge K-25 Gaseous Diffusion Plant, (K-25) located in Oak Ridge, Tennessee, was established as part of the Manhattan Project during World War II to supply enriched uranium for nuclear weapons production. Until 1964, the site was used primarily for the production of highly enriched uranium for nuclear weapons and was also involved in the large-scale separation of uranium-235. The site was also involved in production of uranium to generate electric power. From 1959-1969, K-25 began producing more commercial-grade, low-enrichment uranium. Currently, the site is undergoing remediation and is involved in waste management activities.

FWP activities for production workers began at K-25 in 1996. This project is conducted by a group led by the United Steel, Paper and Forestry, Rubber Manufacturing, Energy, Allied Industrial and Service

Workers International Union, with Queens College of the City University of New York and Creative Pollution Solutions, Inc. To date, 4,728 former workers have been screened. Results indicate 2,562 former workers with hearing loss; 834 with obstructive airways disease; and 205 with abnormal BeLPT. Lung cancer screening detected 19 lung cancers, 79% at an early stage.

See results below for the Building Trades National Medical Screening Program at the Oak Ridge Reservation for information regarding the former construction worker project at K-25.

## Oak Ridge National Laboratory and Y-12 National Security Complex

The Oak Ridge National Laboratory (ORNL) and the Y-12 National Security Complex (Y-12) were established as part of the Manhattan Project in 1943. ORNL was established to pioneer a method for producing and separating plutonium. During the 1950s and 1960s, ORNL was an international center for the study of nuclear energy and related research in the physical and life sciences. ORNL also performs other work for DOE, including isotope production, information management, and technical program management, and provides research and technical assistance to other organizations. Y-12's primary mission was the separation of uranium-235 from natural uranium by the electromagnetic separation process. Y-12 remains active in the nuclear weapons program including the receipt, storage, and protection of uranium and lithium materials and parts.

FWP activities for production workers began at ORNL and Y-12 in 2005. This project is conducted by investigators from the Queens College of the City University of New York and the Atomic Trades & Labor Council. To date, 2,392 former workers have been screened. Results indicate 1,378 former workers with hearing loss; 517 with obstructive airways disease; and 105 with abnormal BeLPT.

## Oak Ridge Reservation (K-25, Y-12 and ORNL)

The Oak Ridge Building Trades Medical Screening Program began in 1999 and is led by the University of Cincinnati along with the Center to Protect Workers' Rights, Duke University, and Zenith Administrators. To date, 2,143 former workers have been screened. Results indicate 1,074 former workers with hearing

loss; 443 with obstructive airways disease; and 35 with abnormal BeLPT.

## Paducah Gaseous Diffusion Plant

The Paducah Gaseous Diffusion Plant (Paducah) is located in Paducah, Kentucky. Paducah was established in 1952 to create enriched uranium to fuel military reactors and produce nuclear weapons. In the 1960s, the plant switched from its military focus and began supplying enriched uranium to electric utilities operating nuclear power plants. It is currently operated and leased by the United States Enrichment Corporation and is the only operating uranium enrichment facility in the U.S.

FWP activities for former production workers at Paducah began in 1999. The project is being conducted by a group led by the United Steel, Paper and Forestry, Rubber Manufacturing, Energy, Allied Industrial and Service Workers International Union, with Queens College of the City University of New York and Creative Pollution Solutions, Inc. To date, 2,835 former workers have been screened. Results indicate 2,223 former workers with hearing loss; 436 with obstructive airways disease; and 68 with abnormal BeLPT. Lung cancer results include 8 lung cancers detected, 88% at an early stage.

The Oak Ridge Building Trades Medical Screening Program led by the University of Cincinnati along with the Center to Protect Workers' Rights, Duke University, and Zenith Administrators was extended in 2003 to include construction workers at the Paducah Gaseous Diffusion Plant. This program was incorporated into the Building Trades National Medical Screening program led by the Center to Protect Workers' Rights in partnership with Duke University Medical Center, University of Cincinnati Medical Center, and Zenith Administrators in 2006. To date, 650 former workers have been screened. Results indicate 386 former workers with hearing loss; 172 with obstructive airways disease; and 20 with abnormal BeLPT.

## Pantex Plant

In 1942, the U.S. Army constructed the original Pantex Ordnance Plant on 16,000 acres, located 17 miles northeast of Amarillo, Texas, in Carson County. In 1951, Pantex was reopened and refurbished for nuclear weapons, high explosive and non-nuclear component assembly operations. By 1960, Pantex Plant had taken on a new high explosives development

mission in support of Lawrence Livermore National Laboratory. Between 1965 and 1975, the Atomic Energy Commission moved various weapons modification, assembly and high explosives missions to the Plant from other facilities around the country. Today, Pantex Plant is charged with maintaining the safety, security and reliability of the nation's nuclear weapons stockpile. The facility is managed and operated by BWXT Pantex for the U.S. Department of Energy/National Nuclear Security Administration. Work performed at Pantex includes support of the life extension programs, weapon dismantlement, the development, testing and fabrication of high explosive components and interim storage and surveillance of plutonium pits.

FWP activities began at Pantex in 2005 and are being conducted by investigators from Drexel University and The University of Texas Health Science Center at Tyler. To date, 455 former workers have been screened. Results indicate 110 former workers with obstructive airways disease; and 5 with abnormal BeLPT. Audiograms are not provided at this site.

## Pinellas Plant

The Pinellas Plant (Pinellas), located in Largo, Florida, was established in 1957 to develop and produce neutron generators for the production of bombs and nuclear weapons. Pinellas has been involved in the design, development, and manufacture of special electronic and mechanical nuclear weapons components, such as neutron-generating devices, neutron detectors, and associated product testers. In 1994, Pinellas stopped producing nuclear weapons components and is no longer involved in defense-related work.

Production workers have been screened since 2005 by Oak Ridge Associated Universities in partnership with Comprehensive Health Services, and Occupational HealthLink. To date, 154 former workers have participated in the program. Results indicate 45 former workers with hearing loss; 47 with obstructive airways disease; and 2 with abnormal BeLPT.

The Building Trades National Medical Screening Program for Pinellas Construction Workers began in 2005. The project is being conducted by a group led by the Center to Protect Workers' Rights, an applied occupational health research and development center of the Building and Construction Trades Department of the AFL-CIO, in partnership with Duke University Medical Center, University of Cincinnati Medical Center, and Zenith Administrators. To date, 35 former

workers have been screened. Results indicate 14 former workers with hearing loss; 2 with obstructive airways disease; and none with abnormal BeLPT.

## Portsmouth Gaseous Diffusion Plant

The Portsmouth Gaseous Diffusion Plant (Portsmouth) is located in Piketon, Ohio, and was created in 1954 to produce highly enriched uranium to fuel military reactions and weapons. The plant also worked with its sister plant in Paducah, Kentucky, to produce low-enriched uranium to fuel commercial nuclear power plants. Portsmouth ceased uranium enrichment operations in 2001. Portsmouth is leased and operated by the United States Enrichment Corporation and is currently involved in restoration and waste management activities.

FWP activities for production workers began at Portsmouth in 1999. This project is conducted by a group led by the United Steel, Paper and Forestry, Rubber Manufacturing, Energy, Allied Industrial and Service Workers International Union, with Queens College of the City University of New York and Creative Pollution Solutions, Inc. To date, 3,275 former workers have been screened. Results indicate 1,882 former workers with hearing loss; 667 with obstructive airways disease; and 40 with abnormal BeLPT. Lung cancer screening results indicate 18 lung cancers detected, 78% at an early stage.

The Oak Ridge Building Trades Medical Screening Program led by the University of Cincinnati along with the Center to Protect Workers' Rights, Duke University, and Zenith Administrators was extended in 2003 to include construction workers at the Portsmouth Gaseous Diffusion Plant. This program was incorporated into the Building Trades National Medical Screening Program led by the Center to Protect Workers' Rights in partnership with Duke University Medical Center, University of Cincinnati Medical Center, and Zenith Administrators in 2006. To date, 678 former workers have been screened. Results indicate 389 former workers with hearing loss; 137 with obstructive airways disease; and 15 with abnormal BeLPT.

## Princeton Plasma Physics Laboratory

Princeton Plasma Physics Laboratory is a collaborative national center for plasma and fusion

science. Its primary mission is to develop the scientific understanding and the key innovations which will lead to an attractive fusion energy source. Associated missions include conducting world-class research along the broad frontier of plasma science and technology, and providing the highest quality of scientific education.

Former workers have been screened since 2005 by Oak Ridge Associated Universities in partnership with Comprehensive Health Services, and Occupational HealthLink. To date, 41 former workers have been screened. Results indicate 9 former workers with hearing loss; 6 with obstructive airways disease; and none with abnormal BeLPT.

## Rocky Flats Environmental Technology Site

The Rocky Flats Environmental Technology Site (Rocky Flats), formerly a nuclear weapons facility, is located in Golden, Colorado, 16 miles from Denver. Rocky Flats made components for nuclear weapons using various radioactive and hazardous materials, including plutonium, uranium, and beryllium. Rocky Flats is designated as a Superfund remediation site. Currently, Rocky Flats is a DOE environmental remediation and closure project that is operated by the Kaiser-Hill Company.

FWP activities (excluding beryllium and radiation workers) began at Rocky Flats in 1999. The project was conducted by investigators from the University of Colorado Health Sciences Center and the National Jewish Medical and Research Center. Rocky Flats screened workers at risk from asbestos and non-radiation (other than beryllium) hazards. To date, 1,303 former workers have been screened. Results indicate 460 with obstructive airways disease. Audiograms or BeLPTs were not provided at this site.

Beginning in 2005, production workers were screened by Oak Ridge Associated Universities in partnership with Comprehensive Health Services, and Occupational HealthLink. To date, 580 former workers have participated in the program. Results indicate 267 former workers with hearing loss; 146 with obstructive airways disease; and 12 with abnormal BeLPT.

Building Trades National Medical Screening Program for the Rocky Flats construction workers began in 2006. This project is led by the Center to protect Workers' Rights along with the University of Cincinnati, Duke University, and Zenith Administrators. To date, 293 former workers have been screened.

Results indicate 129 former workers with hearing loss; 91 with obstructive airways disease; and 3 with abnormal BeLPT.

## Sandia National Laboratories (NM and CA)

SNL has two primary facilities, the New Mexico site (SNL-NM) and the California site (SNL-CA). Sandia National Laboratories (SNL) began in 1945 on Sandia Base in Albuquerque, New Mexico. SNL was originally Z Division, a part of the Manhattan Project in what has evolved into the Los Alamos National Laboratory. The mission of SNL at that time was ordnance design, testing, and assembly. The site is located on the Kirtland Air Force Base in Albuquerque, New Mexico. In 1949, at the request of President Truman, the American Telephone and Telegraph Company (AT&T) took over the management of the site and continued to do so for 44 years. The SNL-CA site in Livermore, California, was established in 1956. SNL provides engineering design for all non-nuclear components of nuclear weapons and national security research and development. Lockheed Martin Corporation has managed SNL since October 1, 1993.

FWP activities began at SNL-NM in 2006 and are being carried out by Johns Hopkins Bloomberg School of Public Health. To date, 161 former workers have been screened. Results indicate 62 former workers with hearing loss; 6 with obstructive airways disease; and 5 with abnormal BeLPT.

FWP activities began at SNL-CA in 2007 and are being conducted by Boston University School of Public Health and the University of California at San Francisco. To date, 11 former workers have been screened. Results indicate no former workers with hearing loss; 1 with obstructive airways disease; and none with abnormal BeLPT.

## Savannah River Site

The Savannah River Site (SRS) is located on a 310 square-mile area near Aiken, South Carolina, along the Savannah River. SRS was built in the early 1950s to create tritium and plutonium-239 for the production of nuclear materials. The original site had five nuclear reactors, two chemical-separation facilities, a heavy water extraction plant, a nuclear fuel and target fabrication plant, and support and waste management facilities. The reactors produced nuclear materials by irradiating target materials with neutrons. In 1981, environmental remediation activities began, and all reactors have been shut down since then. Currently, SRS is involved in nuclear materials stabilization, vitrification of nuclear waste, and radioactive operations at the Tritium Replacement Facility.

FWP activities for production workers began at SRS in 1999; and are being conducted by investigators from the Medical University of South Carolina. To date, 3,555 former workers have been screened. Results indicate 1,037 former workers with hearing loss; 143 with obstructive airways disease; and 36 with abnormal BeLPT.

Building Trades National Medical Screening Program began in 1999. The project is being conducted by a consortium led by the Center to Protect Workers' Rights, an applied occupational health research and development center of the Building and Construction Trades Department of the AFL-CIO, in partnership with Duke University Medical Center, University of Cincinnati Medical Center, and Zenith Administrators. To date, 3,355 former workers have been screened. Results indicate 1,324 former workers with hearing loss; 612 with obstructive airways disease; and 51 with abnormal BeLPT.

**Abbreviations Used in This Report**  
(continued from inside front cover)

GDP	Gaseous Diffusion Plant
HIPPA	Health Insurance Portability and Accountability Act
HSS	Office of Health, Safety and Security
IAAP	Iowa Army Ammunition Plant
INL	Idaho National Laboratory
ISU	Iowa State University
KCP	Kansas City Plant
LANL	Los Alamos National Laboratory
LANS	Los Alamos National Security, LLC
LBNL	Lawrence Berkeley National Laboratory
LLNL	Lawrence Livermore National Laboratory
NL	National Laboratory or Laboratories
NTS	Nevada Test Site
ORAU	Oak Ridge Associated Universities
ORNL	Oak Ridge National Laboratory
SNL	Sandia National Laboratories
SNL-CA	Sandia National Laboratories – California
SNL-NM	Sandia National Laboratories – New Mexico
SRS	Savannah River Site
UC	University of California
U.S.	United States



OFFICE OF HEALTH, SAFETY AND SECURITY

FORMER WORKER PROGRAM (FWP)

Former Worker Program (FWP)

Text size: [Smaller](#) - [Normal](#) - [Larger](#) - [Largest](#)

You are Here: [DOE](#) > [HSS](#) > [HealthSafety](#) > [FWSP](#)

[Home](#)

[What's New](#)

[Program Statistics](#)

[Program Fact Sheets by State](#)

[Program Brochure](#)

**Covered Sites/Populations**

[Construction Worker Screening Projects](#)

[Production Worker Screening Projects](#)

[Supplemental Screening Program](#)

[Beryllium Vendor Screening Program](#)

[Related Links](#)

**Health and Safety**

**Former Worker Medical Screening Program (FWP)**

**RELATED DOCUMENTS & LINKS**

- [Medical Protocol](#)
- [DOL Energy Employees Occupational Illness Compensation Program Act \(EEOICPA\)](#)
- [NIOSH Office of Compensation Analysis and Support](#)
- [Chronic Beryllium Disease-National Jewish Medical and Research Center](#)
- [Beryllium Screening - Informed Choice Document](#)
- [Beryllium Lymphocyte Proliferation Test Basic Ordering Agreements](#)
- [Building Trades National Medical Screening Program](#)
- [Medical Exam Program for Former Workers at Los Alamos National Laboratory](#)
- [Medical Monitoring of Former Workers at the Iowa Army Ammunition Plant](#)
- [Medical Surveillance for Former Department of Energy Workers at the Nevada Test Site, Lawrence Berkeley National Laboratory, Lawrence Livermore National Laboratory, and Sandia Livermore](#)
- [National Supplemental Screening Program](#)
- [Worker Health Protection Program](#)



Program Manager: [Mary Fields](#)

This page was last updated on June 23, 2008

[Security & Privacy Notice](#) • [HSS Information Inventory](#) • [HSS Organization](#)

[Doing Business with DOE](#) | [Competitive Sourcing](#) | [DOE Directives](#) | [Small Business](#)



U.S. Department of Energy | 1000 Independence Ave., SW | Washington, DC 20585

1-800-dial-DOE | f/202-586-4403 |

[Web Policies](#) | [No Fear Act](#) | [Site Map](#) | [Privacy](#) | [Phone Book](#) | [Employment](#)



## Office of Illness and Injury Prevention Programs (Reports to the Office of Health and Safety)

### Mission and Functions

#### Mission

The Office of Illness and Injury Prevention Programs supports health studies and other public health activities to determine if workers and communities surrounding DOE sites are adversely affected by exposures to hazardous materials from DOE sites. The Office strives to protect and promote the health of DOE workers, identify groups who may be at increased risk, provide a focus for intervention strategies and provide a means to measure the effectiveness of corrective actions.

#### Functions

- Manages and supports an illness and injury surveillance database for current workers at participating sites across the DOE complex.
- Manages and conducts epidemiologic investigations to assess the health implications of exposures to hazardous materials for workers within the DOE complex.
- Manages and supports the conduct of epidemiologic studies and other public health activities by the Department of Health and Human Services to assess the health implications of exposures to hazardous materials found in the DOE workplace.
- Reviews the results from analytic and descriptive epidemiologic studies, other public health activities, and information from site profiles to determine the need to conduct or support future epidemiologic studies or public health activities.
- Provides feedback to the Office of Health and Safety Policy regarding opportunities to enhance existing worker protection methods and policies based upon worker health studies.
- Communicates health effects information and the results of studies to all interested stakeholders within and outside DOE.
- Provides leadership and guidance to the DOE occupational medicine community, including the Energy Facility Contractors Group (EFCOG) Occupational Medicine Subcommittee.
- Develops and maintains registries of DOE workers to understand the development and progression of health outcomes associated with exposures to specific hazardous materials of particular interest to DOE.
- Oversees the establishment of a chronic beryllium disease bio-specimen repository, using donated blood and tissues from participants in the Department's medical screening initiatives.
- Supports the Radiation Emergency Assistance Center/Training Site (REAC/TS) to provide training in radiation medicine and medical consultation to site physicians.
- Manages the area of occupational medicine including the DOE Electronic Medical Records Initiative, Headquarters and field Healthy Workplace Initiatives and pandemic preparedness.



U.S. DEPARTMENT OF  
**ENERGY**

SCIENCE &  
TECHNOLOGY

ENERGY  
SOURCES

ENERGY  
EFFICIENCY

THE  
ENVIRONMENT

PRICES &  
TRENDS

NATIONAL  
SECURITY

SAFETY &  
HEALTH

## OFFICE OF HEALTH, SAFETY AND SECURITY

## HEALTH AND SAFETY PROGRAMS

### Illness and Injury Prevention Programs

Home

Mission and Functions

What's New

HS-13 Staff

Pandemic Influenza

Beryllium-Associated Worker Registry

Statistical Analysis of Non-Detect Data (SAND)

CEDR

Illness and Injury Surveillance Program

Epi Moratorium

United States Transuranium and Uranium Registries

Occupational Medicine

Worker and Community Public Health Activities

Radiation Emergency Assistance Center/Training Site (REAC/TS) Program

Chronic Beryllium Disease Biorepository Initiative

Articles

Links

Health and Safety



Text size: [Smaller](#) - [Normal](#) - [Larger](#) - [Largest](#)

You are Here: [DOE](#) > [HSS](#) > [HealthSafety](#)

### Illness and Injury Surveillance Program

#### Background

The Department of Energy's Illness and Injury Surveillance Program has the goal of identifying groups of workers who may be at increased risk for occupationally related injury and illness. The program evaluates and communicates the potential impact of DOE operations on these workers. Knowledge generated by the program provides a mechanism by which worker health concerns can be addressed in collaboration with the affected workers, occupational medicine, and site management. The program is responsive to the Department of Energy's legislative mandate (Atomic Energy Act, Energy Reorganization Act of 1974, and Department of Energy Organization Act, 1977) to monitor the impact of its operations on the environment, the health of its work force, and the residents of communities surrounding DOE sites.

Illness and Injury Surveillance supports the DOE's only multi-site health information database linked to current workers. The program uses health and demographic data already collected from existing health and safety data sources to maximize the use of current data, thus limiting the cost of data collection. The Program adds a component of epidemiologic health surveillance to the practice of occupational medicine at participating sites. To address issues of privacy and confidentiality, no identified worker data are ever transmitted off site. All data transmitted to the Program's data center are accompanied only by encrypted identifiers, and only site personnel who are directly involved with Illness and Injury Surveillance at each participating site can identify data for an individual at their site using these identifiers. Each site assigns its own encrypted identifiers to records using an encryption algorithm known only to those individuals directly involved with the program at the site.

Program staff also provides epidemiologic and public health expertise in the evaluation of worker health concerns. Reports summarizing the results of illness and injury surveillance are published annually and are available online. The implementation of Illness and Injury Surveillance has advanced the automation of health data management systems at numerous DOE sites.

Illness and Injury Surveillance began as a pilot project in the 1980s at the Hanford Site and Idaho National Laboratory to determine whether routine health surveillance could be conducted at low cost to assess the health of current contractor workers and to identify groups of workers at increased risk of illness or injury. The program became DOE Headquarters-based with the formation of the Office of Health in 1989. Illness and Injury Surveillance now monitors the health of approximately 79,000 current contractor workers at 13 DOE sites. Site participation remains voluntary, with the number of sites participating set by the availability of program funding.

Thirteen sites participate in the program:

- Brookhaven National Laboratory
- East Tennessee Technology Park (K-25)
- Hanford Nuclear Reservation
- Idaho National Laboratory
- Kansas City Plant
- Lawrence Livermore National Laboratory
- Los Alamos National Laboratory
- Nevada Test Site
- Oak Ridge National Laboratory (X-10)
- Oak Ridge Reservation (Y-12 Weapons Plant)
- Pantex Plant
- Sandia National Laboratory-Albuquerque
- Savannah River Site

Rocky Flats Environmental Technology Site participated from 1992 through 2000, and the Fernald Environmental Management Project participated from 1993 through 2004.

#### Stakeholders:

- Current workers
- DOE Headquarters and field management
- Occupational medicine and other site health and safety staff
- Concerned public

#### Accomplishments:

- Completed an independent assessment of the program to further align and integrate it with overall Office of Health goals.
- Expanded dissemination of health data to workers, citizens' groups, state government representatives, and other stakeholders through internet-based information.

- Presented results of Brookhaven National Laboratory Worker Cancer Assessment to workers and community representatives.
- Supported cancer assessment of LLNL workers.
- Conducted health assessments to address concerns of employees at DOE Headquarters, Federal employees at Idaho National Laboratory, and provided analytical support for worker health assessment at Sandia National Laboratory.
- Developed a DOE Technical Standard addressing the need for guidance concerning the collection and reporting of health information.
- Presented results of combined analyses covering health issues of 13 participating sites at the NIOSH/CDC Worklife 2007 Symposium, September, 2007.

Goals:

- Work with site industrial hygiene staff to evaluate the potential value of developing an exposure module for epidemiologic surveillance.
- Continue site recruitment.
- Improve communication with stakeholders through the development of more accessible, summarized information and wider dissemination of information.
- Develop special focus reports addressing specific health and/or safety issues.
- Work with other Office of Health and Safety staff to develop policy addressing health and safety data collection and reporting.
- Continue the development of new ways to assess the health of DOE's workforce.

[Illness and Injury Surveillance Program Brochure](#)

**Program Manager:** [Clifton H. Strader](#)

---

**Related Documents & Links**

- [Worker Health Summary, 1995-2004](#)
- [Worker Health at a Glance, 1995-2004](#)
- [Annual Surveillance Reports](#)

This page was last updated on October 01, 2007

[Security & Privacy Notice](#) • [HSS Information Inventory](#) • [HSS Organization](#)

[Doing Business with DOE](#) | [Competitive Sourcing](#) | [DOE Directives](#) | [Small Business](#)



U.S. Department of Energy | 1000 Independence Ave., SW | Washington, DC 20585

1-800-dial-DOE | f/202-586-4403 |

[Web Policies](#) | [No Fear Act](#) | [Site Map](#) | [Privacy](#) | [Phone Book](#) | [Employment](#)

## Where do I get more information?

Questions about this program or issues related to worker health can be addressed to:

Clifton H. Strader, Ph.D.  
Program Manager  
(301) 903-5799  
cliff.strader@eh.doe.gov

or

Bonnie S. Richter, Ph.D.  
Director, Office of Epidemiology and  
Health Surveillance  
(301) 903-4501  
bonnie.richter@eh.doe.gov



## What happens to medical information?

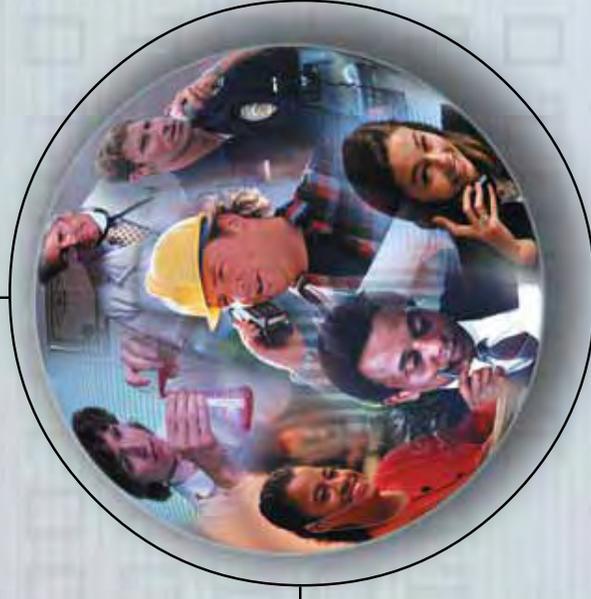
Funding from the Office of Epidemiology and Health Surveillance supports staff at participating sites to coordinate the secure electronic transfer of information to the surveillance program data center at the Oak Ridge Institute for Science and Education (ORISE) in Oak Ridge, Tennessee. All data are checked for completeness and validity. Preliminary analyses are conducted by ORISE and then sent to epidemiologists in the Office of Epidemiology and Health Surveillance for further evaluation and interpretation.

Summaries of the data analyses conducted for participating sites are posted on our web site at:

[www.eh.doe.gov/health/epi/surv](http://www.eh.doe.gov/health/epi/surv)

The Surveillance Reports are also distributed to the occupational medicine departments, to site management, safety offices, and worker representatives across the complex. The public may access these reports either through the web site or by visiting DOE reading rooms.

# Illness and Injury Surveillance Program



# Illness and Injury Surveillance Program

## What is Illness and Injury Surveillance at the Department of Energy?

The health of the contractor workforce is a corporate responsibility of the Department of Energy (DOE). DOE strives to ensure that work is safely conducted at every site. Collecting and analyzing information on illness and injury is a good way to evaluate how safely work is being performed across the complex.

Illness and Injury Surveillance monitors and assesses the overall health of the current workforce, with the goal of identifying groups that may be at increased risk of occupational illness and injury. In addition, health outcomes related to aging and lifestyle choices which impact the health of the work force can be identified. **Surveillance identifies opportunities for site safety and health managers to apply intervention strategies to reduce illness and injury across the DOE complex.**

The Illness and Injury Surveillance Program began as a pilot project in the mid 1980s. The pilot project became a DOE Headquarters-based program in 1990.

## Who is responsible for monitoring the health of current DOE workers?

DOE has the legislative authority to monitor the impact of its operations on the health of its work force. The Office of Epidemiology and Health Surveillance at DOE Headquarters manages the Illness and Injury Surveillance

program. The program directly funds occupational medicine departments at participating sites to collect selected health data used to monitor worker health.

The staff of the Illness and Injury Surveillance Program has advanced graduate degrees from accredited Schools of Public Health at respected United States universities. They are experienced and dedicated health professionals who are committed to worker health protection.

## Who is covered by the Illness and Injury Surveillance Program?

Currently, the Illness and Injury Surveillance Program examines health trends among more than 91,000 workers at the 13 participating DOE sites and facilities. Site participation is voluntary, and we invite site managers and other health professionals interested in implementing this program at their site to contact us.

Participating sites include:

- Brookhaven National Laboratory
- East Tennessee Technology Park
- Hanford Site
- Idaho National Laboratory
- Kansas City Plant
- Los Alamos National Laboratory
- Nevada Test Site
- Oak Ridge National Laboratory
- Pantex Plant
- Sandia National Laboratories
- Savannah River Site
- Lawrence Livermore National Laboratory
- Y-12 National Security Complex

## What kinds of health data are used?

Occupational medicine departments across the DOE complex routinely collect illness and injury data. When an employee does not report to work for 5 or more consecutive workdays, that employee should be cleared to return to work through the site occupational medicine department before returning to work (DOE Rule 10 CFR 851). Information on shorter term health-related absences is also available. Illness and injury data are linked to other occupational information, such as job title and participation in specialized exposure monitoring or respiratory (e.g. lead exposure monitoring or respiratory protection). This information is collected, verified, and analyzed at the Illness and Injury Surveillance data center. The surveillance program staff closely reviews the data to identify unfavorable health trends or unusual health occurrences.

## How are confidentiality and privacy protected?

DOE takes confidentiality issues concerning worker health very seriously. The information analyzed by the Illness and Injury Surveillance Program is not linked to any individual by name, Social Security number, or any other identifiable information. All identifiers remain in the site's Occupational Medicine Department. The results of our analyses are presented in summarized or grouped format.

ABOUT DOE | ORGANIZATION | NEWS | CONTACT US

SEARCH

GO



OFFICE OF HEALTH, SAFETY AND SECURITY

EEOICPA

Energy Employees  
Occupational Illness  
Compensation Program

Home

Health and Safety



Text size: [Smaller](#) - [Normal](#) - [Larger](#) - [Largest](#)

You are Here: [DOE](#) > [HSS](#) > [HealthSafety](#) > [FWSP](#)

## Energy Employees Occupational Illness Compensation Program

### Welcome

The Energy Employees Occupational Illness Compensation Program Act (EEOICPA) was enacted to provide compensation and medical benefits to employees who worked at certain Department of Energy (DOE) facilities, including contractors and subcontractors at those locations, and certain of its vendors.

Adjudication of issues pertaining to all claims for benefits under the EEOICPA is the responsibility of the Department of Labor (DOL). The DOL is supported in its role by the DOE, the Department of Health and Human Services (HHS), and the Department of Justice (DOJ).

If you would like more information about the benefits available under the EEOICPA, please visit [DOL's web page](#).

The DOL has also established Resource Centers around the country to provide information about the EEOICPA and to assist the public with claim filing. To locate the Resource Center nearest you, please call toll free (866) 888-3322 or visit the DOL's webpage on its [Resource Centers](#).

For those individuals who are seeking information about the state workers compensation assistance program that was administered by the DOE under Part D of EEOICPA, that program was abolished in an amendment enacted on October 28, 2004. The claims filed under the Part D program have been transferred to DOL for consideration to the benefits that are now available under Part E. If you are seeking information about your claim, please contact the DOL.

### The DOE Role

The DOE provides worker and facility records and data to the DOL to help in their decision-making and in support of the administration of the EEOICPA. In addition, DOE maintains a list of facilities covered under the EEOICPA. This list is published in the [Federal Register](#) and is periodically updated.

In addition to periodic publication of the list in the Federal Register, the DOE also maintains the searchable [covered facility database](#). This database contains additional information pertaining to each of the facilities noted in the Federal Register, including years of activity and a general overview of what the facility did.

The Department welcomes comments or additional information regarding the facilities covered under EEOICPA. When new information supports new listings or expanded time periods, updates are made accordingly. Contact Information:

U. S. Department of Energy  
Office of Health, Safety and Security  
Office of Former Worker Screening Programs (HS-15)  
1000 Independence Avenue, SW  
Washington, D. C. 20585

### Other EEOICP Links

[Department of Labor](#)  
Division of Energy Employees Occupational Illness Compensation.

[National Institute for Occupational Safety and Health \(NIOSH\), Office of Compensation Analysis and Support \(OCAS\)](#) NIOSH performs dose reconstructions for claims under EEOICPA.

[Department of Justice](#)  
Radiation Exposure Compensation Program

[Linking Legacies](#) - the story of the creation and development of the U.S. nuclear weapons complex

[Considered Sites Database](#) - contains information about facilities covered under EEOICPA

[CDC Radiation Studies](#) - health effects of environmental radiation exposures from nuclear weapons production facilities

[OpenNet](#) - includes declassified documents made public after October 1, 1994

[Hanford Declassified Document Retrieval System](#) - Contains more than 125,000 formerly classified documents available for public viewing dating back to the Manhattan District.

For further information, please contact [Gina Cano](#)

This page was last updated on November 16, 2007

[Security & Privacy Notice](#) • [HSS Information Inventory](#) • [HSS Organization](#)

[Doing Business with DOE](#) | [Competitive Sourcing](#) | [DOE Directives](#) | [Small Business](#)



U.S. Department of Energy | 1000 Independence Ave., SW | Washington, DC 20585

1-800-dial-DOE | f/202-586-4403 |

[Web Policies](#) | [No Fear Act](#) | [Site Map](#) | [Privacy](#) | [Phone Book](#) | [Employment](#)

ABOUT DOE | ORGANIZATION | NEWS | CONTACT US

SEARCH

GO



U.S. DEPARTMENT OF  
**ENERGY**

SCIENCE &  
TECHNOLOGY

ENERGY  
SOURCES

ENERGY  
EFFICIENCY

THE  
ENVIRONMENT

PRICES &  
TRENDS

NATIONAL  
SECURITY

SAFETY &  
HEALTH

OFFICE OF HEALTH, SAFETY AND SECURITY

RESPONSE LINE

## OSH Regulatory and Policy Response Line

Text size: [Smaller](#) - [Normal](#) - [Larger](#) - [Largest](#)

You are Here: [DOE](#) > [HSS](#) > [HealthSafety](#) > [WSHP](#)

[Home](#)

[General Information](#)

[What's New](#)

[Search Existing Responses](#)

[Submit Question](#)

[DOE and Related Web Sites](#)

[Contact Us](#)

[Health and Safety](#)



1-800-292-8061



### Welcome to the DOE Worker Safety and Health Standards Response Line Web Site

The Response Line is a service that responds to questions from DOE, DOE contractor, and DOE subcontractor employees regarding applicability of worker safety and health standards and directives. Responses are classified as [precedented](#) (existing policy documentation) or [unprecedented](#) (no existing policy documentation). Precedented questions and answers provided since July 1, 1995, are online. [Unprecedented](#) responses are online from July 1, 1993.

Responses published before the publication of 10 CFR 851 "Worker Safety and Health Program" (February 6, 2006) most likely still are accurate reflections of DOE policy but should be re-affirmed by the Office of Worker Safety and Health Policy, HS-11, if needed to clarify current critical worker safety and health issues. Requestors may use the "Submit Question" link to request HS-11 re-affirmation or revision of an existing response. Responses dated after February 6, 2006 are either new or re-affirmed to be consistent with 10 CFR 851.

For further information or questions about the OSH Response Line, please contact [Dan Marsick](#).

[GENERAL INFORMATION](#)

[SEARCH EXISTING RESPONSES](#)

[SUBMIT QUESTION](#)

[DOE AND RELATED WEB SITES](#)

This page was last updated on January 23, 2008



## OFFICE OF HEALTH, SAFETY AND SECURITY

## RESPONSE LINE

## OSH Regulatory and Policy Response Line

Home

General Information

What's New

Search Existing Responses

Submit Question

DOE and Related Web Sites

Contact Us

## Health and Safety

Text size: [Smaller](#) - [Normal](#) - [Larger](#) - [Largest](#)You are Here: [DOE](#) > [HSS](#) > [HealthSafety](#) > [WSHP](#)**General Information****What is the DOE Worker Safety and Health Standards Response Line?**

The DOE Worker Safety and Health Standards Response Line, established in 1992, is a service that responds to questions from DOE, DOE contractor, and DOE subcontractor personnel regarding DOE-adopted and -prescribed standards and directives. These responses may not represent official OSHA policies. Readers are advised to contact their local authorities for interpretations of standards.

**What are the objectives?**

1. Identify or clarify a standard or regulation applicable to a specific work situation.
2. Provide information on recent changes in standards and directives.
3. Identify any unique DOE requirements regarding particular health and/or safety issues.

**May I ask anything?**

Questions regarding worker safety and health policy will be answered. Effective Oct. 1, 1996, the Response Line will accept radiation protection questions. However, official interpretations of Federal Rule [10 CFR 835](#) "Occupational Worker Protection" cannot be provided by the Response Line. Such requests should be submitted in writing to DOE's Office of the General Counsel (GC-52), Washington, DC 20585. Questions concerning technical clarification or applicability of 10 CFR 835 that are not considered requests for formal interpretations will be accepted by this line.

Please exhaust your reference material before calling the Response Line.

Employees with document requests, complaints, and emergency situations should not call the Line.

**How and when will I receive an answer to my question?**

Responses are generally simultaneously faxed to the caller and the caller's Field Office contact. Upon request, they will be mailed.

Precedented inquiries (response is in existing policy documentation) are generally answered in 3-5 working days. Unprecedented inquiries (response is not in existing policy documentation) may take as long as 4-8 weeks because of policy development and review.

**How do I contact the Response Line?**

The Response Line may be contacted by calling 1-800-292-8061 or faxing at (301) 903-9976. Voice mail is operative 24 hours a day. You may also ["submit questions"](#) through this Web site.

This page was last updated on January 03, 2007



Building and Construction Trades  
Department

Center for Construction  
Research and Training

# Building Trades National Medical Program

DOE PI Meeting

April 17, 2008

# Performance

- Screen construction workers from 24 DOE sites
- Completed 16,382 screenings
  - 14,559 initial screens
  - 1,823 re-screens
- 2900 screenings completed last year
- 2412 screenings expected this year
- 6-to-10 week turnaround from exam to results
- 97.7% satisfaction rating

# Lung Disease Across all Sites – Initial Exam

- 4.6% had pneumoconiosis on chest x-ray
  - Almost all most consistent with asbestos-related disease
- 14.7% had pleural plaques only
- 41% had abnormal lung function
- 31% of non-smokers had abnormal lung function (obstructive, restrictive and mixed disease combined)

# Selected Disease Prevalence

- Hypertension (SBP>150 or DBP>100) 8.4%
- Cholesterol over 200 40%
- Blood lead over 10 ug/dl 4%
- Positive FOBT 5%
- Renal disease 1.75%

(based on creatinine over 2 mg/dl)

# Hearing loss AMA definition

- Normal 49 %
- 1-9% loss 21 %
- 10-49% loss 24 %
- Over 50% loss 5 %
- An additional 9.6% of participants have hearing loss using the NIOSH definition of material impairment

# Beryllium initial and re-screen

N = 10703

- Unconfirmed single abnormal  
(N = 111) 1.03 %
- Double positive  
(N = 139) 1.3 %

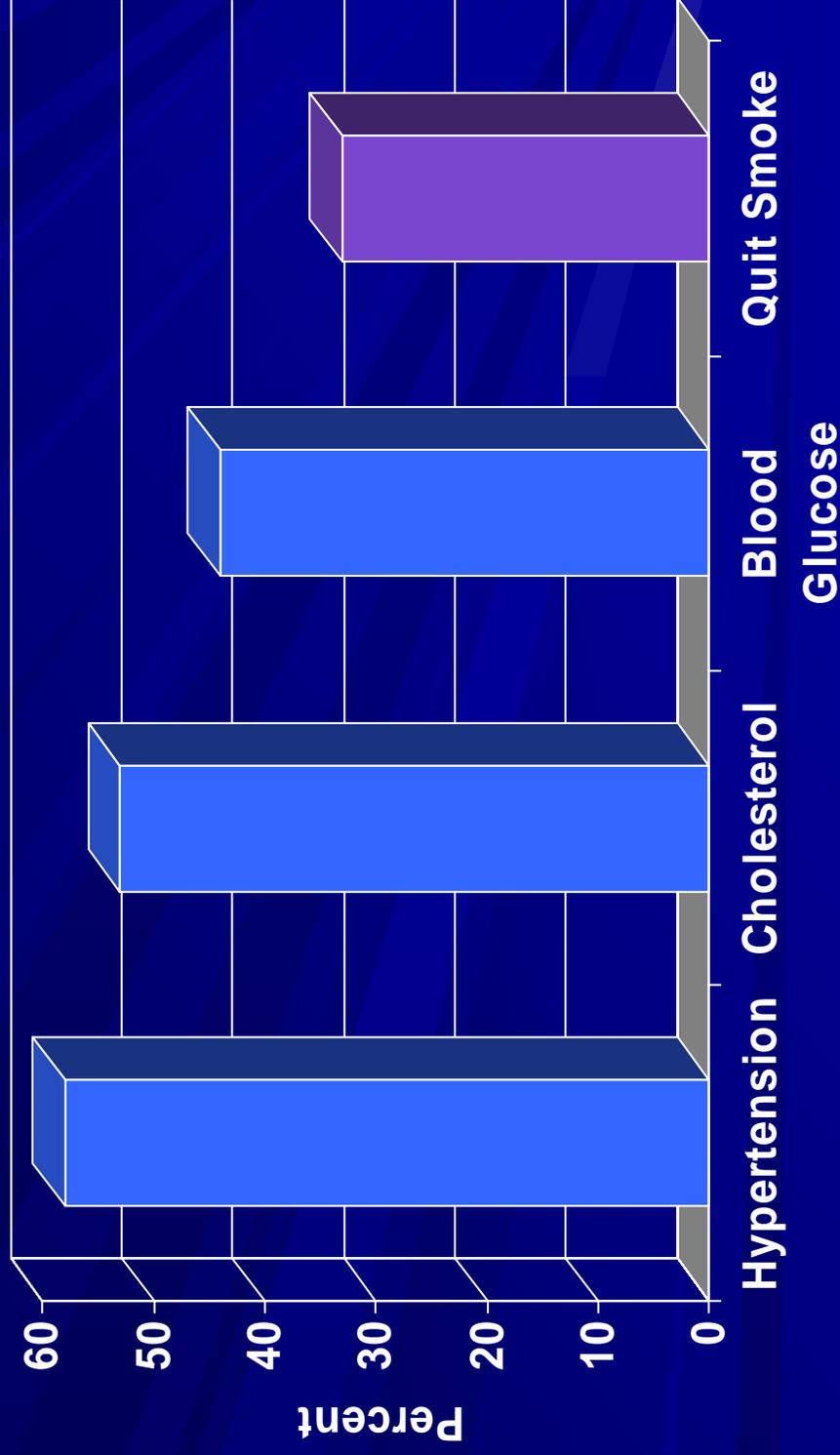
Rolling data, some of single abnormalities may not have been re-tested at time of data analysis

# BeLPT results by site

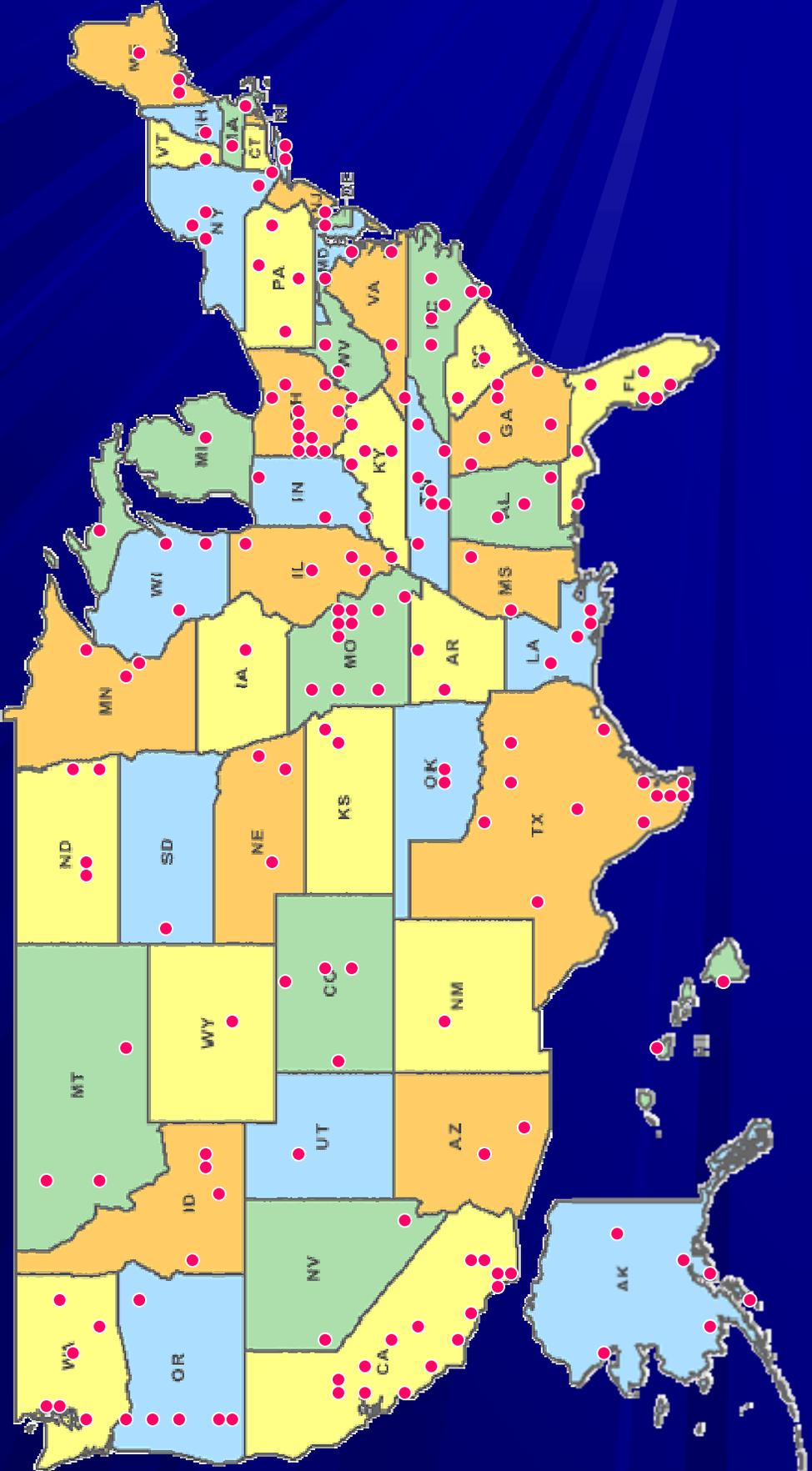
initial (N=9386) and re-screen (N=1317) combined

Site	# tested	Single Pos	Double Pos
Amchitka	68	2	0
Brookhaven	307	20	15 (4.9%)
Fernald	919	13	8 (0.9%)
Hanford	2064	58	28 (1.4%)
Kansas City	298	12	11 (3.7%)
Mound	218	1	1
Oak Ridge	1975	40	23 (1.2%)
Paducah + Portsmouth	1249	36	11 (0.9%)
Rocky Flats	319	15	3 (0.9%)
Savannah River	2732	51	35 (1.3%)
INEEL	377	10	3 (0.8%)

# Abnormal on 1<sup>st</sup> Exam/ Normal on 2<sup>nd</sup> Exam



# NETWORK PROVIDER LOCATIONS



# Outreach

- 10 outreach offices
- ❖ Attend union meetings
- ❖ Distribute program information
- ❖ Regular contact with Building Trades Council, Advisory board, and local unions
- ❖ Advertise program through local newspapers, posters, public service radio, mailings, meetings, health fairs, etc.
- ❖ Visit retiree clubs
- ❖ Contact with EEOICP resource centers



a world leader in improving the safety and health of construction workers

[Search CPWR](#)

## SERVICE : MEDICAL SCREENING

### DOE Screening Consortium

#### Members:

- CPWR
- University of Cincinnati Medical Center
- Duke University Medical Center
- Central Washington Building and Construction Trades Council
- Knoxville/Oak Ridge Building and Construction Trades Council
- Augusta Building and Construction Trades Council
- Tri-State Building and Construction Trades Council
- Western Kentucky Building and Construction Trades Council
- Dayton Building and Construction Trades Council
- Greater Cincinnati Building and Construction Trades Council
- Florida Gulf Coast Building and Construction Trades Council
- Idaho Building and Construction Trades Council
- And various state BCTCs
- Zenith Administrators

During the WWII Manhattan Project, in the Cold War that followed, and in ongoing operations and environmental remediation, several hundred thousand construction workers worked on sites of the U.S. Department of Energy and its predecessors. Many of these workers faced excessive and uncontrolled exposures to ionizing radiation, airborne radioactive dusts, crystalline silica, and other health hazards. Ongoing medical surveillance serves both to aid these workers and to improve our understanding of occupational injury and disease in these operations.

For more info on the Building Trades National Medical Screening Programs call 1-800-866-9663. Trish Quinn directs CPWR efforts within these programs.



a world leader in improving the safety and health of construction workers

Search CPWR

## SERVICE : MEDICAL SCREENING

CPWR has launched a national network of more than 200 health care providers in support of medical screening for occupational disease. Occupational diseases continue to be largely undiagnosed, underreported, and rarely compensated.

### Medical Screening Program for Sheet Metal Workers

CPWR collaborates with the Sheet Metal Occupational Health Institute Trust (SMOHIT) to study the health hazards of the sheet metal industry. Laura Welch, MD, (CPWR) and Gary Batykefer (SMOHIT) direct this initiative.

#### [More Information](#)

### Building Trades National Medical Screening Program from U.S. Department of Energy Sites

Former DOE workers notification and screening program for building trades workers exposed to health hazards during past work at U.S. Department of Energy sites at Hanford, in Washington; Oak Ridge, Tennessee; Savannah River, in South Carolina; Amchitka, Alaska; Mound, Fernald, and Portsmouth, in Ohio; Kansas City, Weldon Springs, Mallinckrodt, in Missouri; Paducah, Kentucky; INEEL, in Idaho; Brookhaven National Lab in New York, Rocky Flats, in Colorado and the Pinellas Plant, in Florida. In January 2007, the program expanded to include construction workers from the Battelle Laboratories - King Avenue and West Jefferson sites both located in Columbus, Ohio, as well as the Brush Luckey site, located in Luckey, Ohio. Call 1-800-866-9663 or check our [btmed.org](http://btmed.org).

Trish Quinn ([pquinn@cpwr.com](mailto:pquinn@cpwr.com)) directs CPWR efforts within these programs. See fall issue of [BTMED News](#).

For more information on the DOE Former Worker Program (FWP), go to <http://www.hss.energy.gov/healthsafety/fwsp/formerworkermed/>.

Click below for more information on federal compensation for former DOE/nuclear workers with occupational cancers or silicosis:

[U.S. Dept of Labor energy employees compensation](#)

#### [More Information](#)

# Welcome to the Building Trades National Medical Screening Program

- ▶ Home
- ▶ Enroll
- ▶ Login
- ▶ Program Steps
- ▶ Health Information
- ▶ Provider Information
- ▶ Office Locations
- ▶ Resources & Links
- ▶ BTMED Newsletter
- ▶ Compensation Info
- ▶ Contact Us

Welcome to the Building Trades National Medical Screening Program. The goal of this program is to provide a free medical screening to construction workers who helped to build our nation's nuclear defense sites.

## [About the Program](#)



## [Who is Eligible](#)



## [Program Benefits](#)



## [How to Participate](#)



The Building Trades National Medical Screening Program is led by CPWR-The Center for Construction Research and Training in Washington, D.C. The consortium includes the University of Cincinnati Medical Center, OH, Duke University Medical Center NC and Zenith Administrators, Inc, Seattle, WA. The program is sponsored by the Building and Construction Trades Department, AFL-CIO and endorsed by various state and local Building and Construction Trades Councils

© Copyright 2008 - CPWR-The Center for Construction Research and Training All rights reserved.

# Welcome to the Building Trades National Medical Screening Program

- ▶ Home
- ▶ Enroll
- ▶ Login
- ▶ Program Steps
- ▶ Health Information
- ▶ Provider Information
- ▶ Office Locations
- ▶ Resources & Links
- ▶ BTMED Newsletter
- ▶ Compensation Info
- ▶ Contact Us

## U.S. DEPARTMENT OF LABOR Energy Employees Occupational Illness Compensation Program Act (EEOICPA)

**Part B of the EEOICPA** (enacted July 31, 2001) provides benefits to eligible current or former employees of the Department of Energy (DOE), and certain of its vendors, contractors and subcontractors, and to certain survivors of such individuals as provided in the Act. To be eligible, an employee must have sustained a **radiogenic cancer, chronic silicosis, beryllium sensitivity, or chronic beryllium disease** while in the performance of duty at a covered DOE facility, atomic weapons employer facility or a beryllium vendor facility during a specified period of time. Part B provides benefits in the amount of \$150,000 and covers medical expenses related to the accepted condition. Part B also provides for payment of a smaller lump-sum of \$50,000 to individuals (who also receive medical benefits) or their eligible survivors, who were determined to be eligible for compensation under section 5 of RECA.

**Part E of the EEOICPA** (enacted October 28, 2004) provides compensation and medical benefits to DOE contractor and subcontractor employees and to certain uranium workers who developed a covered illness as a result of exposure to **any toxic substance** (including the three covered by Part B) at a DOE facility or RECA Section 5 facility, as appropriate. It grants covered employees a federal payment based on the level of impairment and/or years of qualifying wage-loss if they developed a covered illness as a result of exposure to toxic substances. Certain survivors of deceased workers are also eligible to receive compensation, if the covered illness caused, aggravated or contributed to the employee's death. The maximum compensation under Part E is \$250,000 for all claims relating to any individual.

## RESOURCE CENTERS

Twelve (12) resource centers help employees and families file for benefits under the EEOICPA. A list of resource centers can be located at the U.S. Department of Labor's web site at <http://www.dol.gov/esa/regs/compliance/owcp/eoicp/main.htm> or you may contact a center by dialing a number provided below:

- Anchorage, Alaska (888) 654-0014
- Livermore, California (866) 606-6302
- Westminster, Colorado (866) 540-4977
- Idaho Falls, Idaho (800) 861-8608
- Paducah, Kentucky (866) 534-0599
- Las Vegas, Nevada (866) 697-0841
- Espanola, New Mexico (866) 272-3622
- Amherst, New York (800) 941-3943
- Portsmouth, Ohio (866) 363-6993
- North Augusta, South Carolina (866) 666-4606
- Oak Ridge, Tennessee (866) 481-0411
- Richland, Washington (888) 654-0014

By taking part in the screening program, you can find out if you have any illness that is covered under this compensation program.

This compensation program is a separate program from the Building Trades National Medical Screening Program. For more information, please call toll free 1-800-866-9663 or [register](#) on this website and someone from our office will contact you.

# Welcome to the Building Trades National Medical Screening Program

- ▶ Home
- ▶ Enroll
- ▶ Login
- ▶ Program Steps
- ▶ Health Information
- ▶ Provider Information
- ▶ Office Locations
- ▶ Resources & Links
- ▶ BTMED Newsletter
- ▶ Compensation Info
- ▶ Contact Us

## Program Steps

### There are three steps to this program:

**Step 1. Agree to participate in the Program:** To begin your participation in the Program, you need to complete the initial contact form and the Stage 1 and Stage 2 consent forms. You have the choice of printing them off this web site, signing them and returning them to the address at the bottom of the form, or you can call us at 1-800-866-9663 and we will mail you the forms. After we receive these documents from you, we will contact you to schedule a work history interview.

**Step 2. Work history interview:** The work history interview will take about an hour to complete. It can be conducted in person at a local outreach office, over the telephone, or on this secure Internet site. The information you provide will help us determine the substances you may have been exposed to while working on a DOE site. When possible, we will provide site maps to help you recall the specific areas you worked in. An occupational health specialist will review the information you provide and determine eligibility for the medical screening. The Program will provide you with a written recommendation regarding the medical screening and specific tests you should receive.

**Step 3. Free medical screening exam:** Free medical screening exam: If you choose to participate in the medical screening exam, you will receive a limited physical examination and specific tests as recommended by the occupational health specialists. You will receive a written report of your results, appropriate educational materials, and if appropriate, a referral to your primary care physician or a medical specialist. While the Program will help with referrals, it will not pay for any additional medical care other than what is recommended by the health specialists as part of the screening examination.

# Welcome to the Building Trades National Medical Screening Program

[▶ Home](#)[▶ Enroll](#)[▶ Login](#)[▶ Program Steps](#)[▶ Health Information](#)[▶ Provider Information](#)[▶ Office Locations](#)[▶ Resources & Links](#)[▶ BTMED Newsletter](#)[▶ Compensation Info](#)[▶ Contact Us](#)

## Health Education

Click on any of the links below to learn about the following:

- Asbestos
- Beryllium
- Cadmium
- Cholesterol
- Chromium
- High Blood Pressure
- Lead
- Mercury
- Radiation
- Silicosis
- Solvents

---

## Asbestos

*If you have been exposed to asbestos, it is important to monitor your health.*

### What Is Asbestos?

- Asbestos is a mineral fiber valued for its strength and fireproofing properties. It has been used in thousands of products, including building and equipment insulation.
- Asbestos was phased out in 1970s and 1980s, but construction workers can still be exposed to high amounts of asbestos, especially during building demolition and renovation.
- Asbestos fibers are so fine that you cannot see them. You can breathe in the fibers without feeling them. The lungs cannot easily expel the tiny fibers.
- The trapped asbestos fibers scar the lungs and make them stiff and rigid, a condition called *asbestosis*. Asbestos also causes lung cancer and *mesothelioma*. Mesothelioma is a cancer of the lining of the lung or abdomen.

### What were we looking for in this exam?

We were looking for the signs of asbestosis and other diseases caused by asbestos exposure. The first symptom of asbestosis is shortness of breath. The symptoms are usually worst in workers who breathed in a large amount of fibers over many years.

We checked your breathing capacity using a *spirometer*. We also took a chest x-ray to look for lung scarring and pleural plaques. These plaques are a thickening of the lung lining caused by exposure to asbestos.

### What do my test results mean?

The letter that came with this information sheet has your specific results. Use that letter to see if one of the following paragraphs applies to you.

If the tests suggest you have scarring of the lung from asbestosis, you need some follow-up breathing tests and a visit with a specialist to make a final diagnosis.

If the x-ray showed that you have pleural plaques and your breathing tests are abnormal, we also recommend a check-up with a specialist. This exam will determine why your lung function is abnormal and if it is caused by asbestos exposure.

If the x-ray showed that you have pleural plaques and your breathing tests are normal, we recommend another check-up in three years, including a chest x-ray and breathing test. Having pleural plaques does not mean you have lung cancer or asbestosis, but it confirms that you have been exposed to asbestos.

All your results are confidential, as defined in your Consent Statement.

#### **What should I do now?**

- Since you have asbestosis or pleural plaques due to asbestos overexposure, you must avoid breathing in any dust, chemical, or other substance that could hurt your lungs. If you have been given a respirator at work, wear it!
- Stop smoking now! Smoking and asbestos combined are much more dangerous together than either one is alone. Your risk of getting lung cancer drops the day you quit and continues to drop each year you stay off cigarettes. It is worth quitting even if you have smoked for many years.
- Contact your doctor if you get a long-lasting cough or shortness of breath. Your doctor may prescribe special breathing exercises or other treatment.

#### **What if I have more questions?**

If you still have questions, ask your personal physician. Or call our toll-free number at 1-800-866-9663. We will refer you to a professional who can answer your questions.

[Back to Top](#)

---

## **Beryllium**

FACTS CONCERNING BERYLLIUM, BERYLLIUM DISEASE And  
THE BERYLLIUM LYMPHOCYTE PROLIFERATION TEST (Be-LPT)

***If you have been exposed to beryllium, it is important to monitor your health.***

#### **What Is Beryllium?**

Beryllium is a naturally occurring metal which is found in beryl and bertrandite rock. It is extremely lightweight and hard, is a good electrical and thermal conductor and is non-magnetic. These properties make beryllium suitable for many industrial uses, including:

- Metal working (pure beryllium, copper and aluminum alloys, jet brake pads, aerospace components)
- Ceramic manufacturing (semi-conductor chips, ignition modules, crucibles, jet engine blades, rocket covers)
- Electronic industry (transistors, heat sinks, x-ray windows)
- Atomic energy industry (heat shields, nuclear reactors, nuclear weapons)
- Laboratory work (research and development, metallurgy, chemistry)
- Extraction (ore and scrap metal)

- Dental alloys (crowns, bridges, dental plates)

Beryllium was used in different alloys on many DOE sites to make reactor fuel rods and bomb components. Although construction workers did not work in manufacturing processes involving beryllium, they frequently worked in the same buildings. Maintenance, repair, and renovation and demolition and construction activities in these buildings, even years after beryllium was no longer used, could disturb beryllium dust on floors, ceilings, pipers and other surfaces. It is believed that this is how construction workers got their exposures.

### How Could I have Been Exposed To Beryllium?

Most construction workers who have worked on DOE facilities say they don't know if they have been exposed to beryllium. The reason for this is that most beryllium was used in closed production facilities. We are not certain exactly what kind of exposures that construction workers may have had, but most likely they come from two main types of source: first, many construction workers have used spark resistant tools, and these contain beryllium. Beryllium dust from such tools could also have developed in tool chests and tool rooms where they are stored. Second, beryllium exposure could have come from dust during tasks involving repair, maintenance, renovation and demolishing of buildings where beryllium production has been done.

### What is Chronic Beryllium Disease (CBD)?

Beryllium disease primarily affects the lungs. It occurs when people inhale beryllium dust or fumes. Skin disease with poor wound healing and rash or wart-like bumps can also occur. Exposure to beryllium can cause an immune reaction (sensitization) that can lead to lung disease known as berylliosis, or chronic beryllium disease (CBD). We do not know for sure what being sensitized means. It might simply mean that a person has been exposed to beryllium and that their body has reacted in some way to that exposure. It might mean that one person is more likely than another to get CBD.

Beryllium disease can, but won't always, develop many years after a person has stopped working in the beryllium industry. Types of disease caused from beryllium inhalation include:

- **Acute Beryllium Disease** usually has a quick onset and resembles pneumonia or bronchitis. It happens quickly after high exposure. It is now rare due to improved industrial protective measures designed to reduce beryllium exposure levels.
- **Chronic Beryllium Disease** has a very slow onset. It occurs in **one to six percent** of people exposed to beryllium. It is caused by an allergic reaction (sensitization) to beryllium. Even brief or small exposures can lead to this disease.
- **Does Beryllium Cause Cancer?** Beryllium has been shown to cause cancer in several species of animals. Some beryllium-producing facilities have had an increased rate of lung cancer. Beryllium has recently been classified as a human carcinogen by the International Agency for Research on Cancer (IARC).

### What Are My Chances of Getting Beryllium Disease?

Beryllium disease is rare among construction workers. Among the first 3800 construction workers examined in medical screening programs for construction workers at Hanford, Oak Ridge, and Savannah River Site, less than 1% developed the disease. Beryllium disease occurs among people who are exposed to dust or fumes from beryllium metal, metal oxides, alloys, ceramics or salts. Even very small amounts of exposure to beryllium can cause disease in some people. You are at risk of developing beryllium sensitization even after you leave beryllium exposure. The risk continues the rest of your life, even if you tested normal for beryllium sensitization at one time.

### What are the Signs and Symptoms of Beryllium Disease?

Beryllium disease is often accompanied by several abnormalities. **Some symptoms that**

**you may notice include:**

- Cough
- Shortness of breath, especially with activity
- Fatigue
- Weight loss and/or loss of appetite
- Fevers
- Night sweats

**Signs of beryllium disease that your doctor may notice include:**

- Abnormal lung sounds heard with a stethoscope
- Many small lung scars seen on chest x-ray
- Abnormal breathing tests (pulmonary function tests)
- Allergy (sensitization) to beryllium, which is measured in the blood or in lung washings with a test called the beryllium lymphocyte proliferation test (Be-LPT)
- A particular type of scar called a granuloma which is found in lung or skin tissue when the tissue is examined with a microscope

If you have been exposed to beryllium and developed an unexplained cough, shortness of breath, fatigue or skin rash, you should inform your doctor of your past beryllium exposure or seek information from a doctor who specializes in occupational lung diseases.

**What is the purpose of the Beryllium Lymphocyte Proliferation Test for former construction workers?**

The main purpose of Be-LPT is to learn if construction workers who were exposed to beryllium, with or without their knowledge, have been sensitized to beryllium so that appropriate medical treatment can be provided at no cost to the worker. Results from the program may help DOE identify and offer screening to other construction workers who may be at risk of getting CBD.

**What is the Beryllium Lymphocyte Proliferation Test (Be-LPT)?**

In the Be-LPT, disease-fighting blood cells normally found in the body, called lymphocytes, are examined in the laboratory and separated from your blood. Beryllium and other test agents are then added to small groups of these lymphocytes. If these lymphocytes react to beryllium in a specific way, the test results are "abnormal". If they do not react with beryllium, the test is normal. Experts believe that the Be-LPT shows abnormal results in individuals who have become sensitized or allergic to beryllium. It is unclear what this sensitivity means.

Studies have shown it to be an early sign of chronic beryllium disease (CBD) in many individuals. In others, sensitivity might simply mean that the person was exposed to beryllium and that his or her body has reacted. It might mean that an individual is more likely than others to get CBD. You are being offered the Be-LPT because doctors believe it is useful in detecting cases that might otherwise be missed or diagnosed as another type of lung problem. Once CBD is identified, doctors can determine the treatment needed to minimize the lung damage CBD causes.

If you have one "abnormal" test, you will be offered assistance to file an application with the Department of Labor (DOL) to obtain further medical tests to confirm or rule out CBD. Once you have filed an application with DOL, you will be offered another Be-LPT test to confirm the abnormal results while you are waiting to be accepted into the DOL program. If chronic beryllium disease is identified, doctors can determine the treatment that is needed to minimize the lung damage that this disease causes.

As in any other medical test, the Be-LPT sometimes fails or produces results that cannot be clearly classified as abnormal or normal. The laboratory calls these results uninterpretable.

If you have an uninterpretable test result, you will be asked to provide another blood sample so the test can be repeated.

Even when the test appears to provide clear results, the test may be wrong. In other words, the test may appear abnormal when a person is not sensitized to or allergic to beryllium. This is called a "false abnormal" result. It also is possible that the test will show "normal" results when a person is actually "sensitized" to beryllium. This is a "false normal" result.

**Remember that you may refuse further tests at this point or at any point during your medical evaluations.**

It is important for you to know that if your medical history or the results from any tests you are receiving suggest that you have CBD, you will be offered further medical tests. Some individuals with confirmed abnormal Be-LPT's, but no other signs of CBD have developed the disease. The likelihood of this happening will only be known after large groups of potentially exposed individuals have had their blood tested, have had further medical tests, and are studied for many years. If your Be-LPT is abnormal, your future medical follow-up will be covered by a Department of Labor program established under the Energy Employees Occupational Illness Compensation Program Act of 2000 (EEOICPA). Building and Construction Trades Medical Screening Program staff will make sure you have the information you need to apply for these benefits.

If your Be-LPT is normal, but you have other symptoms indicative of CBD, more testing may be recommended. Generally in this case, the Building and Construction Trades Medical Screening Program nurse will refer you to your personal physician or a specialist of your choice for these additional tests.

**Do I have to have the Be-LPT done?**

No. Your participation in the medical screening program is strictly voluntary. You may refuse any of the tests offered to you, including the Be-LPT. If you change your mind, you are free to participate further in the program at any time. Talking with your family, your doctor, or other people you trust may help you decide. Physicians and health professionals in the clinic that provide the tests can also help answer any questions that you might have.

**Can I make arrangements on my own for the Be-LPT test?**

Yes. Your own personal physician could send a sample of your blood to a specialty laboratory that performs the Be-LPT test, and if the result is determined to be abnormal, you would be eligible to apply for acceptance into the Department of Labor follow-up and compensation program (EEOICPA). *However*, if you make these arrangements on your own, you or your personal medical insurance are responsible for 100% of the costs. The Building Trades National Medical Screening Program cannot reimburse any such privately incurred costs.

**When will I receive the results of my Be-LPT blood test?**

It could take 10-12 weeks for you to receive a letter informing you of your Be-LPT test results along with the results of the other medical exams authorized by the Building and Construction Trades Medical Screening Program. The Be-LPT testing laboratory reports results to the examining physician who includes them in his/her report to you.

**What will happen if I decide to have the Be-LPT blood test?**

A small amount of your blood (about 1 ounce) will be drawn from a vein in your arm and sent to a laboratory. There is little physical risk in drawing the blood. In a few people, slight pain and bruising may take place. Rarely, an infection from the needle puncture is possible. A chest x-ray may also be offered when you have the Be-LPT if you are experiencing any symptoms that may be related to CBD.

**What Other Testing is Necessary to Diagnose Beryllium Disease?**

One positive LPTs indicates that you are sensitized to beryllium, and you will be referred to the Energy Employees Occupational Illness Compensation Program (EEOICP) for further

medical testing. You may have to travel some distance, in which case, DOL will reimburse you for your travel. The program office (1-800-866-9663) can further explain the additional testing offered by DOL.

### **What is the Treatment of Chronic Beryllium Disease?**

Treatment is very effective in controlling the disease however, a complete cure with or without treatment is rare. Patients who are **sensitized** to beryllium, who **do not have the disease** do not need treatment. However, they do need to be checked by a doctor regularly for signs of disease development.

Patients with **early beryllium disease**, who **do not yet have symptoms**, might not require treatment. However, they do need to be checked by a doctor regularly.

Patients with **beryllium disease** who **do have symptoms and abnormal breathing tests** are usually treated with prednisone, a type of steroid that fights inflammation. Treatment with this medication usually causes the disease to stabilize and often relieves symptoms.

Beryllium particles imbedded in the skin often must be removed before skin wounds will heal.

### **What do I do if my Be-LPT result is abnormal?**

If you have one or more abnormal Be-LPT results, you will be provided with information on filing a claim with the Department of Labor for additional medical testing to confirm or rule out chronic beryllium disease. Your consent will be requested before any additional tests are given. You can always choose to refuse additional testing.

Under the Energy Employees Occupational Illness Compensation Program Act of 2000 (EEOICPA), any person who was employed by DOE or a DOE contractor or DOE sub-contractor in the nuclear weapons industry is eligible for the following benefits:

- **Beryllium Sensitization:** Workers with one or more abnormal Be-LPT tests, are eligible for life-time medical evaluation for beryllium disease, and for travel costs to and from a specialist.
- **Chronic Beryllium Disease:** Workers with a diagnosis of CBD are eligible for a cash payment of \$150,000 as well as life time medical costs for treatment of CBD and for travel costs to and from a specialist.

For more information, call the U.S. Department of Labor, which administers this program, toll free at 1-866-666-4606.

If you have one or more abnormal Be-LPT results and you choose not to enroll in the Department of Labor program you must make your own arrangements for any future beryllium-related medical services and you must pay for any charges for such services without possibility of reimbursement.

If my Be-LPT result shows that I am not sensitized to beryllium, is my testing finished?

This is a good question. Information is just beginning to be received for groups of workers who have been tested every 2 or 3 years. A small percentage of workers who have normal test results will be found to have abnormal results on their second or third test. So, it looks like a worker who does not work around or with beryllium, and is no longer actively exposed to beryllium may develop the sensitivity many years later. For this reason, construction workers may seek to repeat the Be-LPT test every three years even if all the tests now are normal.

### **What will happen to the records of the medical examination results?**

When your blood sample is sent to the testing laboratory it does not have your name on it, only a unique identification code. If your Be-LPT test results show an abnormal result, when

you file a claim with the Department of Labor under the Energy Employees Occupational Illness Program Act, you will have to reveal your identity and the results of the Be-LPT test.

Your medical results and other personal information collected for this program will be protected as confidential medical records under state law. Personal information may not be used or disclosed except with your consent or as required by a court order, state law or other law. Your personal information will be assigned a unique code number and entered into a dedicated computer that is password protected and accessible only by assigned program personnel. No information with your personal identifiers will be released or used for any purpose other than this program, unless authorized by you for release to your personal physician or to support a claim for compensation.

Your Be-LPT test results will be medically confidential data that with your consent will only be available to the people listed below and will not be released to anyone else without your written permission. The people who may require access to records that identify you by name are limited to:

1. The Principal Investigator of the Building Trades National Medical Screening Program and his staff who have committed in writing to keep your information confidential.
2. The Building Trades National Medical Screening Program physicians, nurses, and medical data processing staff who have committed in writing to keep your information confidential.
3. Others as required by a court order, such as a subpoena, state law, or under another law.

The Department of Energy (DOE) will not require access to personally identified medical records. Data files without any information that can identify you may be used by our Program staff or other researchers to better understand the types of risks workers may be exposed to, or to determine how well this program is meeting its objectives. Information from such research will be used to protect workers like you better in the future. Release of personal identifiers and de-identified data will be handled in the manner you chose when you consented to participate in this Program. At the end of this medical screening program, the Center for Construction Research and Training and Duke University will retain a copy of the data without individual identifying information for fifteen years.

#### **Could an abnormal Be-LPT affect my work around or with beryllium in the future?**

If you are found to have a consistently abnormal Be-LPT, or if you have CBD, it is advisable to stay away from environments where beryllium may be present. Therefore, if you are currently working in an area where beryllium is used, or may have been used in the past, you should consider how this advice may affect your future employment decisions. If you work at a DOE site, you may be required to disclose the results of your Be-LPT, and this information may become part of your medical file at the DOE site. This may directly affect your right to work with or around beryllium at a DOE site. Also, the chance of loss of confidentiality of this information may be higher once the test results are included in a DOE site medical file.

#### **What laws or restrictions protect my privacy if I consent to participate in the Be-LPT testing program?**

State medical and nursing licensing boards enforce codes of ethics that require doctors and nurses to keep medical information confidential. DOE imposed protections similar to those provided to government owned records under the Privacy Act of 1974 to prevent unauthorized access to your records without your permission. Discriminatory use of the information in the record may be prohibited by the Americans with Disabilities Act.

#### **Can my privacy and the confidentiality of my medical records be guaranteed?**

**No.** The specific results of the test with your name on it will not be revealed.

However, access to or release of records could be required under court order although it is unlikely. If you apply for another job or for insurance, you may be requested to release the records to a future employer or insurance company.

### **What Can I do to Avoid Beryllium Exposure?**

It is not possible to determine your exact risk for developing beryllium disease, but listed below are some general guidelines that you can follow to lessen your exposure.

- Avoid breathing beryllium dust or fumes by working in well-ventilated, well-exhausted areas where beryllium air monitoring is done routinely.
- Use all ventilation and exhaust equipment available in order to reduce exposures to the lowest possible level.
- Whenever possible, work with non-beryllium metals, alloys, ceramics and salts.
- Do not eat, drink or smoke in areas where beryllium is in use.
- Before entering work areas where beryllium is used, change into work clothes, including shirt, pants and shoes.
- At the end of the work shift take a shower and thoroughly clean your hands and hair before changing into street clothing.
- Use approved respirators for tasks that may result in high exposures.
- Avoid generating beryllium dust unless the process is well protected and has been sampled for exposure levels.

Portions of this fact sheet were adopted with permission from the National Jewish

Medical and Research Center. National Jewish Medical and Research Center is the nation's leading treatment center for respiratory diseases and immune disorders.

National Jewish offers the following service to provide current information on respiratory, immunologic diseases and treatment options:

LUNG LINE® 1-800-222-LUNG (5864) Monday - Friday from 8:00 am to 5:00 pm, Mountain Time. A registered nurse can answer questions and provide educational literature on respiratory and immunologic disease, or contact the former worker program at 1-800-866-9663.

[Back to Top](#)

---

## **Cadmium**

*If you have been exposed to cadmium, it is important to monitor your health.*

### **What Is Cadmium?**

- Cadmium is a heavy metal. It comes in the form of a silver-white solid or gray powder. Cadmium is used in pigments, metal coatings, silver solder, and batteries.
- Cadmium is very toxic, especially to the kidneys.
- Cadmium is most dangerous when it is breathed in. Construction workers can breathe in cadmium during welding, cutting, burning, or sandblasting on surfaces coated with paint containing cadmium.

### **What were we looking for in this exam?**

We were looking mainly for signs of kidney injury. When cadmium enters the body, it is deposited in the kidneys. As cadmium builds up, it can cause kidney injury. But it usually takes more than five years of exposure to cadmium before kidney damage occurs.

You had blood tests to look for changes in kidney function caused by cadmium. If there was any kidney damage you were tested directly for cadmium in the urine.

All your results are confidential, as defined in your Consent Statement.

#### **What did my test results show?**

The letter that came with this information sheet has your specific results. Use that letter to see which of the following paragraphs apply to you.

If cadmium was found in your urine, you may have a kidney injury due to cadmium. We suggest you see a specialist to discuss treatment and other steps you can take to prevent further injury to your kidneys. Kidney injury from cadmium does not go away, but gets worse only very slowly if you stop working around cadmium.

If your blood tests showed kidney damage, but you did not have elevated levels of cadmium in your urine, you do not have a kidney injury from cadmium. You should see your own doctor to find out why you have kidney damage.

#### **What should I do now?**

- See your own doctor or a specialist if follow-up tests have been recommended.
- If you still work around materials containing cadmium, follow all available precautions and use the protective equipment provided to you. Practice good personal hygiene, such as washing your hands thoroughly, to prevent cadmium from getting on your skin, clothing, or food.
- Get regular medical check-ups.

#### **What if I have more questions?**

If you still have questions, ask your personal physician. Or call our toll-free number at 1-800-866-9663. We will refer you to a professional who can answer your questions.

[Back to Top](#)

---

## **Chromium**

*If you have been exposed to chromium, it is important to monitor your health.*

#### **What Is Chromium?**

- Chromium is a metal used to produce steel alloys. Chromium compounds are used in many products, including pigments, dyes, and adhesives. Chromium also is found in Portland cement.
- Chromium is highly toxic. Workers may become ill from breathing in chromium dust or fume. Fume consists of tiny solid particles that get into the air when chromium is heated. Chromium dust causes allergic skin rashes in some people.
- Construction workers may breathe in chromium during welding or sandblasting on stainless steel structures or surfaces containing old paint. Workers can get chromium

on their skin from handling Portland cement.

### **What were we looking for in this exam?**

Your questionnaire showed that you may have been exposed to chromium at work. We looked for signs of illness caused by chromium, mainly lung cancer symptoms, skin rashes, and kidney damage.

Chromium causes lung cancer, even in people who do not smoke. Symptoms of lung cancer are a cough, hoarseness, shortness of breath, chest pain, or loss of appetite and weight. We found no sign of lung cancer, but it is very difficult to detect in the early stage.

You can become allergic to chromium in the same way that some people are allergic to poison ivy. *Chromium-sensitized* people get a severe rash if their skin touches even a tiny amount of chromium. To know for sure if a rash is caused by a chromium allergy, a skin specialist applies a test patch to your skin and looks to see if swelling or redness occurs.

You also received a urine test to look for changes in kidney function caused by chromium.

All your results are confidential, as defined in your Consent Statement.

### **What did my test results show?**

The letter that came with this information sheet has your specific results. Use that letter to see if one of the following paragraphs applies to you.

If your urine test showed possible kidney problems, you were referred to your own doctor or a specialist for additional tests.

If you have a skin condition that may be due to chromium, we suggested you see your own doctor. Your doctor can refer you to a dermatologist. To know for sure if your rash is caused by a chromium allergy, a dermatologist applies a test patch to your skin and looks to see if swelling or redness occurs.

### **What should I do now?**

- If you were found to have an allergy to chromium, you may need special gloves and medication to treat it.
- See your own doctor or a specialist if follow-up tests have been recommended.
- If you still work around materials containing chromium, follow all available precautions and use the protective equipment provided to you. Practice good personal hygiene, such as washing your hands thoroughly, to prevent chromium from getting on your skin, clothing, or food.
- Stop smoking. Smoking causes 85% of lung cancers. Chromium also causes lung cancer.
- Get regular medical check-ups.

### **What if I have more questions?**

If you still have questions, ask your personal physician. Or call our toll-free number at 1-800-866-9663. We will refer you to a professional who can answer your questions.

[Back to Top](#)

---

## **Lead**

***If you have been exposed to lead, it is important to monitor your health.***

#### **What Is Lead?**

- Lead is a heavy metal. It is valued for its high density and resistance to corrosion. Lead is often added to industrial paints. It is used as radiation shielding because of its ability to stop gamma rays and x-rays.
- Lead is very toxic. Workers can become ill from breathing in lead dust or fume. Fume is made of tiny solid particles that get into the air when lead is heated. Swallowing lead is also harmful.
- Construction workers may breathe in lead when they weld or sandblast on surfaces with lead paint, or when they demolish lead-containing structures. Soldering can release lead fume into the air. Workers can swallow lead from the air or from contaminated hands or food.

#### **What were we looking for in this exam?**

We looked carefully for signs of damage to the nervous system, such as memory loss, mood changes, and weakness. In rare cases lead can cause *peripheral neuropathy*. This is a kind of severe nerve damage that causes numbness or loss of control over the hands and feet.

We also checked your kidney function and blood counts. Lead can cause a low red-blood-cell count and may damage your kidneys.

If you had any of these problems, you received a blood test for lead. Once lead gets into your body, it circulates in the blood and then is stored in bones and other organs. The stored lead can remain in your body for years and continue to damage your health.

All your results are confidential, as defined in your Consent Statement.

#### **What did my test results show?**

The letter that came with this information sheet has your specific results. Use that letter to see if one of the following paragraphs applies to you.

If your results showed possible nerve or kidney damage that may have been caused by lead, but you did not have an elevated level of lead in your blood, it is unlikely that these problems were caused by lead exposure. We referred you to your own doctor to find out why you have nerve or kidney damage.

If your results showed possible nerve or kidney damage that may have been caused by lead, and you had an elevated level of lead in your blood, we want you to see a specialist for a follow-up exam. That doctor will also determine if you still have exposure to lead, and how to reduce that exposure.

If you have an elevated lead level but no damage to nerves or kidneys, you do not need additional testing. However, it is vital to find out where you are being exposed to lead and reduce that exposure.

#### **What should I do now?**

- See your own doctor or a specialist if follow-up tests or treatment have been recommended.
- If you still work around lead, follow all available precautions and use the protective equipment provided to you. Practice good personal hygiene, such as washing your hands thoroughly, to prevent lead from getting on your skin, clothing, or food.
- Get regular medical check-ups.

### What if I have more questions?

If you still have questions, ask your personal physician. Or call our toll-free number at 1-800-866-9663. We will refer you to a professional who can answer your questions.

[Back to Top](#)

---

## Mercury

*If you have been exposed to mercury, it is important to monitor your health.*

### What is Mercury?

Mercury is a silver-colored liquid metal. It can conduct electricity and can be used to measure temperature and pressure. Mercury is found in many household and commercial products, such as thermometers, barometers, and electrical equipment. Mercury is also combined with other elements such as chlorine or sulfur to form solid compounds.

Mercury is very toxic. It can damage the brain and the nervous system, as well as kidneys and lungs.

Workers may breathe in mercury as a dust, fume, or vapor suspended in the air. Workers can swallow mercury if they have it on their hands when they smoke, eat, or drink. Mercury also can get into the body through the skin.

### What were we looking for in this exam?

We looked carefully for signs of nervous system damage, such as memory loss, mood changes, and weakness. In cases of severe long-term exposure, mercury can cause *peripheral neuropathy*. This type of severe nerve damage causes numbness or loss of control over hands and feet.

### What did my test results show?

If your results showed possible nerve or brain damage that may have been caused by mercury, we recommended that you see your own doctor for follow-up testing. We can provide your doctor with information on specific tests to help diagnose your condition.

All your results are confidential, as defined in your Consent Statement.

### What should I do now?

- See your own doctor or a specialist if follow-up tests or treatment have been recommended.
- If you still work around mercury, follow all available precautions and use the protective equipment provided to you. Practice good personal hygiene, such as washing your hands thoroughly, to prevent mercury from getting on your skin, clothing, or food.
- Get regular medical check-ups.

### What if I have more questions?

If you still have questions, ask your personal physician. Or call our toll-free number at 1-800-866-9663. We will refer you to a professional who can answer your questions.

[Back to Top](#)

---

## Radiation

*If you have been exposed to radiation, it is important to monitor your health.*

### What Is Radiation?

- Radiation is a form of intense energy. *Ionizing* radiation is powerful enough to break chemical bonds in molecules, creating *ions*. Ionizing radiation is what we usually mean when we use the word radiation. It can come from naturally radioactive materials like uranium or from x-ray machines. Radioactive materials are used to produce nuclear power and nuclear weapons.
- If you get an x-ray or if you have radon in your basement, you are exposed to ionizing radiation. We are all exposed to small amounts from natural sources in the earth and atmosphere. Workers can be exposed to higher levels of radiation by breathing in radioactive materials or having them contact their skin, or by being exposed to x-rays or gamma rays.
- Ionizing radiation can cause cancer in many different organs, including skin, thyroid, blood-forming organs (leukemia), lung, breast, and colon. Your chances of getting cancer increase as your radiation dose increases.

### What were we looking for in this exam?

We looked mainly for signs of cancer in these organs: skin, thyroid, lung, breast, colon, and blood-forming organs (leukemia). Many of these cancers are common in the general population and have many possible causes. So for any one person, it is hard to tell whether a case of cancer was caused by radiation or another cause.

The doctor checked your skin for signs of skin cancer and felt your neck for possible lumps on your thyroid gland. The doctor examined your chest or breasts for lumps and other signs of breast cancer.

You were given a blood test to check for leukemia. We checked your stool sample for hidden blood. This blood is an early warning sign of colon cancer. There are no reliable tests to check for early signs of lung cancer.

All your results are confidential, as defined in your Consent Statement.

We can not be certain that your risk for cancer is higher because of your work without detailed information about the dose and the amount of time you were exposed to radiation. If you do have a cancer that can be caused by radiation, the Department of Labor will obtain your exposure records, if any, and figure out if radiation was the cause.

### What should I do now?

- See your own doctor or a specialist if follow-up tests or treatment have been recommended.
- Stop smoking. Although smoking causes 85% of lung cancers, smoking and exposure to radiation together increase your risk of getting lung cancer. *As soon as you stop smoking, your risk starts to go down.*

- Get regular medical check-ups, including exams for skin, thyroid, and colon cancer. The American Cancer Society recommends that if you are over 50, you should have annual stool testing for blood, and periodic colon screening with a flexible sigmoidoscope to look for *polyps* (small growths on the colon). Detecting cancer in its early stages may save your life
- If you still work around radiation, follow all available precautions to protect yourself.

#### **What if I have more questions?**

If you have questions after this exam, ask your personal physician. Or call our toll-free number at 1-800-866-9663. We will refer you to a professional who can answer your questions.

[Back to Top](#)

---

## **Solvents**

*If you have been exposed to solvents, it is important to monitor your health.*

#### **What Is Solvents?**

- Solvents are liquids that dissolve other substances. They are used to thin or mix paints, inks, and pesticides. They are also used as cleaners, degreasers, and paint strippers. Solvents are found in thousands of products at work and at home.
- There are two main ways solvents can get into the body and cause harm: breathing in vapors from solvents evaporating into the air, and absorbing solvents through the skin. The solvents easily pass right into the bloodstream.
- Working around small amounts of solvents over many months can injure your health; so can one very high exposure to solvents.

#### **What were we looking for in this exam?**

We looked for damage to the nervous system, kidneys, and liver. Working with solvents for long periods of time can cause difficulty concentrating, memory loss, and mood changes. Certain solvents can cause you to lose feeling in your feet and hands.

#### **What did my results show?**

The tests showed that you have some signs of nervous system damage or other health problems that may have been caused by solvent exposure. We recommend that you see your own doctor for follow-up tests. We will provide your doctor with your exam results and information on special tests to expand on our findings.

All your results are confidential, as defined in your Consent Statement.

#### **What should I do now?**

See your own doctor or a specialist if follow-up tests have been recommended.

If you still work around solvents, follow all available precautions to protect yourself. Wear protective gloves and a respirator if one has been provided to you.

Get regular medical check-ups.

**What if I have more questions?**

If you still have questions, ask your personal physician. Or call our toll-free number at 1-800-866-9663. We will refer you to a professional who can answer your questions.

[Back to Top](#)

© Copyright 2008 - CPWR-The Center for Construction Research and Training All rights reserved.

# BTMED news



SUPPORTED BY THE BUILDING & CONSTRUCTION TRADES DEPARTMENT, AFL-CIO • COORDINATED BY THE CENTER TO PROTECT WORKERS' RIGHTS

Volume 1, Issue 2

Fall 2006

www.btmed.org

## Four Sites Added to Building Trades National Medical Screening Program

### Three Additional Sites Coming in 2007

Former construction workers who worked at Rocky Flats in Colo., Brookhaven National Laboratory in N.Y., and Mallinckrodt and Weldon Spring in Mo., now have access to the Building Trades National Medical Screening Program (BTMed).

In January 2007, the program will expand to include construction workers from the Battelle Laboratories—King Avenue and West Jefferson sites both located in Columbus, Ohio, as well as the Brush Luckey Site, located in Luckey, Ohio.

The screening consists of two steps, a work history interview and a medical exam. In step one, a specially trained building trades worker or work site expert conducts a work history interview to determine what exposures to hazardous material the former worker may have had and the types of illnesses that could result. In step two, former workers receive a free medical screening examination to test for illnesses that may have developed from exposure risks, as well as other health problems. Following the exam, the participant receives a letter indicating any medical findings and indicates which findings could be work related.

***“Many BTMed participants have discovered illnesses they would not have known were present.”***

Many BTMed participants have discovered illnesses they would not have known were present and then gained access to government-funded benefits to treat those problems relating to their work at DOE sites. The screening program has enabled many workers to file a claim with the U.S. Department of Labor under the Energy Employees Occupational Illness Compensation Program Act (EEOICPA). The EEOICPA offers workers medical coverage for the illness from the date the claim was filed and a compensation lump-sum payment. The BTMed program will assist workers with referral for additional medical care, if required, but does not pay for such care. In addition, the program will assist participants who want to file claims for workers' compensation for any work-related problem.

Construction workers who were employed at Rocky Flats and Brookhaven sites can go to BTMED outreach offices where work history interviews are conducted in person or online at [www.btmed.org](http://www.btmed.org). Outreach offices, which are not far from the actual DOE sites, are staffed by people ready to help former workers: Dwayne Adkins (303-744-6169, ext. 11) operates the Rocky Flats office and Angela DeVito (631-813-2725) operates the Brookhaven office. For construction workers who worked at Mallinckrodt and Weldon Spring, experienced interviewers will conduct telephone interviews.

Activities to let former workers know about the outreach program have been effective. From June through August of 2006, more than 1,800 workers were preauthorized for the screening.

***“I highly recommend the medical screening just to find out if anything is wrong—even if you're afraid to find out. A co-worker asked me why I would want to know. I think it's important to know when there is something wrong.”***

Susan Stanfill, IBEW Local 124,  
Kansas City Plant

***“The Medical Screening Program is a program we can't afford not to be a part of. It's a first-class operation. We do whatever it takes to get our members involved because it helps them avoid health risks down the road.”***

Willie Koester,  
Plumbers & Pipefitters Local 392  
Business Manager, Fernald

***“The Building Trades National Medical Screening Program's concerns and diligence are appreciated for the future well-being of our members and retirees.”***

Dennis Stoltz, IBEW Local 68  
Business Manager, Rocky Flats

***“I think the program is terrific. The physical exam worked out well since they fit it into my work schedule. It's important for a middle-aged man like me to find out if anything is wrong.”***

William A. Ferris, IUOE Local 138  
and Laborers 1298, Brookhaven

***“The doctor was very thorough and the people are so friendly. It was a very comfortable experience. I never felt that way in a doctor's office before.”***

James V. Cunningham Sr.,  
Ironworkers Local 361, Brookhaven

**FOR MORE INFORMATION, PLEASE CALL 1-800-866-9663 OR VISIT WWW.BTMED.ORG.**

## Has It Been Three Years Since Your Initial Medical Screening Exam?

If yes, you may be eligible for another screening exam.

Re-screening is important to detect possible health problems that may have developed since your first medical screening. A change in test results is one of the best clues doctors can use to assess your health status. It's important that eligible participants take advantage of the re-screening exam.

Re-screening exams are currently being offered to workers from Hanford, Savannah River, Oak Ridge and Amchitka. In the spring of 2007, re-screens will be offered to Portsmouth and Paducah workers.

If you are a former construction worker who has participated in the Building Trades National Medical Screening Program at any one of the six previously mentioned DOE sites, please contact 1-800-866-9663 about setting up a re-screening.

## How the Building Trades Medical Screening Works...

The BTMed program is easy to access and free.

- Register for the program (see below) and sign a consent form.
- You will be scheduled to have a work history interview that can be done either in person, over the phone, or on the web.
- BTMed medical staff will review your work history interview to determine possible exposures related to your work at the DOE site.
- You will be contacted to schedule a free medical exam. The medical exam is a physical exam and lab work that consists of:
  - Chest X-Ray (Tests for asbestosis, silica, and lung cancer)
  - Hearing Test
  - Blood Test, such as:
    - BeLPT—Tests for beryllium
    - CBC—Tests for blood abnormalities such as leukemia
    - General Health Assessment—Tests functions of the liver, kidney, and thyroid; tests for diabetes and high cholesterol)
    - Tests for heavy metals such as lead
  - Fecal Occult—Tests for colon cancer
  - Visual assessment of skin for any possible skin cancer
  - Spirometry—Tests lung function
- Critical findings will be reported to you for immediate follow-up.

Call today for more information: 1-800-866-9663 or go online at [www.btmed.org](http://www.btmed.org).

## Covered DOE Sites

DOE Site	New Site?	Site Location	Outreach Office Location
Amchitka Test Site	No	Alaska	Anchorage
Battelle Laboratories West Jefferson (DOE 1986–PRESENT)	Yes	Ohio	TBD
Battelle Laboratories King Avenue (DOE 1986–2000)	Yes	Ohio	TBD
Brookhaven National Laboratory	Yes	New York	Long Island
Brush Luckey Plant (DOE 1949–1961; 1992–PRESENT)	Yes	Ohio	TBD
Fernald	No	Ohio	Cincinnati
Hanford	No	Washington	Pasco
Idaho National Laboratory	No	Idaho	Pocatello
Kansas City Plant	No	Missouri	Kansas City
Mallinckrodt	Yes	Missouri	Seattle (Main Office)
Mound	No	Ohio	Dayton
Oak Ridge (K-25, Y-12, X-10)	No	Tennessee	Oak Ridge
Paducah Gaseous Diffusion Plant	No	Kentucky	Paducah
Pinellas	No	Florida	Seattle (Main Office)
Portsmouth Gaseous Diffusion Plant	No	Ohio	Portsmouth
Rocky Flats	Yes	Colorado	Lakewood
Savannah River Site	No	South Carolina	Augusta
Weldon Springs	Yes	Missouri	Seattle (Main Office)

## Building Trades Outreach Office Locations and Staff

**Amchitka**  
Contact:  
John Fletcher  
1-888-827-6772

**Brookhaven**  
Contact:  
Angela De Vito  
631-813-2725

**Fernald**  
Contact:  
Lou Doll  
513-681-0864

**Hanford**  
Contact:  
Sherry Gosseen  
509-542-9347

**Idaho National Laboratory (INEEL)**  
Contact:  
Dan Obray  
208-233-4611

**Kansas City Plant**  
Contact:  
J.J. Jones  
816-333-3020

**Mound**  
Contact:  
TBN  
937-222-8920

**Oak Ridge**  
Contact:  
Kim Cranford  
1-888-464-0009

**Paducah**  
Contact:  
Joe Hudson  
270-443-2850

**Portsmouth**  
Contact:  
Ron Bush  
740-353-8808

**Rocky Flats**  
Contact:  
Dwayne Adkins  
303-744-6169 ext.11

**Savannah River Site**  
Contact:  
Charles Jernigan  
706-722-7272

For Pinellas, Mallinckrodt, and Weldon Springs call Toll Free 1-800-866-9663

# Beryllium Exposure—Know the Risks

Exposure to beryllium, a metal used to make reactor and bomb components, can lead to disabling lung disease. Unfortunately, construction workers at many DOE sites have been exposed to beryllium dust.

The Building Trades National Medical Screening Program became the first organization to discover that construction workers are at risk for work-related beryllium disease.

Although construction workers may not have been directly involved in manufacturing processes involving beryllium, they frequently worked in the same buildings performing maintenance, repair, renovation, demolition, clean-up, and other activities that, even after beryllium was no longer used, could disturb beryllium dust. Exposures may have occurred during the use of spark resistant tools, which contain beryllium; these tools also caused beryllium dust to settle in tool chests and tool rooms.

Most construction workers who worked on DOE facilities do not know if they have been exposed to beryllium because they were not told about the possibility of being exposed.

Beryllium causes two different types of medical problems: beryllium sensitization and chronic beryllium disease (CBD). Sensitization affects only some people who have a special pre-disposition to beryllium. CBD is a serious and progressive lung disease which eventually results in significant disability in most cases. Typically, a person progresses from sensitization to CBD, but not

all sensitized people develop CBD. Many construction workers who have been diagnosed with beryllium sensitization have not developed CBD and its associated significant disabilities.

Either type of beryllium disease occurs as a result of workers inhaling beryllium dust or fumes. Sensitization also can result from skin contact with beryllium. There is no pinpointed amount that can cause a worker to acquire the disease, meaning that each individual has a different level of resistance to the disease. Workers are often unaware of the disease during the early stages. But as the disease progresses, affected workers experience symptoms that include coughing, shortness of breath, fatigue, weight lost/loss of appetite, fevers and night sweats.

Beryllium sensitization is detected with a blood test called the Beryllium-Lymphocyte Proliferation Test (Be-LPT). Further medical tests are necessary to confirm or rule out CBD. Under the Energy Employees Occupational Illness Compensation Program Act of 2000 (EEOICPA), workers who have been sensitized to beryllium are eligible for life-time medical evaluation for beryllium disease, including travel costs to and from a medical specialist. Workers diagnosed with CBD are also eligible for a cash payment of \$150,000 along with lifetime coverage of medical costs for treatment.

To get more information about beryllium disease, contact your local BTMed outreach office or call 1-800-866-9663.

## U.S. Department of Labor Provides Compensation to Nuclear Weapons Workers and Their Survivors



As of Oct. 11, 2006, the Department of Labor (DOL) had provided more than \$2.1 billion in compensation to energy workers whose illnesses were linked to employment in the atomic weapons industry, and more than \$125 million to cover the costs of necessary medical care for employees with illnesses.

The Energy Employees Occupational Illness Compensation Act

(EEOICPA) contains two parts: Part B and Part E, each with distinct criteria for qualification under the Act.

For more information about the U.S. Department of Labor's Energy Employees Occupational Illness Compensation Program, call toll free 1-866-888-3322, or visit DOL's website at: <http://www.dol.gov/esa/regs/compliance/owcp/eoicp/main.htm>.

### BENEFITS PROVIDED UNDER PART B OF THE EEOICPA

#### What is Part B?

Part B is a program for employees of DOE, and certain DOE contractors and subcontractors, who did work at facilities associated with the production of atomic weapons.

#### Who does Part B cover?

Coverage under Part B is limited to those covered employees who developed a radiogenic cancer, beryllium illness, or silicosis as a result of their employment. If an employee who would have qualified for Part B benefits is deceased, then qualified survivors may file a claim.

#### What benefits does Part B offer?

Eligible employees (and qualified survivors) under Part B may receive compensation in the amount of \$150,000 and payment of medical benefits for the covered condition.

### BENEFITS PROVIDED UNDER PART E OF THE EEOICPA

#### What is Part E?

Part E of the EEOICPA provides federal compensation and medical benefits to employees of DOE contractors or subcontractors who developed an occupational illness as a result of exposure to toxic substances at a DOE facility.

#### What benefits does Part E offer?

Part E grants compensation based on a covered employee's level of impairment and/or years of qualifying wage loss, plus medical expenses related to the covered illness if the employee developed an illness because of exposure to toxic substances. Under Part E, the term "toxic substance" is not limited to radiation exposure, but includes other causal factors such as chemicals, biological substances, solvents, acids, and metals.

# Worker with CBD Takes Optimistic Outlook

Fred Anderson Jr., who spent more than 16 years as an operating engineer at the Savannah River site, could be bitter, but he's not. He suffers from chronic beryllium disease (CBD), a disease he's now battling because of his exposure to beryllium while working at the Aiken, S.C., site. Because CBD does not allow for sufficient levels of oxygen in his bloodstream, Anderson is fatigued easily and the 54-year-old worker cannot hold down normal work hours.

Still, Anderson's outlook is unfailingly optimistic. "We're just thankful for every day we've got together," Anderson says, referring to his wife, Tina. "You can't just give up. The good Lord is in charge and he wants me to be here. When he wants to take me, he will."

Anderson is aware of his diagnosis because of the Building Trades National Medical Screening (BTMed) Program. He enrolled in the program in the summer of 2000 to participate in a free medical exam to determine if his work at Savannah River had affected his health. Unfortunately, his blood test results indicated that he had been exposed to beryllium, one of several substances screened for in the BTMed program. Beryllium is a naturally occurring metal used in making reactor and bomb components. General maintenance, repair, renovation or demolition could disturb beryllium dust, sending it into the air where workers inhale it.

As a member of Operating Engineers Local 470 for more than two decades, Anderson worked at the Savannah River site from 1981 until the mid-1990s when plant cutbacks resulted in layoffs. Anderson and his wife left the area for Iva, S.C., a small town about two hours from Augusta, where they still reside. It was not until years later that Anderson would come to realize how fortunate he was to have been laid off.

Prior to the BTMed testing, Anderson thought his fatigue was "laziness," which in no way reflects his work ethic: he had a near-perfect attendance record at the DOE site.

"It doesn't make you feel good," Anderson says of being exposed to a harmful substance without his knowledge. "They got all these people trusting them—I don't even know how I got it or what it even looks like."

After the BTMed tests showed evidence of beryllium in his system, he was sent to a specialist who confirmed Anderson's worst fears in early 2001—CBD, a disabling lung disease. He recalled receiving the diagnosis with a certain sadness that reflected his gut feeling that something was wrong.

But Anderson had a decision to make: how was the diagnosis going to affect his outlook on life. He settled upon a powerfully positive perspective that helps him live every day to the fullest. He decided, "Life is like poker—though I'm not much a poker player, you have to play the hand you're dealt."

Anderson quickly filed a claim under the EEOICPA for beryllium sensitivity and it covered the costs associated with any future medical evaluation for beryllium disease. He also was awarded the \$150,000 payment compensated to former DOE construction workers with CBD.

While he admits that "thoughts of not doing what I've been doing make me sad," he lives every day as a truly grateful man. "It's up to me to make the best of what I've got. There are a lot of people in worse situations. I just leave it up to the Lord to make the final decision. Until then, I'm going to live every day the best I can." Without the Building Trades National Program, Anderson says he "would've kept wondering what was wrong."

Every former construction worker is encouraged to participate in the Building Trades National Medical Screening Program, even if there are no apparent health problems. To participate in the free screenings, please call toll-free: 1-800-866-9663 or 1-888-464-0009.



"F Area" Savannah River site, one of many places Anderson worked.

Were you a construction worker at a DOE site? If so, please read this.

Nonprofit  
Organization  
U.S. Postage  
PAID  
Washington, DC  
Permit No. 5968

This publication was produced by the Center to Protect Workers' Right (CPWR) through funding from the Department of Energy (DE-FC01-06EH06004). The information provided here is solely the responsibility of the authors and does not necessarily represent the official views of DOE.  
If you have recently moved, please contact 1-800-866-9663 with your change of address.

**Building Trades National  
Medical Screening Program**  
c/o The Center to Protect Workers' Rights  
Edward C. Sullivan, President  
Sean McGarvey, Secretary-Treasurer  
8484 Georgia Ave., Suite 1000  
Silver Spring, MD 20910

# HIGHLIGHTS 2007



# LEAD COLLABORATORS

**Daniel C. Anton, PhD**

University of Iowa  
Iowa City

**Vicki Beck, MS**

Norman Lear Center  
Beverly Hills, California

**Eula Bingham, PhD**

University of Cincinnati  
Ohio

**Peter Y. Chen, MA, PhD**

Colorado State University  
Fort Collins, Colorado

**William E. Daniell, MD, MPH**

University of Washington  
Seattle

**John M. Dement, PhD, CIH**

Duke University  
Durham, North Carolina

**Bradley A. Evanoff, MD, MPH**

Washington University  
St. Louis, Missouri

**Mark Goldberg, PhD**

Hunter College – CUNY  
New York, New York

**Robert F. Herrick, SD**

Harvard School of Public Health  
Boston

**Hester J. Lipscomb, PhD**

Duke University  
Durham, North Carolina

**David V. MacCollum, PE, CSP**

Hazard Information Foundation  
Sierra Vista, Arizona

**Jeffrey Nelson, MS, MBA**

Conceptual Arts Inc.  
Gainesville, Florida

**Bruce Nissen, PhD**

Florida International University  
Miami

**Michele Ochsner, PhD**

Rutgers, The State University  
of New Jersey  
New Brunswick, New Jersey

**Melissa Perry, ScD**

Harvard School of Public Health

**David Rempel, MD, MPH**

University of California,  
San Francisco

**James Beavers, PhD**

University of Tennessee, Knoxville

**Rosemary K. Sokas, MD, MOH**

University of Illinois at Chicago

**Michael Toole, PhD**

Bucknell University

**Marc Weinstein, PhD**

University of Oregon, Eugene

**Susan Woskie, PhD**

University of Massachusetts, Lowell

---

Building and Construction  
Trades Department, AFL-CIO,  
and Affiliated Councils

International Construction Unions  
and Affiliates

---

The Association of Union Constructors

Mechanical Contractors Association

National Association of Construction  
Boilermaker Employers

National Electrical  
Contractors Association

North American Contractors Association

Sheet Metal and Air Conditioning  
Contractors National Association

---

U.S. Department of Energy

U.S. Department of Labor

Environmental Protection Agency

National Institute for Occupational  
Safety and Health, CDC

National Institute of Environmental  
Health Sciences, NIH

---

State Departments of Health

Zenith Administrators, Seattle,  
Washington

## FOREWORD

A construction site is one of the most hazardous places you could find yourself. An average of four construction workers a day suffer a fatal accident on the job and tens of thousands more are injured each year. Thousands more will experience debilitating illnesses later in life from work-related hazardous materials that appeared harmless. Too many of these individuals will never recover and eventually will succumb to a work-related disease.

Fortunately, construction workers have a trusted resource in helping them stay safe and healthy on the job – the Center to Protect Workers' Rights. Since 1990, CPWR has followed its mission to identify the causes of construction safety and health hazards, investigate possible solutions to the problems plaguing workers, then develop and evaluate training to educate workers on safety and health issues.

It is my great pleasure to introduce this overview of the many projects CPWR is managing in our three-pronged efforts of research, training and service. With a great diversity of research projects, the *Highlights 2007* gives a snapshot of each research project in its five-year cycle. Researchers can be involved in any phase of activity, from collecting and analyzing data, to testing interventions or announcing preliminary findings and disseminating results. Much of the research work you will read about is made possible because of our world-class collaborators in academia, government and industry. They form our research partners and serve as thoughtful advocates for safe working conditions on construction sites.

The *Highlights 2007* also profiles our training programs, both specialty programs such as disaster relief and environmental training to general safety training. The staff of CPWR's training department has developed a network of trainers: 80 Master Trainers this year trained 3,200 Outreach Instructors. It is these instructors who will bring critical

safety and health information to the hundreds of thousands of construction workers in the building trades. Any one of these dedicated men and women could very well be responsible for saving a life, although they may never know it – or get the credit. Let me thank them now for giving workers the tools to stay safe on the job.

Even the best research remains nothing more than pure knowledge if it is not communicated to the people who can put it to use. CPWR develops materials for workers, contractors and industry stakeholders to use, such as educational DVDs, our information-rich websites and our popular Hazard Alert cards. In recent years, our outreach to construction workers who worked at Department of Energy nuclear sites has helped identify people at risk for job-related (and unusual) diseases. For those who have been diagnosed with diseases such as radiation-induced cancer caused by working near radioactive material, we have helped these workers access medical services and the federal compensation system devised to treat these illnesses. We seek justice for these workers long after their service to this nation has ended.

We look toward 2007 with a continued sense of mission as we pursue efforts to identify interventions to reduce construction safety and health hazards, provide training to workers, and disseminate our findings to the people who need it most – the men and women in the building and construction trades.



Edward C. Sullivan, President  
Building and Construction Trades Department, AFL-CIO,  
and The Center to Protect Workers' Rights

January 2007

# CONTENTS

**LEAD COLLABORATORS** Inside front cover

**FOREWORD** Page i

## RESEARCH

- 1 Statistical Research
- 2 Traumatic Injuries Research
- 5 Disease Monitoring and Prevention Research
- 7 Musculoskeletal Disorders and Ergonomics Research
- 9 Hearing Conservation Research
- 10 Pilot Research Grants: Small Studies
- 12 Key Research, Training and DOE Screening Locations, 2006

## TRAINING

- 14 Training and Disaster Response
- 15 Minority Worker Training
- 16 Environmental Training
- 17 General Safety Training

## SERVICE

- 18 Building Trades National Medical Screening Program
- 19 Outreach
- 20 Selected Recent CPWR-Supported Publications
- 22 Oversight and Advisory Boards

**SENIOR STAFF** Inside back cover



## Statistical Research

CPWR and cooperating researchers use statistics to identify trends in occupational injuries and illnesses among construction workers, characterize the construction industry and workforce, and the impact of changing industry and demographics on construction safety and health. CPWR's Data Center staff is constantly responding to requests for data from government policymakers, unions, and industry stakeholders. The director, Xiuwen (Sue) Dong, DrPH, has been working with the Bureau of Labor Statistics staff and other government researchers to seek improved safety and health surveillance data for construction research.

### SAFETY AND HEALTH SURVEILLANCE

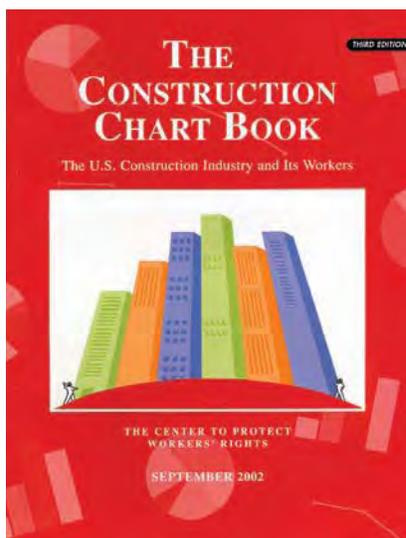
The Data Center analyzes statistics from the Bureau of Labor Statistics, the Census Bureau, the National Institute for Occupational Safety and Health, the National Center for Health Statistics, workers' compensation programs, and other sources.

An outgrowth of this continuing research, the fourth edition of *The Construction Chart Book: The U.S. Construction Industry and Its Workers* will be published in the fall of 2007. This unique reference book, first published in 1997, is the leading reference of its kind for the industry. The new edition will not only cover the industry's demographics, economics, and safety and health issues, and discuss data sources and limitations, but it also will expand with more topics and detailed statistics, including:

- Effects of the North American Industry Classification System (NAICS) and other data system changes on safety and health statistics
- Job openings, hires, and separations
- Foreign-born workers/immigrants
- Time use and hours worked
- Injury rates by demographic, employment category (age, race/ethnicity, foreign-born, size, length of service), and state
- Costs of occupational injuries by construction industry and occupation
- Hazards and work-related illnesses, selected states

### HISPANIC CONSTRUCTION WORKERS

Continuing research focuses on workplace safety, health services for work-related injuries, costs of health care, and sources of payment for health care among this rapidly growing workforce in construction. The goal is to identify disparity between Hispanics and other population groups and factors underlying the disparity in order to improve safety and health of this worker group.



### ECONOMICS OF SAFETY AND HEALTH

#### Costs of occupational injuries in construction

Data Center staff continue to work with the Pacific Institute for Research & Evaluation to estimate costs of injuries and illnesses in construction using workers' compensation data and other data sources.

#### Construction Economics Research Network

The Economics Research Network, originated by CPWR in 1994 with former Secretary of Labor John W. Dunlop, meets twice a year. The network, now chaired by David Weil, PhD, of the

Kennedy School of Government and Boston University, draws 20 labor and health researchers from universities, government, and the private sector to examine economic effects on construction worker safety and health. Dale Belman, PhD, Michigan State University, coordinates the meetings.

#### Analyses of DOE Injury Data

A pilot study undertaken by James Beavers, PhD, of the University of Tennessee will evaluate data entry and coding practices, quality and completeness of injury and incident data contained in the U.S. Department of Energy (DOE) Comprehensive Accident/Incident Reporting and Recordkeeping System (CAIRS), to which the investigators have been granted access. Investigators will compare DOE maintenance and construction operations for different construction occupations. Researchers will assess whether the data set contains the necessary information to draw conclusions about the causes of construction injuries, as well as situational/organizational circumstances that contribute to the risk of injury on DOE sites.

RESEARCH

# Traumatic Injuries Research

Injuries at work killed more than 1,186 construction workers in 2005; for at least a decade, falls have caused about 30 percent of the deaths.

## FALLS

### Prevention of falls from ladders

Melissa Perry, ScD, of the Harvard School of Public Health and Gordon Smith of the Liberty Mutual Research Institute for Safety have been analyzing data from the Bureau of Labor Statistics, the CDC, and other federal agencies to zero in on the causes of falls from ladders. Although ladders are one of the oldest and most common tools in construction, they're still a major injury hazard. Perry and Smith have used the government data to develop a detailed questionnaire to interview workers who are injured using ladders. The goal is to work

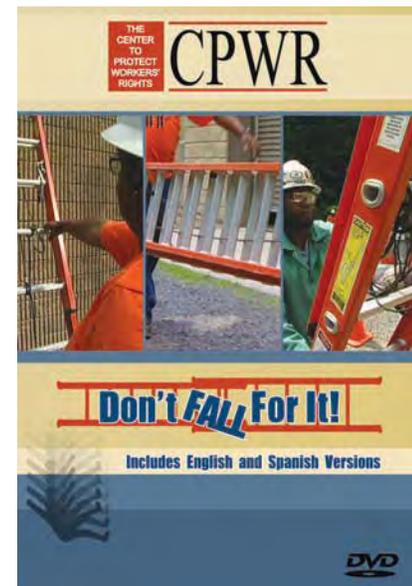
### Analyses

CPWR is analyzing causes of death involving heavy equipment in excavations, deaths involving dump trucks, and fires and explosions on construction sites.

with union leaders, safety engineers, and others to reduce ladder-related hazards through both supervisor training and task redesign or task substitution.

### LADDER SAFETY CAMPAIGN: "DON'T FALL FOR IT"

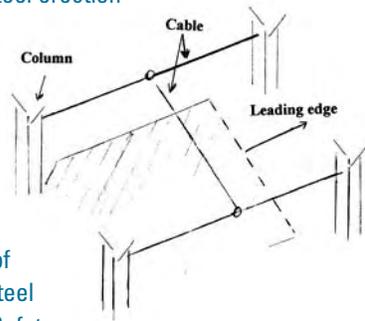
The incidence of falls from ladders in the construction industry is an important public health problem that needs attention. Despite great safety advancements in the construction industry, ladder safety is still overlooked by far too many even though lad-



ders are one of the most common pieces of equipment in construction. Fatalities from ladder falls are entirely preventable, yet they are increasing. Over the last 10 years (1995-2005), ladder-related construction fatalities in the United States increased 25 percent according to the Bureau

### Leading-edge fall protection system for decking

Michael McCann, CPWR director of safety research, is working with the Ironworkers Union and contractors to produce a 13-minute DVD and workbook on a new fall protection system for ironworkers installing decking. Ironworkers have been reluctant to use personal fall-arrest systems when installing a deck, the support for a floor, for fear that harness lanyards attached to an anchor below shoulder level could get tangled and cause their own safety problems. And, with anchors below shoulder level, there was the chance a worker would hit the deck below in a fall. In an evaluation by CPWR and Innovative Safety, an Avon, Conn.-based consulting firm, the new leading edge fall protection system, which attaches to cables seven feet above the decking, has stopped falls and ironworkers were able to rescue themselves. The researchers will evaluate how well the new training materials enable a steel erection contractor to



implement the fall-arrest system in a pilot intervention. Partners include The Association of Union Constructors and the developers of the system, Capco Steel Inc. and Innovative Safety.

of Labor Statistics. Of the 141 fatalities involving ladders in 2005, 56 percent occurred in the construction industry.

Since 2003, CPWR has been developing materials for a pilot research and marketing campaign to help reduce injuries in construction. Janie Gittleman, associate director of Safety and Health Research, MRP, PhD, working with the New Jersey Building and Construction Trades Council and the New Jersey Department of Health and Senior Services, developed a DVD and four tip sheets about ladder safety for construction workers. The 10-minute DVD, "Don't Fall for It," mixes interviews with survivors of ladder falls (or victims' survivors) and information about safe procedures. Between June of 2005 and June 2006, nearly 500 construction workers across the construction

trades in New Jersey were shown the Don't Fall For It DVD and given a short pre-test and post-test to assess knowledge, attitude and behavior regarding ladder safety. The tests yielded interesting results: Participants had significant changes in knowledge, attitude, and behavior in the desired direction on survey questions after viewing the educational DVD. Positive results in retention were seen even one month after training via telephone surveys, which tracked the transference of relevant information on ladder safety. Younger workers reported significantly fewer safe baseline behaviors than older workers, and workers who had had a previous fall tended to report using ladders less safely than those who had not fallen, suggesting that younger workers and those with prior fall histories may benefit most from the film.

The results of the pilot study confirmed that a short educational film presenting easy-to-understand safety tips and emotional appeals from real workers and their families, reinforced by fact sheets, can have a powerful impact on intended safety practices. Next steps on this project will be to conduct the intervention on a broader scale in several states (Conn., R.I., Mass., and N.Y.), to incorporate the training into the OSHA 500 Courses taught nationwide, and to conduct workgroup meetings with small residential employers to assess effectiveness for use on residential construction sites.

### NAIL GUNS

In recent years, researchers in Washington University and at Duke University have documented a growing number of injuries caused by the use of pneumatic nail guns in wood-frame residential construction. The tools are easy to use and are often given to relatively unskilled workers, placing apprentice carpenters at particularly high risk. Hester Lipscomb, PhD, of Duke University, is approaching the problem in several ways. She is working with the Carpenters District Council of Greater St. Louis and vicinity, home-builders associations in St. Louis and S. Illinois, and two affiliated training schools. Information is being collected from apprentices on their use of nail guns, plus their training and any injuries. James Nolan, Local 2119, and Dennis Patterson, Local 1310, collect questionnaire data and interview injured apprentices in detail. In addition, the project is assessing the effects of a May 2003 voluntary industry standard (American National Standards Institute) – it calls for shipping framing nailers with safer sequential triggers – by monitoring the types of tools carpenters use, contractors' purchasing decisions and policies, and injury rates. Preliminary findings show that injury rates among apprentices are higher than previously thought; nearly half of apprentices have at least one nail-gun injury before completing the four-year training program. Workers with the least carpentry experience and no training are at greatest risk; injury rates are twice as high with use of the more common contact-trip trigger, even after taking into account training

### Fall prevention training for residential carpenters

In another approach to the persistent problem of falls, researchers at Washington University School of Medicine, with the St. Louis Carpenters Joint Apprenticeship Training Program, are assessing fall-protection training in the four-year apprenticeship program. The researchers are analyzing injury data and, with apprenticeship instructors, are reviewing the curriculum. Based on results from focus groups of apprentices, Bradley Evanoff, MD, MPH, and the others are developing questionnaires for a worksite survey on knowledge, attitudes, and barriers to fall-prevention on the job. In addition, experienced carpenters are auditing safety practices on worksites. The findings, with input from contractors, will be used to direct changes in training. After any changes are implemented, the effects on attitudes and behavior will be assessed. Other participants in the project are the Carpenters District Council of Greater St. Louis and Vicinity; Hester Lipscomb, Duke University Medical Center; and Roz Sherman Voellinger, a labor educator at the University of Missouri St. Louis.



and experience. The data will be used to provide feedback to the International Staple Nail and Tool Association about safety materials included in tool packaging. At the same time, the research team is comparing the productivity of the two types of triggers when used by experienced journeymen.

### SAFETY TRAINING AND SAFETY CAMPAIGNS ACROSS THREE REGIONS

The Plumbers and Pipefitters Union (UA) is helping Peter Chen, PhD, and John Rosecrance, PhD, of Colorado State University to find new ways to improve construction safety and then spread the word. First, Chen, a psychologist, and Rosecrance, a physical therapist and expert in ergonomics, and their team are identifying key barriers to safety and implementing new training to address them. With UA locals 208 (in Colorado), 420 (Pennsylvania), and 290 (Oregon), contractor associations, and insurers, the researchers identified barriers that are organizational and psychological, involving workers and management. The barriers include a lack of a safety climate, poor leadership skills, a lack of

recognition of employees' ability to contribute safety solutions, poor safety communication techniques, and conflict between the pressures of work and family. In 2006, researchers administered final pilot versions of three training modules to UA apprentices and later conducted focus groups with stewards on ways to best disseminate safety messages to workers. The research team is developing strategies to spread findings on psychological safety research and best practices throughout the construction industry. Using those strategies, the team later will develop, implement, and evaluate the effectiveness of a new communications campaign. The intent is to benefit researchers, contractors, insurers, managers, and workers and their families in all parts of the industry. Partners include Pinnacle Assurance, the largest workers' compensation insurer in Colorado; Liberty Mutual Research Center for Safety; Associated General Contractors of Colorado; and the Mechanical Contractors Association of Colorado, Oregon, and Eastern Pennsylvania.

### NIOSH COLLABORATIONS

CPWR has been collaborating with NIOSH research groups on a number of diverse projects. Ted Scharf of Division of Applied Research and Technology in Cincinnati and Bill Wiehagen of Pittsburgh Research Laboratory (PRL) are working with CPWR on the research projects, *Hazard Recognition: Preventing Falls and Close Calls and Construction Site Ladder Exercise*. Ron Repman of the District Council of Northern New Jersey Ironworker Training Program is also a partner on that project. Chris Pan of the Division of Safety Research in Morgantown, W. Va., is conducting research on machinery safety, fall protection and prevention, and special technology development for aerial lifts. Jim Cawley of PRL is developing a protocol for testing crane proximity warning alarms to alert crane operators to the presence of energized overhead power lines. Emmett Russell, safety director of the International Union of Operating Engineers (IUOE), is also involved in Cawley's joint project with CPWR; CPWR and IUOE have conducted interviews with crane operators using proximity alarms.

### DESIGN FOR EQUIPMENT AND PROCESS SAFETY IN CONSTRUCTION

The Hazard Information Foundation, Inc. (HIFI) took a practical approach to reducing construction hazards by defining five basic principles for professional engineers to aid in eliminating or controlling certain construction hazards. The Washington Group International has committed to train 1,800 of its engineers and procurement staff globally using these principles. To mainstream these safety concepts for construction equipment and facility planning, McGraw Hill will be publishing the book *Construction Safety Engineering Principles*, available in January 2007, that includes 50 examples of applications of

### Heavy Equipment

**ROLLOVER PROTECTIVE STRUCTURES (ROPSs).** With the International Union of Operating Engineers, CPWR is helping to draft an OSHA safety standard for ROPS and seatbelt use on compactors/rollers. The union and the Association of Equipment Manufacturers in 2005 presented results of a CPWR small study to OSHA's Advisory Committee on Construction Occupational Safety and Health.

The Advisory Committee on Construction Safety and Health (ACCSH) agreed to set up a workgroup on the issues.



**SLIPS, TRIPS, AND FALLS.** At the request of the Teamsters Union, CPWR has been holding focus groups with Ready Mixed concrete truck drivers about the hazards, in order to develop recommendations for improvements in procedures and truck designs. This was a follow-up to the CPWR small study, *Ready Mixed Concrete Truck Drivers: Work-Related Hazards and Recommendations for Controls*.

safer design. Development of seminars and online training sessions on these principles is underway to supplement education in this exciting new direction of construction safety.

### SAFETY PRACTICES AND IMMIGRANT CONSTRUCTION WORKERS

A new project, led by Bruce Nissen, PhD, of Florida International University, will compare safety practices and jobsite safety and health conditions faced by immigrant and non-immigrant construction workers: Does the length of time in the U.S., construction experience, union and immigration status correlate with safety outcomes? The researchers will survey 200 Hispanic immigrant construction workers in Miami-Dade County, Fla., and 100 non-immigrant counterparts, on their workplace safety and health practices. The study will collect data on safety and health training, use of personal protective equipment on the job, safe (or unsafe) employer practices, and recent workplace accidents serious enough to lose at least a day's work. Employer cooperation is not required for this survey, to avoid a self-selection bias toward respondents whose employers are confident of their own safety practices. Results will pinpoint the primary factors that influence immigrant construction worker safety and health, which is an important step toward improving future interventions to prevent injuries.

## Disease Monitoring and Prevention Research

Work-related disease is clearly a hazard in construction, where workers are exposed to dusts containing asbestos, silica, and other life-threatening toxins, plus heavy metals like cadmium, lead, and others. Add in solvents and biological agents ranging from bacteria to molds to viruses and it's easy to see how statistical studies based on death reports show some trades at high risk for lung disease and other illnesses.

Yet, the occurrence of work-related illness is difficult to gauge because it is difficult to document construction workers' exposures. Consider that a bricklayer could be exposed to welding fumes as a bystander. The lag between many exposures and the diagnoses of diseases, including cancers and nervous system disorders, compounds the problem.

### LUNG DISEASE IN SHEET METAL WORKERS

CPWR, in partnership with John Dement, PhD, of the Duke University Medical Center and the Sheet Metal Occupational Health Institute, is using medical screenings and work histories of more than 17,000 union members to study risk factors for lung disease. Over the past 20 years the study has documented the extent of asbestos-related disease among sheet metal workers, and now is focusing on other lung diseases, particularly chronic obstructive pulmonary disease. The analysis will determine what factors in sheet metal work are associated with lung disease and identify the most important respiratory hazards for future interventions.

### Cause of Death in Sheet Metal Workers

CPWR, again partnering with Duke University Medical Center, is investigating the cause of death for 10,000 sheet metal workers who participated in the early years of the screening program described above. The study will identify important work-related risk factors for lung cancer and chronic obstructive pulmonary disease, as well as document the risk of death from other cancers, heart disease, and a range of other causes. Once risk factors are identified, medical screening and medical treatment can be recommended for workers at high risk of cancer and other serious diseases.

### TASK-BASED CONTROLS

Pam Susi, MSPH, of CPWR has been working with university and government researchers and unions for more than a decade to measure and reduce worker exposures to jobsite health hazards, such as dusts, fumes and noise (*see page 6*). A changing worksite and other factors make estimation or measurement of exposures difficult. A CPWR-NIOSH Engineering and Work Practices Controls Work Group has met since 1994 to develop methods to accurately measure the

hazards/exposures and to evaluate potential protections for workers. Generally, engineering protections or changes in work practices are preferable to workers wearing personal protective equipment.

### Exposure data analysis

CPWR continues to work with the Harvard School of Public Health, Hunter College, and the Bricklayers and the International Masonry Institute, as well as the Plumbers and Pipefitters Unions, to measure possible worker exposures to silica dusts, welding fumes, manganese, and hexavalent chromium, while further refining survey/research methods.





Researchers at the University of North Carolina are using those exposure data to determine the extent to which workers are exposed to hazardous agents and the effects engineering controls have on reducing exposures. To assess controls for manganese and total welding fume, CPWR, with the Ohio Building and Construction Trades Foundation and the Plumbers and Pipefitters Union, has been comparing exposures with and without local-exhaust ventilation and two types of protective hoods. Silica dust from rock and concrete can cause silicosis, an incurable lung disease.

### CONTROLLING SILICA AND NOISE EXPOSURES FOR CONCRETE CUTTING AND DRILLING

Susan Woskie, PhD, and Susan Shepherd, ScD, of the University of Massachusetts, Lowell, have partnered with the New England Laborers Training Center and the Operating Engineers Local 4 Training Center to measure exposures to silica, noise and dust. UMass Lowell researchers are currently testing the effectiveness of controls such as local-exhaust ventilation and water sprays on power hand tools to reduce dust and silica as well as vibration-reducing saw blades to reduce noise at the Laborers Training Center and at jobsites around Massachusetts. Silica in rock and concrete can cause silicosis, an incurable lung disease, and is associated with other respiratory diseases. Noise-induced hearing loss is common in construction and is entirely preventable.

### Tools and programs for improving occupational health conditions in construction (TAPS)

Mark Goldberg, PhD, of Hunter College (City University of New York), Robert Herrick, SD, of the Harvard School of Public Health, John Meeker, PhD, of the University of Michigan, the Ohio Building and Construction Trades Council, and the International Masonry Institute are testing tools for controlling exposure to welding fumes and silica dust, while

also addressing hexavalent chromium exposure among tile and terrazzo workers. The team has collected cement samples from throughout the United States to measure the range of hexavalent chromium in Portland cement. Hexavalent chromium is associated with lung cancer, occupational asthma, and skin problems so severe that some workers are forced to leave the trades.

### Barriers to reducing bricklayers' silica exposures

Once controls are developed, researchers must work with contractors and workers to overcome any barriers to their use. As part of the TAPS project, researchers at Hunter College are working with CPWR, the Bricklayers Union, International

Masonry Institute, and Masonry Contractors of New Jersey to find ways to encourage contractors to use engineering controls (such as ventilation) to protect workers from silica. One approach is a planned certification program for contractors who agree to use engineering controls as part of a comprehensive silica control program.



## Musculoskeletal Disorders and Ergonomics Research

The physically demanding nature of construction work, including lifting of heavy materials, the need to work in awkward and static postures, and tasks that require repetitive motion, helps explain why musculoskeletal disorders (MSDs) – strains and sprains – are the most common type of work-related injury in the industry. MSDs account for one-quarter of injuries and illnesses requiring time off to recover.

### MASONRY ERGONOMICS

Masons and mason tenders (assistants), who lift as much as 6,000 pounds of block in a day, suffer a high rate of work-related MSDs, especially low-back pain. Those injuries, in turn, can cause long absences from work. Medical and safety researchers at the Universities of Iowa and Oregon are identifying tools, materials, and work practices that could reduce the risks for MSDs in masonry. The research involves documenting how effective some approaches are and how decisions are made by contractors and workers whether to use them. Focus groups with masons from the

northwestern, north-central, and eastern U.S. identified best practices, but showed that their use varies by type of work, by region and climate, and even by collective bargaining agreement. The researchers are meeting with masons and contractors to pursue the questions before compiling a list of best practices to promote. At the same time, the University of Iowa biomechanics lab is developing a model to predict back injury from manual materials handling that will be used to show changes in back movements with the use of such aids as scaffolding and material platforms that alter the height of mortar and block and reduce the need for lifting and bending.



### NEW METHODS FOR OVERHEAD DRILLING

Drilling overhead into concrete can take a toll on workers' shoulders, necks, and lower backs because of the heavy weight that must be supported and the awkward posture required for long periods. David Rempel, MD, Demetra Dalamagas, and Billy Gibbons of the University of California, San Francisco surveyed proposed and existing designs, including some built by construction workers. Two designs were chosen to manufacture for field trials, an inverted drill press and a foot-lever drill press. The researchers are working with electrical, mechanical, and sheet metal contractors, an architect, and project owner, plus members of the Electrical Workers and Sheet Metal Workers Unions in Oregon and Washington. Workers have been trying the devices and making suggestions for improvements, in terms of usability, fatigue levels, and basic design. Based on feedback from workers, several new designs have been built. A final, third generation design is being studied to compare body posture, muscle fatigue, hand vibration, and productivity

between use of the new drilling device and the conventional overhead drilling methods.

### WORK-RELATED DISEASE AND MSD AMONG ROOFERS

CPWR Medical Director Laura Welch, MD, and the Roofers International Union are studying how work-related injuries and illnesses lead to disability, retirement, or job changes for roofers. The study shows a high rate of illnesses and musculoskeletal disorders, some limits on work that can be done afterward, and financial effects of the illnesses and lost worktime.

After the initial interviews, researchers found 69 percent of participating roofers said they had at least one medical condition or MSD. Low-back/sciatica problems were the most common health problem. MSDs accounted for seven of the 10 most reported health problems. Respiratory problems were higher than normal: 15 percent of roofers reported asthma or chronic obstructive pulmonary disease, compared to 9 percent of the overall U.S. population.

One year later, CPWR researchers interviewed 773 of the original 979; about 10 percent of these roofers had stopped working. Sixty percent of the roofers who stopped work did so because of a health problem. During those interviews, researchers found nearly 75 percent of these roofers had a health condition or an MSD.

Researchers determined that having an MSD made a worker eight times more likely to leave roofing compared to a worker without this health problem. In fact, having a medical condition made leaving seven times more likely compared to roofers with no MSD or health condition. Roofers who left work for a health-related reason were more likely to have

### Encouraging ergonomic change

Marc Weinstein, PhD, and Jennifer Hess, PhD, at the University of Oregon's Labor Education and Research Center, are developing a model diffusion strategy to promote the use of ergonomic innovations in construction. They have been working with tool vendors, contractors, architects, engineers, and members of building trades unions in Oregon and Washington to identify tools, materials, and work practices that can be introduced on worksites to reduce the risks of sprains and strains. In the first year, the group evaluated penetration and diffusion of an extended-handle screw gun, a tool that allows carpenters to work on decking, subflooring, and forms construction in a standing posture. In 2006, the researchers expanded their work to develop ways to promote the use of ergonomic improvements in masonry. In addition to the Willamette Carpenters Training Center, project partners include the Construction Ergonomics Initiative, the Greater Portland Construction Partnership, and the Laborers-AGC Education and Training Fund.



financial problems than the roofers who stayed at work. As the roofers got older they were more likely to leave work due to a health-related reason.

The NIOSH-funded research continues to study the personal, financial, and social effects of work-related injuries and illnesses. CPWR plans to use this study to make recommendations about job accommodations and job design, to keep roofers working longer without injury and disability.

## Hearing Conservation Research

By age 50, more than half the construction workforce has experienced work-related hearing loss. Hearing loss impairs quality of life (and health) on and off the job, and it can increase the risk of injuries, as when a worker can't hear approaching vehicles or warning signals. OSHA's standard for construction is not protective enough, allowing noise levels that are dangerously high, so labor and management must cooperate to protect workers.



### HEARING LOSS PREVENTION IN ROAD CONSTRUCTION

In the spring of 2004, Washington state's Division of Occupational Safety and Health (DOSH) began a "noise in road construction" program to reduce construction workers' hearing loss. This initiative included both consultation and targeted enforcement. William Daniell, MD, MPH, of the University of Washington, is working with DOSH inspectors to evaluate the impact of their noise-related inspections. Inspectors record findings about noise monitoring, controls, training, use of hearing protection, hearing tests, and the type of work done on the site using a standard form, which researchers analyze in conjunction with other DOSH records. In 2007, UW researchers will conduct a telephone survey of road construction companies to evaluate current practices after two years of the DOSH initiative.

### Gas-powered Chop Saw Noise Levels (Preliminary Results)

EQUIPMENT	NOISE LEVEL	
Saw motor only (from pilot)	89 dBA	NA
BLADE TYPE	FREE-RUNNING	CUTTING CONCRETE PIPE
Gulleted Carbide	107 dBA	102 dBA
Turbo Carbide	100 dBA	99 dBA
Carbide Blade with holes	110 dBA	102 dBA
Gulleted Diamond	113 dBA	104 dBA



Permissible exposure limit (PEL) as determined by OSHA is 90 dBA over an 8-hour period or 110 dBA for 15 minutes a day. The levels in the above chart were measured over a period of 1 to 7 minutes.

### NOISE CONTROL IN CONCRETE CUTTING

The University of Massachusetts, Lowell, is working with the Laborers and Operating Engineers unions to evaluate noise controls for small powered tools, such as low noise saw blades for portable concrete (chop) saws, other controls for jackhammers, and on heavy equipment, such as rock crushers (see TAPS, page 6).

## RESEARCH

## Pilot Research Grants: Small Studies

The Small Studies Program provides a unique and integral means of helping workers stay safe as it helps define jobsite problems, quickly initiate research and identify needed policy changes or potential interventions. These studies also can be used to determine whether a large-scale investigation is warranted. Each study is expected to last from one to two years and is funded at a maximum of \$30,000. Funding is available to staff of hospitals, universities, and other public and private sector institutions and organizations, such as construction unions and employer groups. Awards are determined after reviews by CPWR staff and outside experts, including members of CPWR's Technical Advisory Board and researchers from the National Institute for Occupational Safety and Health (NIOSH), the organization that has supported the program since its inception in 1993. A study may be proposed at any time.

Proposals are sought for studies that encourage innovation, develop interventions, use and improve data sets, evaluate effectiveness of interventions, and show better ways to disseminate information about construction safety and health.

In the 13 years of its operation, the Small Studies Program has brought new investigators into the field of construction safety and health research and has encouraged investigations into new and innovative areas. The program was designed to

respond to opportunistic situations and has accomplished fast turnarounds on study approval to initiate research quickly.

In total, more than 110 letters of intent have been received and more than 50 studies have been approved and funded. The funded projects have provided an impressive diversity in terms of scientific aims, the types of applicant organizations, and geographic representation. Not only have new investigators emerged, several new partnerships involving non-academic and academic investigators have been created. New prevention measures have been proposed and a broad range of construction activities and prevention and control methods addressed.

### EXAMPLES OF COMPLETED AND CURRENT STUDIES

Dr. Christine Oliver and Heidi Miracle-McMahill, analyzed responses to questionnaires used on Boston's Big Dig in *Asthma in Heavy and Highway Construction Workers Exposed to Silica*. The report in 2003 found that, of 300 construction workers believed to be exposed to silica on the massive project, more than 25 percent reported symptoms consistent with asthma. Yet the workers'



responses suggested the asthma had gone largely undiagnosed and untreated.

Dr. William Heitbrink and Scott Collingwood reported their preliminary recommendations in 2005 for a set-up to protect tuckpointers, who remove old mortar from masonry, from silica dust. The authors attached an industrial vacuum cleaner, hose, and shroud to a grinder. While their research continued, they thought the findings were important and circulated them early, as “Protecting Tuckpointing Workers from Silica Dust: Draft Recommendations for a Ventilated Grinder.” Preliminary data will also help select adequately performing vacuums for silica dust control. Heitbrink also received funding in 2006 to study a water induction nozzle as a dust control for abrasive blasting.

Dr. Ken Silver of East Tennessee State University received funding in 2006 to examine workers’ knowledge, attitudes and beliefs on the subjects of genetic susceptibility and testing in relation to workplace exposure to beryllium. Many thousands of nuclear energy and other workers have been exposed to beryllium, which causes a chronic disease that is often fatal and always costly. Genetic tests, soon to be available, promise to provide exposed workers with better information about their individual chances of getting the disease. But genetic information in the workplace can raise difficult ethical, legal and social issues. The study will ask workers and their families about their attitudes and beliefs regarding this kind of testing, using accepted methods of social science.

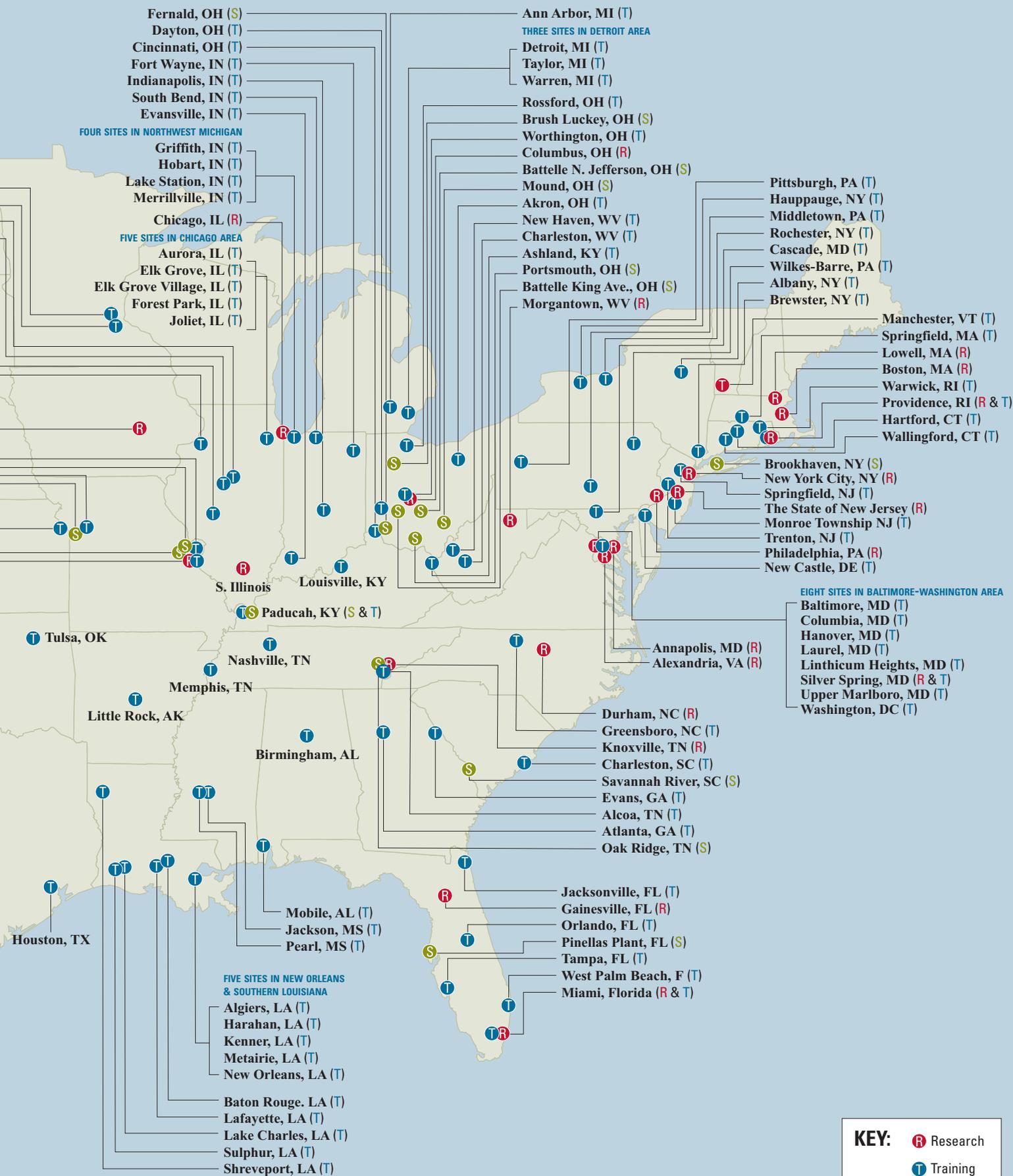


#### Selected small studies, 1993-2006

- *Analysis of Surface Slip Resistance of Steel Erection Working/Walking Surface*, Iron Workers International Union and William English, Alva, Fla.
- *An Assessment of Metal Maintenance Workers—Solvent Exposures*, Hunter College, New York, N.Y.
- *Immunocytochemical Analysis of Oncoproteins and Growth Factors in Human Malignant Mesothelioma*, Mount Sinai Medical Center, New York, N.Y.
- *Lyme Disease Prevalence among Construction Workers on Long Island, New York*, State University of New York at Stony Brook and the Building and Construction Trades Council, Nassau and Suffolk Counties, N.Y.
- *The Effects of the Repeal of Various State Prevailing Wage Laws on the Incidence and Severity of Worker Injuries in the Construction Industry*, University of Utah, Salt Lake City, Utah.
- *Reducing Sprains and Strains in Construction through Worker Participation* (focusing on scaffold erection), NIA TNO, The Netherlands.
- *Unsound Conditions: Work-Related Hearing Loss in Construction, 1960-75*, University of Utah, Salt Lake City, Utah.
- *Ready Mixed Concrete Truck Drivers: Work Related Hazards and Recommendations for Controls*. Mount Sinai School of Medicine, N.Y.
- *Asthma in Heavy and Highway Construction Workers Exposed to Silica*, Occupational Health Initiatives, Brookline, Mass.
- *Safety Hazards to Workers in Modular Home Construction, Safety and Health Extension*, West Virginia University, Morgantown, W. Va.
- *Nail Gun Injuries Treated in Emergency Rooms*, Duke University Medical Center, Durham, N.C.
- *Strategies to Prevent Trenching-Related Injuries and Deaths*, University of California, Berkeley.
- *Task Specific Silica Exposure During Concrete Polishing*, Medical College of Ohio, Toledo, Ohio.
- *Construction work organization: Developing a representative survey*, Michigan State University, East Lansing, Mich.

# Key Research, Training and DOE Screening Locations, 2006





**KEY:**

- R Research
- T Training
- S Screening

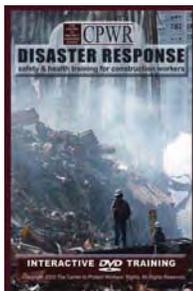
## TRAINING

## Training and Disaster Response

Training is a key to improved safety and health on the job – letting workers, trainers, and supervisors know of best practices, including research findings from the CPWR consortium. Courses, many of them hands-on, are delivered to thousands of building trades trainers and workers throughout the United States annually by trainers from CPWR and building trades unions. Development, delivery, and evaluation of training are funded through the National Institute of Environmental Health Sciences (NIEHS) and the National Institute for Occupational Safety and Health (NIOSH).

### DISASTER RESPONSE TRAINING FOR CONSTRUCTION WORKERS

After September 11, CPWR worked with the New York City Building Trades Council to protect recovery workers at the World Trade Center site. CPWR worked with Bechtel Corporation to develop the site safety plan in the early days following the disaster. Based on this plan, CPWR's Director of Disaster Response Training Chris Trahan, CIH, developed a three-hour hazard awareness training program for site workers. CPWR sent senior staff to New York City to coordinate worker training efforts. Once the 1,800 construction workers on site had received the training, CPWR evaluated the training to determine where best to use limited resources to prepare safety-and-health training for future disasters.



### THE DVD AND A NETWORK OF TRAINERS

CPWR staff in the training and research departments developed a training program to distribute to instructors nationwide to enable them to immediately begin providing effective safety-and-health training to skilled support personnel in the event of another disaster – be

it naturally occurring like a series of tornadoes, or a man-made disaster like a gas explosion. The interactive training program on DVD, *CPWR Disaster Response Safety and Health Training for Construction Workers*, is delivered by authorized instructors and covers hazard recognition, personal protective equipment, decontamination, and the incident command system. The program has been developed and implemented in partnership with OSHA and its Office of Training and Education, NIOSH, the International Association of Fire Fighters and its HazMat Training and Education Department, and NIEHS. Building Trades Master Instructors have trained more than 3,200 Outreach Instructors who are prepared to train local workers. CPWR continues to train trainers, and is coordinating and delivering disaster training to workers across the nation.

### FOLLOW-UP TO HURRICANE KATRINA

The day after Hurricane Katrina struck the Gulf Coast on Aug. 29, 2005 and devastated much of the region, CPWR staff were contacting trainers to help arrange for safety-and-health training for building trades workers in cleanup and recovery operations. By Sept. 1, after the Building and Construction Trades Department agreed to coordinate worker training in the area for some contractors, CPWR staff identified training sites in Baton Rouge, New Orleans, and elsewhere. At the request of NIEHS, CPWR sent training staff to Louisiana to coordinate training through that state's federal response center. From November 2005 through the end of April 2006, CPWR delivered training for more than 1,500 federal responders and clean-up workers in Louisiana through courses ranging from "Debris Inspector" to "Asbestos Worker."



CPWR has translated to Spanish training presentations and booklets developed by the National Institute of Environmental Health Sciences, which are being distributed and are posted at [www.wetp.org](http://www.wetp.org) and [www.cpwr.com](http://www.cpwr.com).

### MINORITY WORKER TRAINING IN THE GULF STATES

CPWR's Kizetta Vaughn has been developing minority worker training in Alabama, Louisiana, and Mississippi for residents of the areas devastated by Hurricane Katrina. Working with the Building and Construction Trades Department, CPWR forged alliances with a building trades center in each state to provide a condensed version of its minority worker curriculum. The goal is to bring trained apprentices into the building trades in the region. In addition to basic construction skills, the course covers job readiness/life skills, hazardous waste worker training, mold remediation awareness, and disaster preparedness. Training began in March 2006 with local affiliates in New Orleans and is ongoing.

## Minority Worker Training

CPWR has trained more than 1,200 members of minority groups since 1999 under two programs funded by the National Institute of Environmental Health Sciences and U.S. Environmental Protection Agency.

### MINORITY WORKER TRAINING

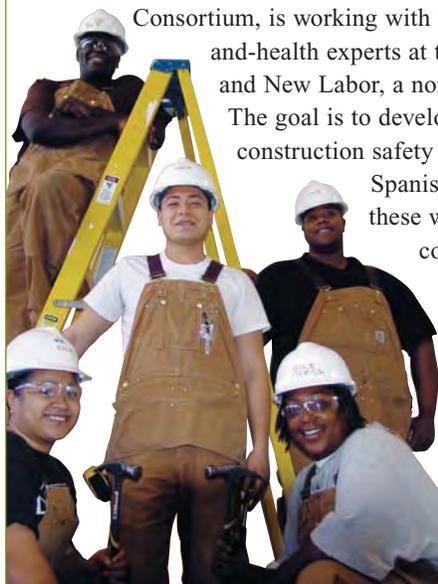
CPWR trains workers in targeted areas in life skills, basic construction skills, and environmental worker courses (asbestos abatement, lead abatement, confined space, and hazardous waste worker). Partners include Building and Construction Trades Councils, the Carpenters Union, plus community colleges and community-based organizations in Baltimore, New Orleans, and Oakland.

### EPA BROWNFIELDS WORKER TRAINING

CPWR prepares residents of federally designated Brownfields Communities to clean up contaminated land and blighted buildings. As part of the preparation, students receive training in life skills, basic construction skills, environmental technologies, and worker training (asbestos abatement, lead abatement, and hazardous waste worker). Also, students receive assistance with job placement. Partners in this activity are Building and Construction Trades Councils, the Carpenters Union, plus community colleges and community-based organizations in Boston, East Palo Alto, Los Angeles, and St. Paul.

### HISPANIC DAY LABORERS

Hispanic day laborers in construction are at high risk for work-related injuries for a mix of reasons, one of which is a lack of safety-and-health training. Michele Ochsner, PhD, at the Rutgers University Occupational Training and Education Consortium, is working with trainers and safety-and-health experts at the Laborers' Union and New Labor, a nonprofit organization.



The goal is to develop and evaluate a construction safety training program in Spanish especially for these workers. Although construction is hazardous for all workers, day laborers may not know what type of work they're expected to do until they arrive at a job site, and they may have difficulty

understanding supervisors' instructions in English, both of which can compound the hazards. Thus, project staff are adapting Smart Mark, the 10-hour OSHA-approved course developed by the construction unions and CPWR (see page 17), to the needs of Hispanic day laborers in residential construction. The project has trained a group Hispanic immigrant workers as "peer researchers," who have conducted interviews and led focus groups in central and northern New Jersey to learn about any special curriculum needs, among other things. Formal training was to begin in early 2006 and includes a train-the-trainer program to enable Hispanic day laborers to teach their peers. Partners in the Laborers' Union include the New Jersey Laborers' Health and Safety Fund and Local 1030, in North Bergen.



### EVALUATING CONSTRUCTION FALL-PREVENTION INFORMATION TRANSFER IN A TELENОВОLA

Telemundo Network LLC, NIOSH, CPWR, and the Hollywood Health and Society project at USC Annenberg's

**TELEMUNDO** Norman Lear Center are working together to develop and broadcast public service ads for prevention of construction injuries. CPWR also is working with NIOSH to develop a Spanish-language website containing basic construction safety and health information. The Spanish-language ads will appear during "Dame Chocolate," a telenovela that features construction workers, and the website link will appear on the show's home page. These popular media offer an opportunity to reach out to high-risk Hispanic small businesses, construction workers and their families, and the self-employed.

### IMMIGRANT CONSTRUCTION WORKERS: UNION AND SAFETY CASE STUDIES

CPWR is working with University of California at Berkeley's Labor Occupational Health Program and the California State Building Trades Council to identify diverse examples of local programs that interact more effectively with recent immigrants. The construction workforce is transforming rapidly, and this project should inform discussions of ways to respond.



## TRAINING

## Environmental Training

Since 1999, CPWR has been working with most building trades unions to provide safety-and-health training to thousands of workers annually to ensure that a trained workforce is available at high-hazard Department of Energy and EPA Superfund sites.

The programs are funded by the Department of Energy and the Environmental Protection Agency, but administered by the National Institute of Environmental Health Sciences, a part of the National Institutes of Health. The courses stress hands-on learning – wearing full-body level A suits, using respirators correctly, entering confined spaces safely, using a fall-protection harness. Construction workers and apprentices learn how to recognize hazards and to work safely in environments where there might be asbestos, heavy metals, solvents, or other hazardous materials. Feedback from trainers suggests that the program helps improve training generally throughout the building trades.

The participating unions are the Asbestos Workers, Boilermakers, Bricklayers, Carpenters, Cement Masons, Electrical Workers, Ironworkers, Painters, Plumbers and Pipefitters, Roofers, and Sheet Metal Workers.

### DOE TRAINING

CPWR and its union partners trained nearly 5,000 workers and apprentices this year in hazardous waste worker and annual refresher, lead worker and annual refresher, confined space, asbestos worker and annual refresher, OSHA 10- and 30-hour (safety and health), and train the trainer. Much of the training is provided at the Hanford reservation in eastern Washington.



### EPA TRAINING

To help prepare about 3,500 construction workers each year for work at Superfund sites, training is provided in hazardous waste cleanup, confined-space safety, and train the trainer programs.

### Trainer enhancements

Trainers have been meeting annually since 1999 for lectures and workshops to consider new ways to conduct training in the asbestos, lead, and hazardous-waste remediation courses, some of which must be repeated yearly to maintain worker certification. At the same time, the enhancements are used to update trainers on new construction techniques and changes in regulatory requirements. In October of 2006, CPWR's Don Ellenberger conducted the annual training at the newly opened Kirkland Center at the National Labor College in Silver Spring, Md. Eighty-three trainers from 10 international construction unions attended workshops on CPWR's new supplied-air respiratory equipment, radiological hazards, asbestos analysis, and other health and safety training concerns.

## General Safety Training

### ELECTRICAL SAFETY INSPECTIONS

In an attempt to enlist workers to improve safety (and cut costs), West Virginia University Safety and Health Extension will train a union electrician to conduct electrical safety inspections twice weekly on a West Virginia construction site for six months in 2007. The inspection findings will be used by subcontractor foremen who will certify in writing when and how any hazards are corrected. The correction of hazards will be verified in writing by the site superintendent or a representative. This program grew out of a CPWR study which found that inspections by a safety professional with careful follow-up can reduce the number of electrical hazards on a construction site. The earlier study found a problem, however, in the cost of having a safety professional conduct so many inspections. For this new approach, West Virginia University's Safety and Health Extension developed a checklist that is entered into a hand-held electronic device and loaded onto a computer. CPWR is working with the International Brotherhood of Electrical Workers and West Virginia University Safety and Health Extension. The data are to be analyzed in terms of types of hazards found, how often each type of hazard is identified, and how long it takes to fix each one.

### SMART MARK

More than 200,000 building trades workers since 1998 have completed this standardized version of the OSHA 10-hour hazard-awareness curriculum for construction workers. The course was developed by CPWR, with construction employers and affiliate unions of the Building and Construction Trades Department. The 13 one-hour modules allow instructors flexibility, depending on the students' needs, as to which topics to cover. Modules include confined spaces, ergonomics, materials handling, and stairways and ladders. OSHA-authorized building trades outreach instructors deliver the course nationwide – in English or Spanish.

### NATIONAL RESOURCE CENTER FOR OSHA TRAINING (OSHA REGION III EDUCATION CENTER)

The National Resource Center is a U.S. Department of Labor OSHA Training Institute Education Center based at the National Labor College in Silver Spring, Md. CPWR, a partner in the center, uses the facility to train union instructors and members from all around the country. The goal of the National Resource Center since its founding in 1994 is to ensure that construction unions have enough safety-and-health trainers. Construction-related courses cover a wide range of topics, including OSHA 500, confined-space entry, and trenching and excavation. Since 2000, the National Resource Center has trained about 6,700 building trades

**S** SUBPARTE **F** **Prevencción de Incendios** **1**  
 Módulo de Capacitación Estándarizada de la Asociación de la Industria de la Construcción

**¿Cuáles son los principales peligros de un incendio?**

**La inhalación de humo ocasiona más muertes que cualquier otra cosa, incluso más que las quemaduras.**

- Un 75% de las muertes por incendio son ocasionadas por el humo inhalado.
- El calor > 1,000° Fahrenheit ocasiona muchas muertes.
- La falta de oxígeno también ocasiona muertes. El incendio consume oxígeno.

**El humo está compuesto de macropartículas y gases tóxicos:**

- monóxido de carbono
- cloruro de hidrógeno
- dióxido de carbono

instructors who are employed by local joint labor-management trusts. The instructors, in turn, train an estimated 120,000 workers annually. Partners include the Building and Construction Trades Department, AFL-CIO, and the Safety and Health Extension, West Virginia University.

### TRAIN THE TRAINER

About 5,000 construction union trainers nationwide have completed the OSHA 500 instructor course on construction safety-and-health regulations. The trainers, who have extensive experience in construction, provide OSHA 10- and 30-hour construction hazard awareness training to 6,000 workers per week. In July 2005, for the first time, CPWR conducted a train-the-trainer course specifically for Spanish-speaking instructors.

### Smart Mark training evaluation

The University of Illinois-Chicago has developed a survey questionnaire in English and Spanish to assess Smart Mark trainees' attitudes and work practices, and what they know about workplace safety and health before and after training. Rosemary Sokas, MD, and her team have worked with about 245 journeymen and apprentices in Roofers Local 11 and Plumber and Pipefitters Local 597, both in the Chicago area. The team's preliminary information, presented at the NIOSH National Occupational Research Agenda meeting in April 2006, indicates that both U.S.-born and Mexican-born union members are better able to identify hazards if they have previously had safety training. The research team is publishing one segment of the survey as a revised safety climate scale and is now at work designing a large-scale evaluation of Smart Mark's effects on workplace practices and injury outcomes.

## SERVICE

## Building Trades National Medical Screening Program (BTMed)

The Building Trades National Medical Screening Program (BTMed) serves the more than 700,000 building trades workers whose service to our country's nuclear weapons programs during World War II and afterward puts them at risk for life-threatening ailments. Trish Quinn of CPWR coordinates this national program that provides free medical screenings for these workers. Our dedicated website is [www.btmed.org](http://www.btmed.org).

### SCREENINGS FOR FORMER DEPARTMENT OF ENERGY CONSTRUCTION WORKERS

The BTMed program opened its first outreach office in Pasco, Wash., in March 1998 to serve construction workers from the Hanford Reservation. After Congress mandated that the Department of Energy (DOE) fund a screening and treatment program, the BTMed has grown to more than 15 sites nationwide, with additional sites being added in 2007. More than 20,000 former workers have signed up to participate in the program (see map, pages 12-13).

CPWR works with local building trades unions to reach out and inform members about the program. Each participant completes a work history interview, conducted by specially trained building trades workers. The participant is offered a free medical screening examination with tests for any exposures identified in the interview. Some participants are referred for further medical attention. Former construction or maintenance workers in the weapons program who may have had significant exposures to asbestos, beryllium, cadmium, chromium, lead, mercury, noise, radiation, silica, solvents or other health hazards are eligible.

The screenings have:

- Determined that construction workers are at significant risk for illnesses as a result of having been exposed to health hazards in DOE facilities. (This program was the first to document that construction workers are at risk for beryllium disease.)
- Identified untreated medical problems, which has enabled hundreds of workers to get better medical care. As the largest medical study of older construction workers in the United States, the screenings have highlighted the need for better medical care for workers.
- Provided key evidence that led Congress to enact the Energy Employees Occupational Illness Compensation Program Act in 2000, and, in particular, to include construction.
- Provided valuable work history and site information to NIOSH on how to improve radiation dose reconstructions for construction workers on DOE sites.

### EMPLOYMENT VERIFICATION

After denying for years that its nuclear operations harmed anyone, the federal government launched a program in 2000 to compensate atomic workers sickened by workplace exposures. The Energy Employees Occupational Illness Compensation Program Act delivers benefits to eligible employees and former employees of the U.S. Department of Energy, its contractors and subcontractors, or to certain survivors.

Because the DOE does not have work records for subcontractors, the Department of Labor had difficulties approving the claims. The DOL asked that CPWR work with local building trades unions to obtain records from union and union-employer trust funds, such as dispatch cards or pension contribution receipts, to help with employment verification.

Since 2003, CPWR has assisted with more than 6,400 verification requests. Most of the verifications were completed in less than 30 business days and enabled the Department of Labor to complete decision-making. An estimated 18 to 33 percent of the building trades workers who worked in the nuclear program might be eligible for compensation. Claimants can receive cash benefits and medical costs related to a covered illness from the time a claim is filed with DOL.

### Organizations participating with CPWR

State and local building and construction trades councils in Augusta, Ga., Central Washington, Colorado, Dayton, Fla., and Florida Gulf Coast, Greater Cincinnati, Greater Kansas City (Missouri), Idaho, Knoxville/Oak Ridge, Tenn., Nassau and Suffolk Counties, N.Y., Tri-State (Kentucky, Ohio, West Virginia), Western Kentucky, various others councils as well as Duke University Medical Center; University of Cincinnati Medical Center; Zenith Administrators.

## Outreach

In addition to providing safety-and-health training and technical assistance for the industry and government, CPWR produces videos/DVDs, maintains two websites, and participates in or organizes conferences/exhibits at the regional, national, and international levels. Publications range from the CPWR newsletter *On Center* and technical reports, to magazine and journal articles. The Hazard Alert pocket cards, in English and Spanish, cover more than 25 topics, from aerial lift safety (or Seguridad en los elevadores de obra) to welding fumes and gases (El trabajo de soldadura), and may be downloaded from CPWR's website and eLCOSH. Nearly 1 million of the pocket cards have been distributed since 1996.

### ELECTRONIC LIBRARY OF CONSTRUCTION SAFETY AND HEALTH (eLCOSH)

The website [www.eLCOSH.org](http://www.eLCOSH.org), coordinated by CPWR since 2000, has provided user-friendly safety-and-health information – in English and Spanish – for construction workers and others on a wide range of topics and sources. Some 850 documents and videos, more than 150 of them in Spanish, are posted using English and Spanish site maps. eLCOSH provides a global resource for English and Spanish construction safety and health training and management documents, with more than 50 annotated site links provided. Contributors range from the Government of Spain, the U.S. Army Corps of Engineers, NIOSH, and state agencies to private-sector authors, university researchers, trade magazines, and building trades safety-and-health programs. The website received approximately 478,000 hits in one year, averaging 1,310 hits a day.

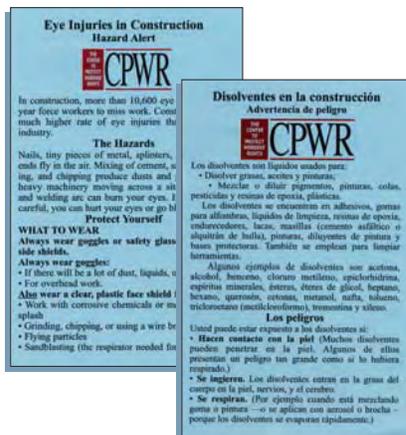
### SALUSLINK

Commercial and heavy construction project schedules typically do not include safety management tasks, despite a high level of interest in promoting safety on construction sites. To remedy this, CPWR, in partnership

with Conceptual Arts, Inc., of Gainesville, Fla., has developed a new software application, SalusLink, to work with scheduling software and enable safety managers to link safety activities and documents to line items in Primavera P3 or SureTrak schedules. SalusLink is being field-tested currently. (See [www.saluslink.com](http://www.saluslink.com).)



[www.cpwr.com](http://www.cpwr.com)



### CONSTRUCTION SOLUTIONS

CPWR is developing Construction Solutions, an on-line databank of practical ways to improve construction safety and health. Workers and contractors will be able to look up hazards for various trades and tasks, then learn about potential solutions. CPWR's partners are Conceptual Arts Inc. and the University of Iowa; the project will parallel a NIOSH Workplace Solutions database for general industry, also under development.

### INTERNATIONAL ACTIVITIES

For 15 years, CPWR has initiated regular interactions with international labor, management, government, and academic experts on construction safety and health. CPWR staff participate in international technical meetings to exchange policy and program information, develop evidence-based best-practice guidelines, and learn from international research-to-practice initiatives.

## SERVICE

## Selected Recent CPWR-Supported Publications

### CPWR PUBLICATIONS\*

Goodrum, Paul. *Safety and Health Training in Construction in Kentucky*. 2006.

Dong, Xiuwen, Yurong Men, and Elizabeth Haile. *Work-Related Fatal and Nonfatal Injuries among U.S. Construction Workers, 1992 - 2003*. 2005.

McCann, Michael. Journeyman Technical Information Paper 2. *Protection from Electric Shock and Arc Flash*. 2003.

McCann, Michael, Zaleski, Norman. *Deaths and Injuries Involving Elevators or Escalators*, Revised. 2006.

McCann, Michael. *Explosion and Asphyxiation Deaths among Contract Employees in Industrial Plants*. 2003.

Susi P, Goldberg M, Pellegrino A. *Model Specifications for the Protection of Workers from Lead on Steel Structures*. Updated, 2002.

Ruttenberg, Ruth, and Maria Lazo. *Spanish-Speaking Construction Workers Discuss Their Safety Needs and Experiences*. 2004.

Weil, David. *Making OSHA Inspections More Effective: Alternatives for Improved Inspection Targeting in the Construction Industry*, June 2004.

### CPWR VIDEO/DVD

*A Leading Edge Fall Protection System for Metal Decking*, 2006.

*Don't Fall For It*, 2006.

*CPWR Disaster Response Safety and Health Training for Construction Workers*, 2005.

### JOURNAL ARTICLES AND BOOKS, 2005-2006

Bingham E, Ringen K, Dement J, Cameron W, McGowan W, Welch L and Quinn P [2006]. Frequency and Quality of Radiation Monitoring at Two Gaseous Diffusion Plants. *Annals of the New York Academy of Sciences* 1076:394-404.

Hecker SF, Schneider S, Hess JA, Kincl LD [2006]. Chapter 50: Ergonomics in general construction. In: Marras WS, Karwowski W, eds. *Occupational Ergonomics Handbook*. 2nd ed. Boca Raton, FL: CRC Press, pp 50-1-50-30.

Lipscomb HJ, Dement JM, Nolan J, Patterson D [2006]. Nail gun injuries in apprentice carpenters: Risk factors and control measures. *AJIM* 49:505-513.

McCann M [2006]. Heavy equipment and truck-related deaths on excavation work sites. *Journal of Safety Research* 37:511-517

Meeker JD, Susi P, Pellegrino A [2006]. Comparison of Occupational Exposures Among Painters Using Three Alternative Blasting Abrasives. *Journal of Occupational and Environmental Hygiene* 3:D80-84.

Nagrod J [2006]. "Don't Fall For It!" Ladder Safety Intervention...A Pilot Program for Construction Workers. *New Jersey Building Contractor* Vol. 1, Page 42.

Smith GS, Timmons RA, Lombardi DA, Mamidid DK, Matz S, Courtney TK, Perry MJ [2006]. Work-related ladder fall fractures: Identification and diagnosis validation using narrative text. *Accident Analysis and Prevention* 38:973-980.

Anton D, Rosecrance JC, Gerr F, Merlino LA, Cook TM [2005]. Effect of concrete block weight and wall height on electromyographic activity and heart rate of masons. *Ergonomics* Vol. 48, No. 10, 15 August 2005, 1314 - 1330.

### CPWR and the Construction Literature

**CHANGES IN CONSTRUCTION RESEARCH.** A comparison of research in the early 1990s to recent years shows a growing emphasis on studies of specific hazards in construction, and to targeted studies of exposure and controls. CPWR supported 50 percent of all studies on ergonomic hazards and controls and 17 percent of the studies on health hazards and controls. As expected from CPWR's emphasis on identification and control of respiratory hazards, 38 percent of studies on silica were CPWR-sponsored. CPWR supported 50 percent of the studies reporting on development of interventions or exposure assessment methods.

**PEER REVIEW.** In the five years 1999-2004, CPWR-sponsored research accounted for one-quarter of all peer-reviewed publications in construction safety and health, and half of those dealing with interventions or exposure assessment methods.

Dement J, Ringen K, Welch L, Bingham E, Quinn P [2005]. Surveillance Of Hearing Loss Among Older Construction And Trade Workers At Department Of Energy Nuclear Sites. *American Journal of Industrial Medicine* 48:348-58.

Dong X [2005]. Long work hours, work scheduling and work-related injuries among construction workers in the United States. *Scandinavian Journal of Work, Environment & Health* 31(5): 329-35.

Hecker S, Gambatese J, Weinstein M [2005]. Designing for Worker Safety: Moving the Construction Safety Process Upstream. *Professional Safety* 50(9): 32-44.

Meeker JD, Susi P, Pellegrino A [2005]. Exposure to Silica and Metals Among Painters Using Specular Hematite Abrasive (column). *Journal of Occupational and Environmental Hygiene* 2:D60-64.

Rosecrance JC, Anton D, Cook T, Merlino L [2005]. Effect of pneumatic power tool use on nerve conduction velocity across the wrist. *Human Factors and Ergonomics in Manufacturing* Vol. 15 (4) 1-14.

Weinstein M, Gambatese J, Hecker S [2005]. Can Design Improve Construction Safety: Assessing the Impact of a Collaborative Safety-in-Design Process. *Journal of Construction Engineering and Management* 131(10): 1125-34.

Welch LS, Hunting KL, Murawski JA [2005]. Occupational Injuries Among Construction Workers Treated in a Major Metropolitan Emergency Department in the United States. *Scandinavian Journal of Work, Environment & Health*, 31 suppl 2:11-21.

\*For more listings, see Small Studies, page 11.



### STRATEGIC GOALS

CPWR is working with the National Institute for Occupational Safety and Health (NIOSH) to define eight strategic goals for research in construction. The work, begun in 2005, should affect NIOSH and industry research priorities for the next decade. Although priority areas such as traumatic injury and hearing loss have previously been identified and have guided research, the proposed goals go further by identifying performance measures and intermediate and longer-term outcomes to target, such as numbers of injuries and illnesses. CPWR has provided input for a document to present the content and rationale for the proposed goals, which include reducing falls to a lower level and improving surveillance. A new NIOSH NORA Construction Sector Research Council will further develop these national construction research goals.

### ARTICLES “IN PRESS”

A number of articles authored by CPWR staff or consortium members are slated for publication in upcoming issues of peer-reviewed journals. Subject matter can be gleaned by the article titles: *Under-reporting of Injuries in Construction*, *An English-Spanish Safety Climate Scale for Construction Workers*, *Reporting Asbestos Research Results in 18,000 Sheet Metal Workers*, *Work-Related Injuries Among Hispanic Construction Workers—Evidence from a Population Survey*. Other topics include the results of a survey on disease and MSD among roofers, trainer evaluation of Smart Mark, and a report on the results of a masonry focus group.



## SERVICE

## Oversight and Advisory Boards

### BOARD OF DIRECTORS

**Edward C. Sullivan**

**Chairman of the Board and President**  
President, Building and Construction  
Trades Department, AFL-CIO  
Washington, DC

**Sean McGarvey**

**Secretary-Treasurer**  
Building and Construction Trades  
Department, AFL-CIO  
Washington, DC

**Erich J. (Pete) Stafford**

**Executive Director**  
The Center to Protect Workers'  
Rights  
Silver Spring, Maryland

**Richard Resnick**

Sherman Dunn, Cohen,  
Leifer & Yellig, PC  
Washington, DC

**Morris M. Kleiner**

**AFL-CIO Professor of Labor Policy  
Director, the Center for Labor Policy**  
Hubert H. Humphrey Institute for  
Public Affairs  
University of Minnesota  
Minneapolis, Minnesota

**Noel C. Borck**

**Executive Vice President**  
The Association of Union  
Constructors  
National Erectors Association  
Arlington, Virginia

**Kenneth E. Hedman**

**Former Principal Vice President  
Bechtel Construction Company**  
Consultant, Helmets to Hardhats  
Anthem, Arizona

**Father Edward Boyle**

The Labor Guild  
Archdiocese of Boston  
Weymouth, Massachusetts

**Reverend James Cletus Kiley  
Executive Director**

United States Conference of  
Catholic Bishops  
Washington, DC

### TECHNICAL ADVISORY BOARD

**Anders Englund, MD**

**Co-Chair  
Senior Medical Adviser**  
Swedish Work Environment  
Authority

**Ralph Frankowski, PhD**

**Co-Chair**  
Professor of Biometry  
University of Texas School  
of Public Health  
Houston

**Robin Baker, MPH**

**Director**  
Labor Occupational Health Program  
University of California, Berkeley

**Eula Bingham, PhD**

Department of Environmental Health  
University of Cincinnati Medical  
School

**Christine Branche, PhD**

**Director, Division of  
Unintentional Injury Prevention**  
National Center for Injury  
Prevention & Control, Centers for  
Disease Control & Prevention

**Letitia Davis, ScD**

**Director, Occupational Health  
Surveillance Program**  
Massachusetts Department of  
Public Health

**Denny Dobbin, MsC, CIH (ret.)**

**Environmental Adviser**  
Chapel Hill, North Carolina

**Linda M. Goldenhar, PhD**

**Assistant Dean**  
College of Medicine  
University of Cincinnati

**James M. Melius, MD, DrPH**

**Administrator**  
New York State Laborers' Health  
and Safety Fund

## SENIOR STAFF

**Pete Stafford**  
Executive Director  
pstafford@cpwr.com

**Mary Tarbrake, MBA**  
Associate Director,  
Finance and Administration  
mtarbrake@cpwr.com

**Wendy Roldan, CPA**  
Controller  
wroldan@cpwr.com

**James Platner, PhD, CIH**  
Associate Director,  
Science and Technology  
jplatner@cpwr.com

**Janie Gittleman, PhD, MRP**  
Associate Director,  
Safety and Health Research  
jgittleman@cpwr.com

**Knut Ringen, DrPH**  
Senior Scientific Adviser  
knutringen@msn.com

**Donald Elisburg, JD**  
Senior Environmental Adviser  
delisbur@infionline.net

**Michael McCann, PhD, CIH**  
Director of Safety Research  
michael.mccann@att.net

**Pam Susi, MSPH**  
Director, Exposure Assessment  
plsusi@aol.com

**Don Ellenberger, MA**  
Director, Hazardous Waste  
Training Program  
donellenberger@cpwr.com

**Kizetta Vaughn**  
Director, Brownfields and Minority  
Worker Training Program  
kv3460@aol.com

**Chris Trahan, CIH**  
Director, OSHA and  
Disaster Response Training  
ctrahan@cpwr.com

**Alexandra Szymczak**  
Lead and Asbestos  
Program Coordinator  
Grants Data Manager  
aszymczak@cpwr.com

**Steve Surtees**  
Coordinator, Training  
ssurtees@cpwr.com

**Kelly Dykes**  
Equipment Manager and Instructor  
kellydykes@frontiernet.net

**Gene Daniels**  
Master Instructor & Lead and  
Asbestos Training Program Manager  
homerblue@aol.com

**George Newman**  
Master Instructor  
sirdashGCN@aol.com

**Patricia Quinn**  
Director, Energy Employees Department  
and Small Studies Coordinator  
pquinn@cpwr.com

**Laura Welch, MD**  
Medical Director  
lwelch@cpwr.com

**Wilfrid (Buck) Cameron, MS, CIH**  
Project Director  
buckcameron01@msn.com

**Mary Watters, MFA**  
Communications Director  
mwatters@cpwr.com

**Xiuwen (Sue) Dong, DrPh**  
Data Center Director  
sdong@cpwr.com

**Mike Dorsey**  
Field Representative  
Eastern United States  
mdorsey@cpwr.com

**George Jones**  
Field Representative  
gjbctd@aol.com

**Jack Gilchrist**  
Field Representative  
WRBCTD@aol.com

**Ray Trujillo**  
Field Representative  
rtrujillo@sbctc.org

**Spencer Schwegler**  
Disaster Response  
Field Coordinator  
sschwegler@verizon.net

**Janice Wheeler**  
National Resource Center  
Program Director  
jwheeler@bctd.org

**PHOTO CREDITS:** Earl Dotter, [www.earldotter.com](http://www.earldotter.com); Dan Anton, Don Ellenberger, Hester Lipscomb, Susan Shepherd, Pam Susi, Kizetta Vaughn. Special thanks to Michelle Alban/Telemundo and Chris Trahan.

© 2007, The Center to Protect Workers' Rights. All rights reserved. CPWR is a research, training, and service arm of the Building and Construction Trades Dept., AFL-CIO: CPWR, Suite 1000, 8484 Georgia Ave., Silver Spring, MD 20910. This booklet was made possible by grant U54 OH008307 from the National Institute for Occupational Safety and Health, Department of Energy grant DE-FC01-06EH06004, Department

of Labor contract DOLJ059E22270, and grants U45-ES09764 and U45-ES06185 from the National Institute of Environmental Health Sciences. The contents are solely the responsibility of the authors and do not necessarily represent the official views of NIOSH, DOE, DOL, or NIEHS.

8484 Georgia Ave., Suite 1000  
Silver Spring, MD 20910  
[www.cpwr.com](http://www.cpwr.com)  
[www.elcosh.org](http://www.elcosh.org)  
[www.btmed.org](http://www.btmed.org)



8484 Georgia Ave., Suite 1000  
Silver Spring, MD 20910

[www.cpwr.com](http://www.cpwr.com)  
[www.elcosh.org](http://www.elcosh.org)  
[www.btmed.org](http://www.btmed.org)





# Worker Health Protection Program








# THE WORKER HEALTH PROTECTION PROGRAM

- [Home](#)
- [About WHPP](#)
- [WHPP Screening](#)
- [WHPP DOE Sites](#)
- [Worker Health Info](#)
- [WHPP News](#)
- [Success Stories](#)
- [Related Links](#)



**THIS SITE IS CURRENTLY UNDER CONSTRUCTION!**

The Worker Health Protection Program (WHPP) provides free medical screening for former and current workers at the following participating Department of Energy (DOE) sites: Gaseous Diffusion Plants in Oak Ridge, Tennessee, Paducah, Kentucky, and Portsmouth, Ohio; Oak Ridge National Lab (ORNL) and Y-12 in Oak Ridge, Tennessee; Fernald in Harrison, Ohio; Mound in Miamisburg, Ohio; and the Idaho National Laboratory (INL) in Idaho Falls, Idaho.

The goal of WHPP is to provide medical screening to detect work-related illnesses at an early stage when medical intervention may be helpful. In addition, it helps workers determine if a current health condition is the result of a work-related exposure. For the first time, former and current workers at DOE sites have the opportunity to obtain an independent, objective assessment of their health in relation to their prior workplace exposures by a physician with expertise in occupational medicine.

WHPP was established under Section 3162 of the 1993 Defense Authorization Act. The Act directed the DOE to initiate programs to evaluate the health of former DOE defense nuclear facility workers. The program is funded by a contract from the DOE and is led by Queens College of the City University of New York in partnership with the United Steelworkers (USW), Atomic Trade and Labor Council (ATLC), Fernald ATLC and Creative Pollution Solutions (CPS), Inc.

## FREE OF CHARGE, ELIGIBLE WORKERS CAN RECEIVE:

- a medical screening exam
- an educational workshop
- a chest CT scan for early lung cancer detection (Y-12 and ORNL workers only)

**FOR FURTHER INFORMATION, BROWSE THIS WEBSITE OR CALL TOLL-FREE 1-888-241-1199**



# *The Worker Health Protection Program*



**United Steelworkers, ORNL & Y-12 ATLC, Fernald ATLC  
Center for the Biology of Natural Systems, Queens College  
City University of New York  
Creative Pollution Solutions, Inc.**

***Worker Health Protection Program (WHPP) Project Update***  
***USW SITES***  
**Through – March 31, 2008**

<b>WHPP SITE</b>	<b># of callers</b>	<b># of Exams</b>	<b># of people who have completed exams</b>	<b># of re-screen exams</b>
<b>Paducah</b>	<b>3,659</b>	<b>3,142</b>	<b>2,828</b>	<b>314</b>
<b>Portsmouth</b>	<b>4,309</b>	<b>3,701</b>	<b>3,262</b>	<b>436</b>
<b>Oak Ridge/K-25</b>	<b>5,097</b>	<b>4,465</b>	<b>4,182</b>	<b>283</b>
<b>3 Gaseous Diffusion Sites:</b>	<b>13,065</b>	<b>11,308</b>	<b>10,272</b>	<b>1,033</b>
<b>INL</b>	<b>4,934</b>	<b>3,695</b>	<b>3,380</b>	<b>314</b>
<b>Mound</b>	<b>1,075</b>	<b>762</b>	<b>762</b>	
<b>USW TOTAL</b>	<b>19,074</b>	<b>15,765</b>	<b>14,414</b>	<b>1,137</b>

*Number of Individuals Sent Mailings by DOE Site  
Worker Health Protection Program*

<b>Paducah</b>	<b>6,510</b>
<b>Portsmouth</b>	<b>13,431</b>
<b>Oak Ridge/K-25</b>	<b>27,353</b>
<b>INL</b>	<b>42,125</b>
<b>Mound</b>	<b>13,481</b>
<b>Total USW</b>	<b>102,900</b>
<b>X-10</b>	<b>4,456</b>
<b>Y-12</b>	<b>8,084</b>
<b>Fernald</b>	<b>51,219</b>
<b>Total All Sites</b>	<b>166,659</b>

***Worker Health Protection Program (WHPP) Project Update***

***X-10 & Y-12 and Fernald***

**X-10 & Y-12 May 17, 2005 - January 31, 2008**

**Fernald July 13, 2006 – January 31, 2008**

<b>WHPP SITE</b>	<b># of callers</b>	<b># of people who have completed exams</b>	<b># of clinics providing screening exams</b>
<b>X-10</b>	<b>934</b>	<b>690</b>	<b>3</b>
<b>Y-12</b>	<b>2,422</b>	<b>1,715</b>	<b>3</b>
<b>Fernald</b>	<b>813</b>	<b>482</b>	<b>1</b>
<b>Total</b>	<b>4,169</b>	<b>2,887</b>	<b>4</b>

***Worker Health Protection Program  
DOE Workers Screened by Site and Year***

(GDP's 4/99 – 3/31/07, INL 4/00 – 3/31/07, X-10 & Y-12 5/05 – 3/31/07, Fernald 7/06 – 3/31/07, Mound 6/06 – 3/31/07)

<b>Year</b>	<b>Por</b>	<b>Pad</b>	<b>K-25</b>	<b>INL</b>	<b>Mound</b>	<b>X-10 &amp; Y-12</b>	<b>Fernald</b>	<b>Total</b>
1999	211	239	247					697
2000	453	506	639	423				2,021
2001	663	534	1,007	491				2,695
2002	589	410	546	482				2,027
2003	408	263	580	536				1,787
2004	446	322	476	424				1,668
2005	332	312	391	341		794		2,170
2006	128	154	234	371	451		279	2,573
2007	411	337	283	547	286		206	2,726
2008	105	126	118	137	44		48	586
<b>Totals</b>	<b>3,746</b>	<b>3,203</b>	<b>4,521</b>	<b>3,752</b>	<b>781</b>	<b>2,527</b>	<b>533</b>	

**USW 16,003**

**All Sites 19,063**

***Worker Health Protection Program  
DOE Workers Screened by Site and Year***

<b>Year</b>	<b>Por</b>	<b>Pad</b>	<b>K-25</b>	<b>INL</b>	<b>Mound</b>	<b>X-10 &amp; Y-12</b>	<b>Fernald</b>	<b>Total</b>
<b>Number of people Examined 12/1/06 - 11/30/07</b>	346	252	223	471	306	643	202	<b>2,443</b>
<b>Number of people examined 12/1/07 - 1/31/08</b>	62	87	70	94	20	74	37	<b>444</b>
<b>Planned number of exams 12/1/07 - 11/30/08</b>	360 (30/mo)	360 (30/mo)	360 (30/mo)	360 (30/mo)	360 (30/mo)	720 (60/mo)	240 (20/mo)	<b>2,760</b>

**Worker Health Protection Program**  
**Summary of Findings for All GDP Sites**  
**April 30, 1999 – November 30, 2007**

<b>Finding</b>	<b>Number Screened</b>	<b># with condition</b>	<b>% with condition</b>
<i>Asbestos-related CXR finding</i>	10,167		
<b>Parenchyma only</b>		166	1.6
<b>Pleura only</b>		769	7.6
<b>Parenchyma and Pleura</b>		45	0.4
<b>Total Asbestos Disease</b>		<b>980</b>	<b>9.6</b>
<i>Chronic obstructive lung disease</i>	10,823		
<b>Chronic bronchitis</b>		1,302	12
<b>Emphysema</b>		338	3.1
<hr/>			
<i>Hearing Loss</i>	9,618	6,667	69
<hr/>			
<i>Beryllium LPT</i>	9,528		
<b>Single abnormal</b>		313	3.4
<hr/>			
<i>Spirometry pattern</i>	9,994		
<b>Restrictive</b>		1,772	17.7
<b>Obstructive</b>		1,203	12
<b>Mixed</b>		734	7.3

***Worker Health Protection Program  
Summary of Findings for INL  
April 25, 2000 – November 30, 2007***

<b>Finding</b>	<b>Number Screened</b>	<b># with condition</b>	<b>% with condition</b>
<b><i>Asbestos-related CXR finding</i></b>	3,260		
<b>Parenchyma only</b>		21	0.6
<b>Pleura only</b>		338	10.4
<b>Parenchyma and Pleura</b>		10	0.3
<b><i>Total Asbestos Disease</i></b>		<b>369</b>	<b>11.3</b>
<b><i>Chronic obstructive lung disease</i></b>	3,517		
<b>Chronic bronchitis</b>		311	8.8
<b>Emphysema</b>		102	2.9
<hr/>			
<b><i>Hearing Loss</i></b>	3,010	2,054	68
<hr/>			
<b><i>Beryllium LPT</i></b>	3,337		
<b>Single abnormal</b>		74	2.2
<hr/>			
<b><i>Spirometry pattern</i></b>	3,181		
<b>Restrictive</b>		432	13.5
<b>Obstructive</b>		388	12.2
<b>Mixed</b>		195	6

***Worker Health Protection Program  
Summary of Findings for Mound  
June 26, 2006 – November 30, 2007***

<b>Finding</b>	<b>Number Screened</b>	<b># with condition</b>	<b>% with condition</b>
<b><i>Asbestos-related CXR finding</i></b>	696		
<b>Parenchyma only</b>		5	0.7
<b>Pleura only</b>		45	6.5
<b>Parenchyma and Pleura</b>		0	0
<b><i>Total Asbestos Disease</i></b>		<b>50</b>	<b>7.2</b>
<b><i>Chronic obstructive lung disease</i></b>	728		
<b>Chronic bronchitis</b>		56	7.7
<b>Emphysema</b>		8	1.1
<hr/>			
<b><i>Hearing Loss</i></b>	672	326	49
<hr/>			
<b><i>Beryllium LPT</i></b>	659		
<b>Single abnormal</b>		20	3
<hr/>			
<b><i>Spirometry pattern</i></b>	656		
<b>Restrictive</b>		85	13
<b>Obstructive</b>		118	18
<b>Mixed</b>		36	5.5

***Worker Health Protection Program  
Summary of Findings for all USW Sites  
April 30, 1999 – November 30, 2007***

<b>Finding</b>	<b>Number Screened</b>	<b># with condition</b>	<b>% with condition</b>
<b><i>Asbestos-related CXR finding</i></b>	14,123		
<b>Parenchyma only</b>		192	1.4
<b>Pleura only</b>		1,152	8.2
<b>Parenchyma and Pleura</b>		55	0.4
<b><i>Total Asbestos Disease</i></b>		<b>1,399</b>	<b>9.9</b>
<b><i>Chronic obstructive lung disease</i></b>	15,068		
<b>Chronic bronchitis</b>		1,669	11.1
<b>Emphysema</b>		448	3
<hr/>			
<b><i>Hearing Loss</i></b>	13,300	9,047	68
<hr/>			
<b><i>Beryllium LPT</i></b>	13,524		
<b>Single abnormal</b>		406	3
<hr/>			
<b><i>Spirometry pattern</i></b>	13,831		
<b>Restrictive</b>		2,289	16.5
<b>Obstructive</b>		1,709	12.4
<b>Mixed</b>		965	7

***Worker Health Protection Program  
Summary of Findings for X-10 & Y-12***

May 17, 2005 – November 30, 2007

<b>Finding</b>	<b>Number Screened</b>	<b># with condition</b>	<b>% with condition</b>
<b><i>Asbestos-related CXR finding</i></b>	2,228		
<b>Parenchyma only</b>		26	1.2
<b>Pleura only</b>		182	8.2
<b>Parenchyma and Pleura</b>		8	0.4
<b><i>Total Asbestos Disease</i></b>		<b>216</b>	<b>10</b>
<b><i>Chronic obstructive lung disease</i></b>	2,388		
<b>Chronic bronchitis</b>		356	14.9
<b>Emphysema</b>		129	5.4
<hr/>			
<b><i>Hearing Loss</i></b>	2,137	1,378	64.5
<hr/>			
<b><i>Beryllium LPT</i></b>	2,174		
<b>Single abnormal</b>		105	4.8
<hr/>			
<b><i>Spirometry pattern</i></b>	2,139		
<b>Restrictive</b>		323	15
<b>Obstructive</b>		353	16.5
<b>Mixed</b>		164	7.7

***Worker Health Protection Program  
Summary of Findings for Fernald  
July 13, 2006 – November 30, 2007***

<b>Finding</b>	<b>Number Screened</b>	<b># with condition</b>	<b>% with condition</b>
<b><i>Asbestos-related CXR finding</i></b>	<b>416</b>		
<b>Parenchyma only</b>		<b>0</b>	<b>0</b>
<b>Pleura only</b>		<b>14</b>	<b>3.4</b>
<b>Parenchyma and Pleura</b>		<b>0</b>	<b>0</b>
<b><i>Total Asbestos Disease</i></b>		<b>14</b>	<b>3.4</b>
<b><i>Chronic obstructive lung disease</i></b>	<b>480</b>		
<b>Chronic bronchitis</b>		<b>25</b>	<b>5.2</b>
<b>Emphysema</b>		<b>6</b>	<b>1.3</b>
<hr/>			
<b><i>Hearing Loss</i></b>	<b>424</b>	<b>118</b>	<b>27.8</b>
<hr/>			
<b><i>Beryllium LPT</i></b>	<b>303</b>		
<b>Single abnormal</b>		<b>2</b>	<b>0.7</b>
<hr/>			
<b><i>Spirometry pattern</i></b>	<b>414</b>		
<b>Restrictive</b>		<b>40</b>	<b>9.7</b>
<b>Obstructive</b>		<b>33</b>	<b>8</b>
<b>Mixed</b>		<b>17</b>	<b>4.1</b>

***Worker Health Protection Program  
Beryllium Testing Results  
April 30, 1999 - November 30, 2007***

<i>Facility</i>	<b>K-25</b>	<b>Portsmouth</b>	<b>Paducah</b>	<b>INL</b>	<b>Mound</b>	<b>X10</b>	<b>Y-12</b>	<b>Fernald</b>
<b># of Individuals tested (at least one result)</b>	<b>4,125</b>	<b>2,368</b>	<b>3,035</b>	<b>3,337</b>	<b>659</b>	<b>616</b>	<b>1,558</b>	<b>303</b>
<b>Abnormal</b>	<b>205 (5%)</b>	<b>68 (2.9%)</b>	<b>40 (1.3%)</b>	<b>74 (2.2%)</b>	<b>20 (3.0%)</b>	<b>23 (3.7%)</b>	<b>82 (5.3%)</b>	<b>20 (0.7%)</b>

## Development of a registry of former workers of the Baie Verte Asbestos Mine

Friday, July 18, 2008

The development of a registry of former mine employees is a proactive approach, created through a collaborative partnership between the workers' compensation system, a union organization and a community group. The Workplace Health, Safety and Compensation Commission (the Commission), the Baie Verte Peninsula Miners' Action Committee and the United Steel Workers (USW) have worked collaboratively toward the development of the Baie Verte Miners' Registry.

The Registry will help identify former mine employees of the now defunct Baie Verte Mine who may have developed asbestos-related diseases and determine their general state of health. The Baie Verte Asbestos Mine was established in 1955 and ceased operations in 1992, employing approximately 3000 workers. Former employees of the mine, including contractual employees, will be asked for their consent to participate in the registry, which will include providing their employment history, asbestos exposure information and health status. Memorial University of Newfoundland's, research unit, SafetyNet, will be responsible for carrying out the work necessary to complete the Registry.

"The Commission recognized the link between emerging asbestos-related illnesses in workers of the Baie Verte Asbestos Mine and the need to find a better way to work with the injured workers, labour and the community," said Ralph Tucker, Chair, Board of Directors, Workplace, Health, Safety and Compensation Commission. "This new collaborative approach between the Commission, the USW and the Baie Verte Miners' Action Committee is a positive step in the right direction in addressing the emerging issue of occupational disease for the workers of our province."

"I want to congratulate the parties involved on their efforts to bring this initiative forward to assist the former mine employees," said Minister Shawn Skinner, Minister for Human Resources, Labour and Employment and Minister Responsible for the Workplace Health, Safety and Compensation Commission. "Together, those involved in this process recognize the value of creating a registry."

"I am pleased with the dedication, hard work, co-operation and commitment to this issue from the Commission and the USW," said Lars Hoven, a representative of the Baie Verte Peninsula Miners' Action Committee. "I know the same commitment and co-operation will continue in the future on any issues that may arise."

"This is a breakthrough agreement for the United Steelworkers and workers everywhere, and with the critical information obtained through the Registry it will be a turning point for fair compensation for victims of occupational disease. We hope this announcement will set the pattern for other Boards and governments across Canada as they too strive for justice for workers and their survivors," said Nancy Hutchison, United Steelworkers, District 6 Health, Safety and Environment Coordinator.

Work on the Registry will begin in July 2008, which will include additional information communicated publicly on how parties can become involved in the Registry process. To contact the Baie Verte Miners' Registry call: 1888 737 7250 or visit: [www.baieverteminers-registry.ca](http://www.baieverteminers-registry.ca).

-30-

### *About the Workplace Health, Safety and Compensation Commission*

*Serving over 16,000 employers and approximately 12,000 injured workers, the Commission is an employer-funded no fault insurance system that promotes safe and healthy workplaces, provides return-to-work programs and fair compensation to injured workers and their dependants. The Commission is committed to educating workers and employers about workplace injury and prevention, and to promoting a positive safety culture for the province of Newfoundland and Labrador.*

### **About the United Steel Workers**

The United Steelworkers at the beginning of the 21st century barely resembles the mostly-male industrial union of the 1930s, '40s and '50s. But the increasing diversity of the membership has only strengthened the basic principles on which the union was founded.

Workers employed in the steel industry and in mining - two of the union's traditional jurisdictions - total about 65,000, out of a total membership in Canada of 280,000. Steelworker members can be found in every sector of the economy - from factories to offices, to hospitals, university campuses, hotels, warehouses, bakeries, banks, transportation and communication workers and many more. More than 20 per cent of Steelworkers now are women, and there is a growing membership among visible minority workers.

### **About the Baie Verte Peninsula Miners' Action Committee**

The Baie Verte Peninsula Miners Action Committee was formed in July 2004 in response to a meeting held by the USW to talk to the people in the Baie Verte area about Advocate/Baie Verte Mines and health and environmental issues. Since its inception, the Baie Verte Peninsula Miners Action Committee has become a liaison between the people of the area and the USW in pursuit of justice for the former workers of the asbestos mines in Baie Verte.

**FOR FURTHER INFORMATION, PLEASE CONTACT:**

Deborah Inkpen  
*Director of Communications  
Workplace Health, Safety and  
Compensation Commission*  
Telephone: 709-778-1590 or 1-800-563-9000  
email: [deborah.inkpen@whscc.nl.ca](mailto:deborah.inkpen@whscc.nl.ca)  
website: [www.whscc.nl.ca](http://www.whscc.nl.ca)

Peter D. Birt, Department Head  
*Communications & Information Systems, United Steelworkers*  
800-234 Eglinton Avenue East  
Toronto, Ontario M4P 1K7  
Direct phone (416) 544-5966  
Fax (416) 487-9852  
email: [pbirt@usw.ca](mailto:pbirt@usw.ca)  
website: [www.usw.ca](http://www.usw.ca)



## UNITED STEELWORKERS (USW)

Attention News Editors:

### **Steelworkers applaud Newfoundland breakthrough agreement for victims of occupational disease: Now the search for former Baie Verte miners across Canada**

BAIE VERTE, NL, July 18 /CNW/ - A registry that will help identify former mine workers of the now defunct Baie Verte Asbestos Mine, who may have developed asbestos-related diseases, is a major breakthrough for workers' health, says the United Steelworkers union (USW).

"This is a breakthrough agreement for the USW and workers everywhere and, with the critical information obtained through the registry, it will be a turning point for fair compensation for victims of occupational disease," said USW Ontario/Atlantic Health, Safety and Environment Coordinator Nancy Hutchison. "We hope this announcement will set the pattern for other compensation boards and governments across Canada as we continue to strive for justice for workers and their survivors."

The announcement of the registry was made Thursday in Baie Verte by the Workplace Health, Safety and Compensation Commission (WHSCC) of Newfoundland and Labrador, together with the USW and the Baie Verte Peninsula Miners' Action Committee.

Memorial University will carry out the work to complete the information for the registry, which will include employment history, asbestos exposure information and health status.

Asbestos was commercially mined in Baie Verte from 1963 to 1992, employing about 3,000 workers.

USW will actively work with its members across Canada, the WHSCC, and with the Baie Verte community to help locate all former mine employees, regardless of their health status, and encourage them to register.

"This agreement recognizes the long-term commitment of the USW to the Baie Verte miners and to the many health and safety activists across Newfoundland and Labrador, and in all of Canada who fought for this agreement," said USW Staff Representative Boyd Bussey. "Steelworkers will continue to work with the WHSCC to see the results of the registry turned into fair compensation for the Baie Verte miners and their families."

The registry is an important first step and USW will be there to support the next stages to turn this announcement into positive action", said Bussey.

To contact the Baie Verte Miners' Registry, call 1-888-737-7250, or go to [baieverteminers-registry.ca](http://baieverteminers-registry.ca)

For further information: Peter D. Birt, USW Communications, (416) 544-5966

**UNITED STEELWORKERS (USW) - More on this organization**



# Office of Workers' Compensation Programs



U.S. Department of Labor  
Employment Standards Administration



[www.dol.gov/esa](http://www.dol.gov/esa)

Go

Search / A to Z Index

Find It!: [By Topic](#) | [By Audience](#) | [By Top 20 Requested Items](#) | [By Form](#) | [By Organization](#) | [By Location](#)

August 19, 2008 [DOL Home](#) > [ESA](#) > [OWCP](#) > DEEOIC

## Office of Workers' Compensation Programs (OWCP)

[ESA](#)
[OFCCP](#)
[OLMS](#)
[OWCP](#)
[WHD](#)

**OWCP** Administers disability compensation programs that provide benefits for certain workers or dependents who experience work-related injury or illness.

[Black Lung](#)
[Longshore](#)
[Energy](#)
[Federal Employees' Comp](#)

[Compliance Assistance](#)

[Regulatory Library](#)

[News Room](#)

[About DEEOIC](#)

[Contact Us](#)

[Jurisdictional Maps](#)

- [Resource Center Locations](#)
- [District Offices](#)

### Division of Energy Employees Occupational Illness Compensation (DEEOIC)

#### About EEOICP

The Energy Employees Occupational Illness Compensation Program (EEOICP) began on July 31, 2001 with the Department of Labor's implementation of Part B; Part E implementation began on October 28, 2004. The mission of the program is to provide lump-sum compensation and health benefits to eligible Department of Energy nuclear weapons workers (including employees, former employees, contractors and subcontractors) and lump-sum compensation to certain survivors if the worker is deceased. When you apply for either Part B and/or Part E we will collect medical, employment, and other information from you and make a decision about whether or not you qualify for compensation and benefits.

- [Mission Statement](#)

#### Highlights

- [DOL adds new information to SEM website.](#)
- [DOL to host town hall meetings in Idaho, Washington, and Oregon](#)
- [DOL to host town hall meeting in West Virginia](#)

#### Contact Us

- [Contact Us](#): 1-866-888-3322  
TTY: 1-877-889-5627

#### Most Requested

- [Claim Forms](#)
- [Help Me Find ...](#)
- [Site Exposure Matrices \(SEM\)](#)
- [Department of Energy Utility for Locating Information on an Individual Facility](#)

#### Procedure Manuals & Bulletins

- [Search Policies and Procedures](#)
- [EEOICPA Part B Procedure Manual](#)
- [EEOICPA Part E Procedure Manual](#)
- [EEOICPA Final Bulletins](#)
- [EEOICPA Final Circulars](#)

#### Program Information

- [Secretary's Welcome](#)
- [Upcoming Events](#)
- [Program News](#)
- [Program Benefits](#)
- [Special Exposure Cohort Employees](#)
- [Medical Provider Enrollment](#)
- [Get Help Filing a Claim](#)
- [Check the Status of a Claim](#)
- [Site Exposure Matrices \(SEM\)](#)
- EEOICPA Benefits: Part B and Part E Power Point Presentation ([PPT](#))

#### Laws & Related Resources

- [EEOICPA With the Recent Amendment Extending the Ombudsman \(to October 28, 2012\) That Was Enacted as § 3116 of Public Law 110-181 \(January 28, 2008\)](#)
- [Summary of Amendments as of 10/28/2004](#)
- List of Facilities Covered by the Energy Employees Occupational Illness Compensation Program Act of 2000 as of August 23, 2004 ([PDF](#))
- [DOE List of Covered Facilities](#)
- [Executive Order 13179](#)
- EEOICP Regulations, Published December 29, 2006 ([PDF](#))
- [Significant EEOICPA Decisions](#)

#### Statistics

- [Program Part B](#)

- [Program Part E](#)
- [Combined Program Statistics](#)
- [State and Worksite](#)

[Related Topics & Links](#)

Claim Forms

- Employee's Claim; Form EE-1 ([PDF](#))
- Survivors Claim; Form EE-2 ([PDF](#))
- Health Insurance ([PDF](#))
- Medical Reimbursement ([PDF](#))
- Employment History; Form EE-3 ([PDF](#))
- [All Claims Forms](#)

Brochures

- Benefit Information for Atomic Weapons Industry Workers and Their Survivors ([PDF](#))
- Medical Benefits: Questions and Answers About the Energy Employees Occupational Illness Compensation Program ([PDF](#))
- Chronic Beryllium & Beryllium Sensitivity Under the Energy Employees Occupational Illness Compensation Program Act ([PDF](#))
- [More brochures ...](#)

 [Back to Top](#)

[www.dol.gov/esa](http://www.dol.gov/esa)

[www.dol.gov](http://www.dol.gov)

---

[Freedom of Information Act](#) | [Customer Survey](#)  
[Privacy & Security Statement](#) | [Disclaimers](#) | [E-mail to a Friend](#)

---

U.S. Department of Labor  
Frances Perkins Building  
200 Constitution Avenue, NW  
Washington, DC 20210

1-866-4-USA-DOL  
TTY: 1-877-889-5627  
[Contact Us](#)



U.S. Department of Labor  
Employment Standards Administration



[www.dol.gov/esa](http://www.dol.gov/esa)

Go

Search / A to Z Index

Find It!: [By Topic](#) | [By Audience](#) | [By Top 20 Requested Items](#) | [By Form](#) | [By Organization](#) | [By Location](#)

August 19, 2008 [DOL Home](#) > [ESA](#) > [WHD](#) > [DEEOIC](#) > [Benefits for Nuclear Weapons Workers](#)

## Office of Workers' Compensation Programs (OWCP)

[Printer-Friendly Version](#)

ESA

OFCCP

OLMS

OWCP

WHD

OWCP

Administers disability compensation programs that provide benefits for certain workers or dependents who experience work-related injury or illness.

Black Lung

Longshore

Energy

Federal Employees' Comp

[Compliance Assistance](#)

[Regulatory Library](#)

[News Room](#)

[About DEEOIC](#)

[Contact Us](#)

[Jurisdictional Maps](#)

- [Resource Center Locations](#)
- [District Offices](#)

### Division of Energy Employees Occupational Illness Compensation (DEEOIC)

#### Benefits for Nuclear Weapons Workers

#### Browse by Subject

The Energy Employees Occupational Illness Compensation Program (EEOICP) began on July 31, 2001 with the Department of Labor's implementation of Part B; Part E implementation began on October 28, 2004. The mission of the program is to provide lump-sum compensation and health benefits to eligible Department of Energy nuclear weapons workers (including employees, former employees, contractors and subcontractors) and lump-sum compensation to certain survivors if the worker is deceased ([read more](#)).

When you apply for either Part B and/or Part E we will collect medical, employment, and other information from you and make a decision about whether or not you qualify for compensation and benefits.

- [Part B](#)
- [Part E](#)
- [Combined Program Statistics](#)
- [Statistics by State and Worksite](#)
- [Part B Statistics](#)
- [Part E Statistics](#)
- [Policy and Procedures](#)
- [Site Exposure Matrices \(SEM\)](#)
- [Upcoming Events](#)

Toll-Free Help: 1-866-888-3322  
8:00 am to 4:30 pm (Mon – Fri)

I Want To...

- [View basic information about the program](#)
- [View/download brochures and fact sheets](#)
  - [EEOICPA Benefits: Part B and Part E](#)
  - [PowerPoint Presentation](#)
  - [Frequently Asked Questions \(FAQs\)](#)
  - [Benefit Information for Atomic Weapons Industry Workers and Their Survivors](#)
  - [Medical Benefits: Questions and Answers about the Energy Employees Occupational Illness Compensation Program](#)
  - [Beryllium Diseases and the EEOICPA](#)
  - [How Do I Qualify for an Impairment Award under Part E of the EEOICPA](#)
  - [Wage Loss Benefits under Part E of the EEOICPA](#)
  - [How a Tort Action Affects your Right to EEOICPA Benefits](#)
- [View a list of covered facilities](#)
- [View claim forms](#)
- [Get help filing a claim](#)
- [Check the status of my claim](#)
- [Know the status of my dose reconstruction \(NIOSH\)](#)
- [Learn about Special Exposure Cohorts](#)
- [Get help with medical bills](#)
- [Enroll as a medical provider](#)
- [Search Significant EEOICPA Decisions](#)

- [Learn about program law and regulations](#)
- [View more program information](#)
- [View other related links](#)
- [View the latest program news](#)



[Back to Top](#)

[www.dol.gov/esa](http://www.dol.gov/esa)

[www.dol.gov](http://www.dol.gov)

---

[Freedom of Information Act](#) | [Customer Survey](#)  
[Privacy & Security Statement](#) | [Disclaimers](#) | [E-mail to a Friend](#)

---

U.S. Department of Labor  
Frances Perkins Building  
200 Constitution Avenue, NW  
Washington, DC 20210

1-866-4-USA-DOL  
TTY: 1-877-889-5627  
[Contact Us](#)

# Energy Employees Occupational Illness Compensation Program



**May, 2007**

# Administration of the EEOICPA

- **Part B**
  - Administered by DOL & continues operation
  - Over \$1.8 billion in compensation paid to date
- **Part E**
  - Replaced Part D – all 25,000 cases transferred to DOL
  - System of federal payments
  - Administered by DOL

## Part B Benefits Overview

- Who's eligible: Current and Former employees of:
  - DOE
  - DOE Contractors/Subcontractors
  - Atomic Weapons Employers (AWE)
  - Beryllium Vendors (BV)
  - Uranium miners, millers, and ore transporters who worked at facilities covered by Section 5 of RECA
  - Certain family members of deceased workers

# Part B Benefits Overview, cont'd

- When eligible:
  - Worker made sick as a result of exposure to radiation or developed beryllium sensitivity, chronic beryllium disease, or silicosis.
- What benefits are provided under Part B:
  - \$150,000 maximum compensation (radiogenic cancer, chronic beryllium disease, chronic silicosis)
  - Medical benefits are available in addition to compensation
  - No monetary compensation for beryllium sensitivity, medical monitoring only

## Part B Benefits Overview, cont'd

- RECA under Part B:
  - If an employee or survivor received an award under RECA Section 5, DOL pays \$50,000 maximum compensation.
  - Medical benefits are available in addition to compensation.

# Part E Benefits Overview

- Who's eligible:
  - Contractor and subcontractor employees of covered DOE facilities
  - Uranium miners, millers, and ore transporters who worked at facilities covered by Section 5 of RECA
  - Certain RECA Section 4 Awardees
  - Certain family members of deceased workers
- When eligible:
  - Worker made sick as result of exposure to toxic substance
- What benefits are provided under Part E:
  - \$250,000 maximum compensation
  - Medical bills for accepted illnesses

# Basic Part B Claim Criteria

- **Employment** – proof of contractor or subcontractor employment at a qualifying DOE, AWE, BV or RECA facility & exposure to radiation, beryllium or silica.
- **Medical – Diagnosed Illness**
  - e.g. radiogenic cancer, chronic beryllium disease or sensitivity, or chronic silicosis.
- **Burden of Proof**
  - DOL will assist in collection of evidence i.e. employment & exposure records - medical documentation
  - Ultimate responsibility for claim rests with claimant

# Basic Part E Claim Criteria

- **Employment** – proof of contractor or subcontractor employment at a qualifying DOE or RECA facility & exposure to toxic substance
- **Medical – Diagnosed Illness**
  - e.g. asbestosis, cancer, chronic beryllium disease, dermatitis, asthma, etc.
- **Burden of Proof**
  - DOL will assist in collection of evidence i.e. employment & exposure records - medical documentation
  - Ultimate responsibility for claim rests with claimant

# Proving Causation

- Automatic approval for some cases – living employees
  - Part D condition accepted by DOE
  - Part B condition accepted by DOL
  - RECA Section 5 condition accepted by DOJ
- “At least as likely as not” (50% or greater) that exposure to a toxic substance (including radiation) was a significant factor in aggravating, causing or contributing to illness or death of the employee

# Cancer Solely Caused by Radiation

- **Dose Reconstruction – NIOSH**
  - Analysis of historical radiation dose
  - Employee favorable dose estimate
- **Probability of Causation (POC)  
Calculation – for both Parts B and E**
  - Approved with POC of at least 50%
  - NIOSH model includes causation & contribution

# Cancer Caused by Radiation and Other Toxic Exposure

- Dose reconstruction outcome?
- Effect of toxic substance
  - DOL will evaluate via qualitative medical evidence
  - Synergistic or additive effect (radiation + exposure from toxin)

# Causation – Toxic Exposures

## What DOL Will Do to Help

- Covered Illness Matrices
  - Toxin potential to cause, aggravate, or contribute to covered illness - death
  - Medical analysis conducted by specialists – toxicology, occupational medicine, etc.
- Site Exposure Matrices (SEM)
  - Based on documents obtained from DOE & former worker programs
  - Other sources i.e. unions, worker groups, etc.
  - A portion of the SEM database is available to the public on the DEEOIC website at <http://www.sem.dol.gov/>

# Radiation Exposure Compensation Act (RECA) & Part E

- Part E eligibility added for uranium workers employed at facilities covered by RECA Section 5 - who were awarded benefits
  - RECA administered by DOJ
- Other illnesses due to exposure to toxic substances at a “Section 5” mine or mill

# RECA Coverage

## - *Who* -

Miners, millers, ore transporters

## - *Where* -

Colorado, New Mexico, Arizona, Wyoming,  
North/South Dakota, Washington, Utah, Idaho,  
Oregon, and Texas

## - *When* -

January 1, 1942 through December 31, 1971

# Adjudication of RECA Claim

- Section 5 award = accept under Part E
- No Section 5 award = development for causation
  - Different criteria for employment and covered illnesses compared to DOJ program
- Same benefits as other Part E awards

# SEM Roundtable Meetings

- Workers invited to provide firsthand toxic exposure knowledge
- Information gathered, evaluated, and verified for possible inclusion in database
- An abridged version of the SEM database available at <http://www.sem.dol.gov/>

# Claimant Responsibilities - Causation

- Provide pertinent medical evidence listing diagnosis / treatment of occupational illness
- List job titles, known exposures, period of employment
  - EE-3 Employment History Form
  - Occupational History Interview
- Respond to DOL requests for information

# Benefit Process

- Maximum Employee/Survivor Payment - \$250,000
  - % impairment + wage loss + survivor benefit
  - Medical benefits not counted against \$250,000 cap
  - Does not count award received under Part B
- Offsets
  - Coordinate with state workers' compensation to determine possible offset of state award
  - No offset for payments under Part B
- Tort Claims – DOL offsets net payment from tort action

# Impairment Award

- Determination of % permanent impairment due to covered illness
  - Standard Applied – AMA’s Guides to the Evaluation of Permanent Impairment
  - Decreased function in a body part or organ established by medical evidence - whole person
  - Claimant may request re-evaluation every two years or upon acceptance of new illness that increases impairment
- \$2500 for each % of impairment

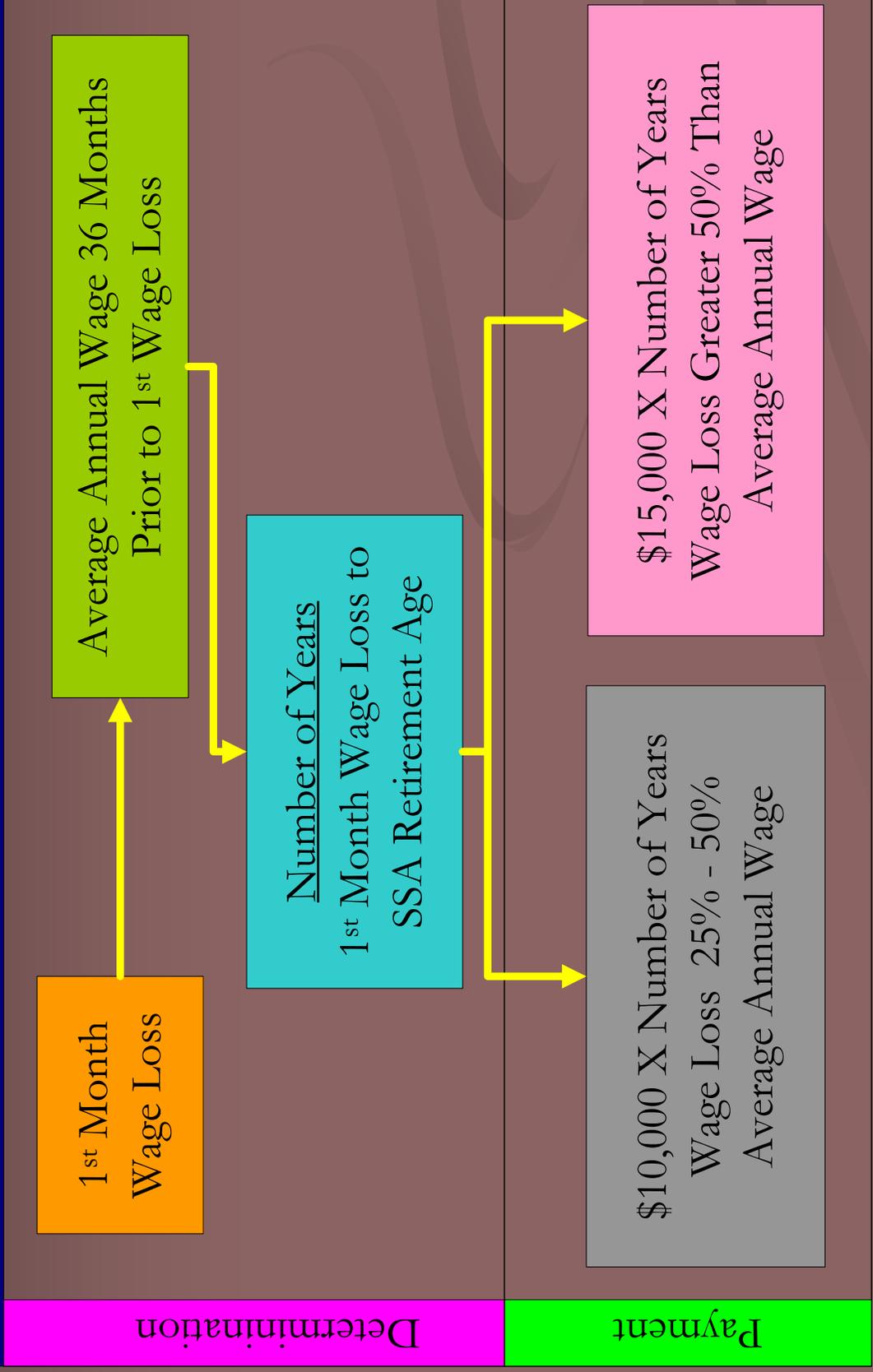
# Impairment Rating Procedures

- **Criteria for physician selection**
  - Board-certified in relevant medical specialty
  - Knowledge and experience in performing impairment ratings
- **Options for getting rating**
  - Claimant submits tests-DOL reviews for impairment
  - Claimant physician meeting criteria completes impairment
  - DOL refers for testing and impairment to physician

# Maximum Medical Improvement

- Impairment rating performed at maximum medical improvement (MMI)
  - Well-stabilized and unlikely to improve with medical treatment
  - Covered illness in terminal stage prior to MMI
    - DOL to proceed immediately to determine impairment rating and issue compensation

# Wage Loss Calculation



# Establishing Wage Loss Due to Accepted Illness

- Medical evidence must show decreased capacity to work –
  - Medical reports describing history, diagnostic tests, diagnosis, treatment plan, doctor opinion, etc.
  - Physician notes, statements, narratives

## Wage Loss Award

- Calculations are based on evidence from multiple sources - SSA earnings, tax documents, & wage earning records
- Earnings are adjusted for inflation to determine years qualifying for a wage loss award
- Payments for additional qualifying years of wage loss after initial payment - if claimed & proven by claimant

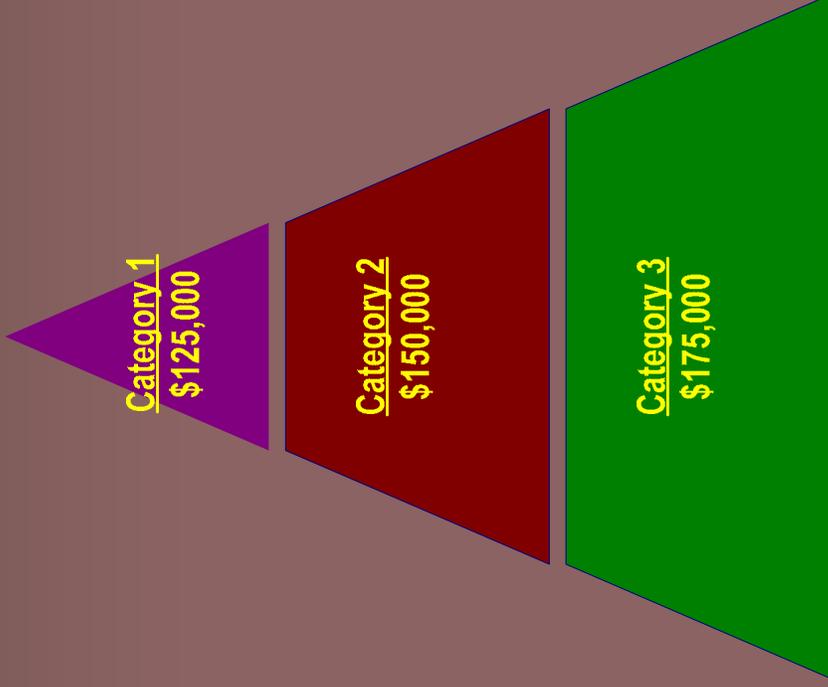
# Survivor Claims

- Eligible Survivors – (*at time of employee's death*)
  - Living spouse: married to covered employee for at least one year immediately prior to death
  - Covered child, if no surviving spouse:
    - Under the age of 18 years
    - Under the age of 23 years and full time student
    - Any age and incapable of self-support
- Statutorily defined – DOL has no authority to modify Congressional definition

# Survivor – Compensation

## Categories

- Category 1 – employee death was caused, contributed to, or aggravated by toxic exposure
- Category 2 – Category 1 plus employee had 10 years or more wage loss due to covered illness
- Category 3 – Category 1 plus employee had 20 years or more wage loss due to covered illness



# Computation of Wage-Loss Years

## – Survivors –

- Same as with living employees
- Exception – counts years following death as wage loss up to SSA retirement age
  - Maximizes years of wage loss

# Decision Making

- District Office manages case and issues decision
- All claims (Part B & E) combined into one file
  - Includes any documentation collected by DOE during administration of Part D
- Handling Objections
  - Review of the Written Record
  - Request for Hearing
  - Federal District Court

# Filing Claims

- 4 District Offices
- 11 Resource Centers
- Website:  
<http://www.dol.gov/esa/regs/compliance/owcp/eoicp/main.htm>



Department of Health and Human Services  
Centers for Disease Control and Prevention  
**National Institute for Occupational Safety and Health (NIOSH)**



[Search NIOSH](#) [NIOSH Home](#) [NIOSH Topics](#) [Site Index](#) [Databases and Information Resources](#) [NIOSH Products](#) [Contact Us](#)

## NIOSH Program Area:

# Office of Compensation Analysis and Support (OCAS)

## Special Exposure Cohort (SEC)

Find It !

The SEC was established by [The Act](#) and allows eligible claims to be compensated without the completion of a radiation dose reconstruction or determination of the probability of causation. To qualify for compensation under the SEC, a covered employee must have at least one of 22 "[specified cancers](#)" and worked for a specified period of time at one of the [SEC work sites](#).

In addition to establishing the SEC, Congress allowed for additional classes of employees to be added to the SEC under certain circumstances. The responsibility for adding classes of employees to the SEC was assigned to the Secretary of Health and Human Services (HHS). HHS used rulemaking procedures, which included the opportunity for the public to provide comments, to establish procedures for HHS to make decisions on whether to add classes of employees to the SEC. OCAS is responsible for collecting and evaluating petitions for the Secretary of HHS' consideration when determining whether or not to add groups of employees to the SEC.

### SEC Petition Counselor

NIOSH is responsible for accepting petitions to add classes of employees to the SEC under EEOICPA. NIOSH is aware that the SEC process can sometimes seem complex. In order to make the petitioning process as understandable as possible, NIOSH has named Laurie Breyer (formerly Ishak) as the SEC Petition Counselor.

Ms. Breyer has been the NIOSH SEC Counselor since July 2006. As the SEC Petition Counselor, Ms. Breyer provides advice to individuals who wish to submit an SEC petition. She assists the petitioner(s) in understanding the development, submission, qualification, evaluation, and Board deliberation processes that their petition will undergo. It is NIOSH's goal to help individuals understand the complete petition process as outlined in the [SEC Rule \(42 C.F.R. Part 83\)](#) and Ms. Breyer works with petitioners in overcoming any frustrations or confusion that they may feel when submitting an SEC petition.

Ms. Breyer has a Juris Doctorate from the University of Tennessee and a Masters in Communication from Wichita State University. She has been with NIOSH since August 2004.

You can contact Ms. Breyer if you have any general questions about the SEC, the SEC process, or how to submit an SEC petition.

If you are interested in filing an SEC petition or have any general questions about the SEC, the SEC process, or how to submit an SEC petition, the SEC Petition Counselor, Ms. Laurie Breyer, can be contacted via email at [ocas@cdc.gov](mailto:ocas@cdc.gov) or by calling 513-533-6800 or toll-free at 1-877-222-7570. Information on filing an SEC petition can also be found on our [How to Submit an SEC Petition](#) Web page.

[Top of Page](#)

### Ombudsman to NIOSH under EEOICPA

Denise Brock has been newly appointed as a Consultant/Ombudsman to NIOSH under EEOICPA. Ms. Brock will be working with individuals with respect to the SEC process as well as the dose reconstruction process for claims that have been filed under Subpart B of the Act.

Ms. Brock will directly assist petitioners in compiling materials, information, and documentation needed to file an SEC petition. She will also assist petitioners in preparing and presenting comments to the Advisory Board on Radiation Worker Health. Ms. Brock will be available to help petitioners who may be having difficulties within their current petition.

In some cases, NIOSH will refer certain Subtitle B claims which have undergone dose reconstruction, and in where the claimant may be experiencing some difficulty, to Ms. Brock, for

### On this page...

- ▶ [SEC Petition Counselor](#)
- ▶ [Ombudsman to NIOSH under EEOICPA](#)
- ▶ [Requests for SEC Outreach Meetings](#)
- ▶ [Classes of Employees Currently Included in the SEC](#)
- ▶ [List of Qualifying Cancers for the SEC](#)
- ▶ [Petitions Currently Qualified for Evaluation](#)
- ▶ [Petitions Not Added to the SEC](#)
- ▶ [Other SEC Related Pages:](#)

[How to Submit an SEC Petition](#)

[Submissions Not Qualifying for Evaluation](#)

[SEC Rule and Other Miscellaneous Items](#)

### Claimant Corner

- ▶ [Claim Information](#)
- ▶ [Commonly Used Acronyms](#)
- ▶ [FAQs](#)
- ▶ [General Activities on AWE Cases](#)
- ▶ [General Activities on DOE Cases](#)
- ▶ [Help A-Z](#)
- ▶ [List of Work Sites](#)
- ▶ [Phone Interview Information](#)
- ▶ [OCAS Print Materials](#)
- ▶ [Status of Your Dose Reconstruction](#)

### OCAS Directory

- ▶ [About OCAS](#)
- ▶ [The Act \(EEOICPA\)](#)
- ▶ [Advisory Board](#)
- ▶ [Conflict or Bias Policy and Disclosure Statements](#)

her involvement.

Ms. Brock has been an outspoken and effective advocate for workers for many years. She is the daughter of former uranium workers from the Mallinckrodt Chemical Plant in St. Louis, Missouri. She was the Founder/Director of The United Nuclear Weapons Workers advocacy group. Ms. Brock has extensive experience and expertise in preparing and filing SEC petitions for classes of workers. In fact, Ms. Brock filed the first SEC petition to add a class of workers to the EEOICPA. Ms. Brock was a strong force in organizing former workers and providing necessary information to the Board to push forward the SEC petition.

The SEC petition was approved and a class of Mallinckrodt workers were added. This covered workers who were employed during the time frame of 1942 through 1957, had worked at least 250 days and had at least one of the twenty-two listed cancers. Ms. Brock has acted as not only a worker advocate but as a consultant to several law firms which were assisting EEOICPA claimants. She has been recognized for her experience and was asked to testify before the Judiciary Committee on Immigration, Border Security and Claims, U.S. House of Representatives, Hearing on Implementation of Energy Employees Occupational Illness Compensation Program Act in an effort to bring forward ideas to help change the program to better serve the needs of the Workers.

You may contact Ms. Brock by calling toll-free at 1-888-272-7430.

[Top of Page](#)

---

### Requests for SEC Outreach Meetings

---

NIOSH is looking into conducting a series of SEC outreach meetings across the country. The goal of the SEC outreach meetings will be to help individuals understand the SEC and the SEC petitioning process. These meetings will be open to the public and will last approximately half a day.

Please note that NIOSH will consider all submissions but may not be able to honor all requests for an SEC outreach meeting. The decision to hold a meeting will be based on the availability of NIOSH personnel, the number of requests received, and public interest in a geographical area. If your request is approved then you will be contacted with further details.

If you are interested in having an SEC outreach meeting for your facility or location, please contact either Laurie Breyer or Denise Brock with your request. Ms. Laurie Breyer, the SEC Petition Counselor, can be contacted via email at [ocas@cdc.gov](mailto:ocas@cdc.gov) or by calling 513-533-6800 (direct) or toll-free at 1-877-222-7570. Ms. Denise Brock, the Ombudsman to NIOSH under EEOICPA, can be contacted toll-free at 1-888-272-7430.

[Top of Page](#)

---

### Classes of Employees Currently Included in the SEC

---

A "class of employees" is defined in the SEC rule as a group of employees who work or worked at the same DOE facility or AWE facility, and for whom the availability of information and recorded data on radiation exposures is comparable with respect to the informational needs required to complete a radiation dose reconstruction as required under [The Act](#).

**The sites listed below currently have classes of employees in the SEC. Please click on the links below to view the specific details of the class definition and petition information.**

- [Allied Chemical Corporation](#)
- [Mound Plant](#)
- [Amchitka Island Nuclear Explosion Site](#)
- [Nevada Test Site](#)
- [Ames Laboratory](#)
- [Nuclear Materials and Equipment Corp. \(NUMEC\)--Apollo](#)
- [Combustion Engineering](#)
- [Nuclear Materials and Equipment Corp. \(NUMEC\)--Parks Township](#)
- [Dow Chemical Company](#)
- [Oak Ridge Gaseous Diffusion Plant \(K-25\)](#)

- Dose Reconstruction
- Help A-Z
- Latest Update to OCAS Web Site
- Probability of Causation (NIOSH-IREP)
- Program Evaluation Reports (PERs) and Program Evaluation Plans (PEPs)
- Public Meetings
- Regulatory Record (Public Docket)
- Related Links
- Special Exposure Cohort
- Technical Documents Used in Dose Reconstruction
- Timeline of Major OCAS Events
- OCAS Main Page

- [General Atomics](#) [Site\)](#)
- [Hanford](#)
- [Harshaw Chemical Company](#)
- [Horizons, Inc.](#)
- [Iowa Ordnance Plant](#)
- [Kellex/Pierpont](#)
- [Lawrence Livermore National Laboratory](#)
- [Linde Ceramics Plant](#)
- [Los Alamos National Laboratory \(LANL\)](#)
- [Mallinckrodt Chemical Works, Destrehan Street Facility](#)
- [Monsanto Chemical Company](#)
- [Oak Ridge Institute for Nuclear Studies \(Oak Ridge Institute for Science Education or ORISE\)](#)
- [Pacific Proving Grounds](#)
- [Paducah Gaseous Diffusion Plant](#)
- [Portsmouth Gaseous Diffusion Plant](#)
- [Rocky Flats Plant](#)
- [S-50 Oak Ridge Thermal Diffusion Plant](#)
- [SAM Laboratories, Columbia University](#)
- [W. R. Grace](#)
- [Y-12 Plant](#)

[Top of Page](#)

---

### List of Qualifying Cancers for the SEC

---

In addition to having worked for a specified period of time at one of the SEC work sites, to qualify for compensation, a covered employee must also have at least one of the following types of cancer:

- Bone cancer
- Renal cancers
- Leukemia (other than chronic lymphocytic leukemia) provided the onset of the disease was at least two years after first exposure
- Lung cancer (other than in-situ lung cancer that is discovered during or after a post-mortem exam)
- The following diseases provided onset was at least five years after first exposure:
  - Multiple myeloma
  - Lymphomas (other than Hodgkin's disease)
  - Primary cancer of the:
    - Bile ducts
    - Brain
    - Breast (female)
    - Breast (male)
    - Colon
    - Esophagus
    - Gall bladder
    - Liver (except if cirrhosis or hepatitis B is indicated)
    - Ovary
    - Pancreas
    - Pharynx
    - Salivary gland
    - Small intestine
    - Stomach
    - Thyroid
    - Urinary bladder

**NOTE:** The Department of Labor has published EEOICP Final Bulletins to address various EEIOCPA issues. There are some bulletins that address information for some of the cancers listed above and some of the bulletins address how SEC claims are processed.

[DOL EEOICP Final Bulletins](#)

External Link:

<http://www.dol.gov/esa/regs/compliance/owcp/eoicp/PolicyandProcedures/FinalBulletinshtml.htm>[Top of Page](#)

---

**Petitions Currently Qualified for Evaluation**

---

The petitioners and the [Advisory Board](#) will be notified when a petition meets the minimum requirements and NIOSH will proceed with an evaluation of the petition. The results of the evaluation will be given to the Advisory Board for review. During one of its regular meetings, the Advisory Board will evaluate the review, hear from the petitioners if they choose, and review any other information the Advisory Board determines is appropriate for the petition. The Advisory Board will then submit a recommendation (to accept or deny the petition) to the Secretary of HHS.

The Director of NIOSH will prepare a proposed decision for the Secretary of HHS, taking into consideration the NIOSH findings, and the Board's recommendation. The petitioners will be notified of the proposed decision and can contest a proposed decision to deny the class or a proposed decision to define health endangerment such that members of the class are limited to those employees who have been employed for at least 250 days in writing within 30 calendar days.

The final decision to add or deny a class to the SEC will be made by the Secretary of HHS, after considering information and recommendations provided by NIOSH, the Advisory Board, and from the review, if applicable. The Secretary will then submit any final decision to add a class to the SEC to Congress for review. If Congress takes no action that reverses or expedites the Secretary's decision, it will take effect 30 calendar days after the date the Secretary's report is submitted to Congress. The Secretary will provide a report to DOL and the petitioners containing the definition of the class and either the addition of the class to the SEC or the result of any action by Congress to reverse or expedite the decision.

**The sites listed below have SEC petitions that have qualified for evaluation and are currently active in the SEC petitioning process. Please click on the links below to view the specific details of the class definition and petition information.**

- [Area IV of the Santa Susana Field Laboratory](#)
- [Bethlehem Steel Company](#)
- [Blockson Chemical Company](#)
- [Brookhaven National Laboratory](#)
- [Chapman Valve](#)
- [Combustion Engineering](#)
- [Feed Materials Production Center \(FMPC\)](#)
- [General Steel Industries \(GSI\)](#)
- [Lawrence Livermore National Laboratory \(LLNL\)](#)
- [Linde Ceramics Plant](#)
- [Los Alamos National Laboratory \(LANL\)](#)
- [Massachusetts Institute of Technology \(MIT\)](#)
- [Mound Plant](#)
- [Pantex Plant](#)
- [Rocky Flats Plant](#)
- [Savannah River Site](#)
- [Spencer Chemical Co., Jayhawks Works](#)
- [Texas City Chemicals, Inc.](#)
- [Westinghouse Atomic Power Development Plant](#)

[Top of Page](#)

---

**Petitions Not Added to the SEC**

---

Listed below are sites representing SEC petitions that have completed the SEC petitioning process and were not added as an additional class to the SEC. Please click on the links

**below to view the specific details for why the class was not added to the SEC.**

- [Iowa Ordnance Plant \(IOP\)](#)
- [National Bureau of Standards, Van Ness Street](#)
- [Sandia National Laboratory--Livermore](#)
- [Y-12 Plant](#) (Statisticians)

[Top of Page](#)

---

Page last updated: August 14, 2008  
Page last reviewed: May 30, 2008  
Content Source: National Institute for Occupational Safety and Health (NIOSH)

[NIOSH Home](#) | [NIOSH Search](#) | [NIOSH Site Index](#) | [NIOSH Topics](#) | [Contact NIOSH](#)

## U.S. Department of Health & Human Services

### Testimony

Statement by  
John Howard, M.D., M.P.H.,  
Director  
National Institute for Occupational Safety and Health  
Centers for Disease Control and Prevention  
U.S. Department of Health and Human Services

on  
EEOICPA: Is the Program Claimant Friendly For Our Cold War Heroes?

before  
Senate Committee on Health  
Education, Labor and Pensions  
United States Senate

Tuesday, October 23, 2007

Chairman Kennedy and members of the committee, my name is John Howard, and I am the director of the National Institute for Occupational Safety and Health (NIOSH), part of the Centers for Disease Control and Prevention (CDC) within the Department of Health and Human Services (HHS). I am pleased to appear before you today to update you on the progress HHS has made under the Energy Employees Occupational Illness Compensation Program Act of 2000 ("EEOICPA" or "the Act") (Pub. L. No. 106-398). I will describe several of our initiatives to provide better service, and I assure you that we are committed to continuing to improve the program to better serve former workers and their survivors and honor their service to our country.

The role of HHS in the program focuses on the science of conducting dose reconstructions, including the related issue of considering and deciding upon petitions from classes of employees wishing to be added to the Special Exposure Cohort (SEC), and providing support for the Advisory Board on Radiation and Worker Health (Advisory Board). The Department of Labor (DOL) has the lead responsibility in the program for administering EEOICPA, including carrying out activities such as processing and paying claims.

#### Progress to Date

I would like to start by describing the progress and accomplishments NIOSH has made in implementing EEOICPA, followed by highlighting NIOSH initiatives to provide the best possible service to claimants.

At a meeting of the Advisory Board three weeks ago, DOL reported that the program has paid more than \$869 million to claimants, based on either a completed dose reconstruction, which DOL determined was compensable, or by membership in a non-statutory, HHS-designated SEC class.

#### *Dose Reconstructions*

As of October 16, 2007, DOL has referred 25,492 claims to NIOSH, and NIOSH has returned 17,280 of these claims to DOL with a completed dose reconstruction. Of the remaining claims, NIOSH has returned to DOL 1,466 claims for a determination of SEC eligibility; DOL has "pulled," or taken back, 648 claims for various reasons; and there are 971 claims with completed dose reconstruction reports, which are currently being reviewed by claimants. This leaves

approximately 20% of the claims at NIOSH in an active status.

Our efforts have been and are focused on completing the oldest claims in our system. As a result, of the first 5,000 claims that NIOSH received from DOL, we have completed or sent to DOL for adjudication 98.7% of those claims (compared with about 80% for the program overall). Of the remaining 64 claims for which we have not completed a dose reconstruction, 20 claimants worked at a facility for which NIOSH recommended adding an SEC class. NIOSH considers completion of the oldest claims in the system to be a top priority so claimants can have their cases resolved.

#### *Special Exposure Cohort*

Through NIOSH's efforts, 24 classes of workers, representing 19 facilities, have been added to the SEC to date. NIOSH has initiated almost 40% (9) of the 24 classes that have been added, based on the authority under our rules (42 C.F.R. pt. 83) to initiate petitions when NIOSH determines that we lack data to estimate radiation doses with sufficient accuracy.

#### *Service to Claimants and Petitioners*

NIOSH constantly strives to improve the level of service we offer to claimants. I will tell you about the most recent steps we have taken. We have made available two staff members to help claimants and petitioners navigate this complex program. We continue to reach out to former workers to seek their input and incorporate it into our scientific and technical work products. We also have developed new communications materials to promote claimants' understanding of the program.

#### *Claimant Resources*

NIOSH has created two new staff positions to aid petitioners with the petitioner-initiated SEC process. These are the SEC Petition Counselor and the NIOSH Petitioner/Claimant Ombudsman, both of whom have toll-free telephone numbers and other contact information posted on the NIOSH website. The SEC Petition Counselor, Ms. Laurie Breyer, helps petitioners through the submission, development, qualification, evaluation, and Advisory Board deliberation processes of SEC petitions. Petitioners may also seek assistance from the NIOSH Petitioner/Claimant Ombudsman, Ms. Denise Brock, a former petitioner whose efforts led to the addition of a class of employees at Mallinckrodt Chemical Works in Missouri. In addition to responding to phone calls and e-mails, the SEC Petition Counselor and the Petitioner/Claimant Ombudsman have jointly held two SEC outreach meetings (one in Idaho Falls, Idaho, and one in Calabasas, California) and are in the process of arranging a third meeting in Augusta, Georgia, in November. The purpose of these meetings is to increase claimant and public understanding of the SEC process. Ms. Breyer and Ms. Brock have also attended, by invitation, meetings held by potential petitioners and/or union groups to explain the SEC process. These meetings took place in New Mexico, Washington, D.C., New York, and Pennsylvania.

#### *Worker Outreach*

NIOSH continues to proactively conduct worker outreach. In an effort to obtain input on program technical and procedural approaches, NIOSH has sponsored 77 worker outreach meetings, five town hall meetings, and four public meetings. NIOSH has held five dose reconstruction workshops to explain the dose reconstruction process to workers, union officials, and claimant advocates. NIOSH also has held six SEC worker outreach meetings to collect information specific to preparation of a NIOSH SEC evaluation report.

#### *Improved Communications Products*

To enhance external communication, NIOSH has revised the acknowledgement packet sent to each claimant once NIOSH receives his or her claim from DOL. The new acknowledgment packet provides a more descriptive explanation of the dose reconstruction process and the steps that a claim will go through in that process. We have developed, distributed, and made available on our website the following new materials:

- probability of causation fact sheet,
- SEC fact sheet,
- residual contamination fact sheet,
- technical documents used in dose reconstruction fact sheet,
- dose reconstruction fact sheet,
- overview of the dose reconstruction process,
- detailed steps in the dose reconstruction process,
- glossary of terms, and
- answers to frequently asked questions.

We have also created a video explaining the dose reconstruction process; the video may be viewed on our website and is also available at Advisory Board meetings and by request in CD, DVD, and VHS formats. In preparing all of these materials, NIOSH sought input from the workers, the Advisory Board, and the NIOSH Petitioner/Claimant Ombudsman to make the information as clear as possible. NIOSH has also implemented and maintains an external mailing list so that interested individuals will receive automatic e-mail updates when new information is added to the NIOSH website.

In addition to these outreach initiatives and the development of new communication information, NIOSH responds to numerous letters, telephone calls, and e-mails from claimants, the public, and Congress. NIOSH has received and responded to over 9,000 e-mails to our general program inbox, and NIOSH and our technical support contractors have received and responded to over 300,000 telephone calls since the inception of the program. NIOSH has responded to over 4,000 congressional requests for information, provided over 100 congressional briefings, and hosted a congressional delegation visit to our Cincinnati office where NIOSH's EEOICPA work is performed.

### Addressing Uncertainty

NIOSH is committed to resolving uncertainties in all aspects of NIOSH's work in the program in a manner consistent with the Act, the Executive Order, and the rules developed through public rulemaking. Based on the Act's direction that the purpose of the program is to provide "timely, uniform, and adequate compensation" and the statement in Executive Order 13179, which allocates responsibilities among agencies under the Act, that compensation should be "compassionate, fair, and timely," the HHS procedures for dose reconstruction (contained in 42 C.F.R. pt. 82) address the need for efficient processes to better serve claimants. The Preamble of the dose reconstruction procedures, which were promulgated through public rulemaking procedures and took into consideration comments from the public and the Board, "give the benefit of the doubt to claimants in cases of scientific or factual uncertainty or unknowns." The SEC rule (42 C.F.R. pt. 83) reiterates that the Act intends for the program to provide "timely compensation" and "uniform, fair, scientific consideration." I will now briefly discuss several examples of methods that NIOSH has incorporated to give the benefit of the doubt to claimants to account for uncertainty in dose reconstructions, probability of causation (POC), and the SEC process.

#### *Dose Reconstruction*

Dose reconstructions are grounded in the best available science and when there is uncertainty

NIOSH may use the following claimant-favorable assumptions, when appropriate, to complete the dose reconstruction:

- use of factors that would yield the highest estimated dose when there are equally plausible scenarios; for example, assuming that a worker is directly next to the exposure source instead of a further distance away;
- application of missed internal and external dose to compensate for the limits of the monitoring programs at the time;
- assignment of neutron doses to workers with little evidence of neutron exposures to compensate for the technical limitations of monitoring of neutrons at the time;
- assumption of certain external doses as acute or chronic to maximize dose; for example, there are instances in which an assumption of an acute exposure of a certain dose may yield a higher estimated dose than an assumption of a chronic exposure, and vice versa;
- assumption of external dose even if it is not clear that there was an appreciable potential for exposure; and
- use of maximum ambient doses for workers in administrative areas; for example, even though workers in administrative areas may not have been exposed to doses in the work environment, NIOSH nevertheless includes the work environment exposure.

Such assumptions and methods, following the dose reconstruction procedures established through public rulemaking, have led to a compensability rate by DOL of slightly more than 30%.

#### *Probability of Causation*

The Act mandates that all POCs must be established at the 99<sup>th</sup> percentile confidence interval. The use of the 99<sup>th</sup> percentile confidence level is the most significantly claimant-favorable aspect of the program. NIOSH built upon this foundation in establishing the POC guidelines (42 C.F.R. pt. 81) for DOL. DOL uses these POC guidelines, along with dose reconstruction information provided by NIOSH, to determine the POC for a given claim. Using the 99<sup>th</sup> percentile confidence interval, as opposed to the median or average POC value, means it is unlikely that an individual could have developed cancer covered by the program and not be compensated.

In creating the guidelines, HHS provided DOL with procedures to follow when there is uncertainty. For example, when DOL is unable to identify the primary cancer, and only secondary cancers are identified, the NIOSH-authored POC guidelines require DOL to use as the primary cancer the cancer that will yield the highest POC in making the compensation decision. Another example is when multiple cancer risk models may apply, the POC guidelines require DOL to apply the model that will result in the highest POC.

#### *Special Exposure Cohort*

The SEC process likewise has many provisions to assist petitioners. NIOSH offers assistance to petitioners in preparing submissions and throughout the SEC process. As previously indicated, two full-time staff are dedicated to assisting petitioners in the SEC process. Further, if information that is needed to evaluate a petition will not be available in a timely manner, the SEC rule allows NIOSH to determine that such information is not available for purposes of the evaluation, allowing the petition to move forward. SEC petitions also receive careful review by the Advisory Board, which analyzes the NIOSH petition evaluation report, obtains input from petitioners, and spends numerous hours assessing whether information is adequate to estimate radiation dose with sufficient accuracy. In the SEC rule, NIOSH provided petitioners with two opportunities for administrative review of non-favorable decision. Finally, as mentioned earlier in the testimony, NIOSH may initiate an SEC petition if NIOSH determines that there is a lack of data to estimate radiation doses with sufficient accuracy, placing less burden on affected claimants.

## Oversight of NIOSH's Application of the Science

The Advisory Board, which advises HHS on the science underlying our implementation of EEOICPA, provides an important source of outside review that helps inform our work. The Advisory Board focuses on the scientific detail that is necessary to oversee such a program, and it makes use of rigorous peer review to accomplish its work. The Advisory Board is very involved in all aspects of HHS program activities. The full Board has met a total of 50 times, either in person or by teleconference. The subcommittees have met 20 times, and the Advisory Board's working groups (of which there are more than a dozen), which focus on technical scientific issues, have met a total of 48 times. HHS provides administrative services, funds, facilities, staff, and other necessary services to support the Advisory Board's work. CDC has obtained a technical support contractor, Sanford Cohen & Associates (SC&A), to assist the Advisory Board in reviewing NIOSH's dose reconstruction estimates, site profile documents, and SEC petition evaluations.

Since NIOSH is dedicated to transparency in all aspects of the program, all Advisory Board meetings, including working group meetings, are publicly announced in the *Federal Register* and open to the public, except where closure is required. We go beyond the requirements of the Federal Advisory Committee Act (5 U.S.C. App. 2) by providing verbatim transcripts and detailed minutes of all Advisory Board meetings, including those of working groups, and making them available to the public on our website.

## Summary

In conclusion, NIOSH has made a great deal of progress in carrying out the responsibilities of HHS under EEOICPA. We will continue to strive to serve claimants better by communicating with them more effectively and processing their claims more quickly.

Thank you again for the opportunity to testify today. I am happy to answer any questions you may have.

Last revised: July 30,2008

---

[HHS Home](#) | [Frequent Questions](#) | [Contacting HHS](#) | [Accessibility](#) | [Privacy Policy](#) | [Freedom of Information Act](#) | [Disclaimers](#) | [Helping America's Youth](#)

U.S. Department of Health & Human Services · 200 Independence Avenue, S.W. · Washington, D.C. 20201



Office of Health Safety and Security

# Office of Analysis



## OFFICE OF HEALTH, SAFETY AND SECURITY

## ANALYSIS

## Analysis

Text size: [Smaller](#) - [Normal](#) - [Larger](#) - [Largest](#)You are Here: [DOE](#) > [HSS](#) > [CSA](#)[Home](#)[Mission and Functions](#)[Electrical Safety](#)[Operating Experience Summaries](#)[Lessons Learned and Best Practices](#)[Computerized Accident Incident Reporting and Recordkeeping System \(CAIRS\)](#)[Radiation Exposure Monitoring Systems \(REMS\)](#)[Daily Occurrence Reports](#)[Occurrence Reporting SIG \(OR SIG\)](#)[Occurrence Reporting and Processing System \(ORPS\)](#)[Quarterly Worker Injury/Illness Information](#)[Safety and Health Alerts](#)[Safety Bulletins](#)[Suspect/Counterfeit Items and Defective Items \(SCI/DI\)](#)[Office of Corporate Safety Programs](#)[Office of Corporate Safety Analysis](#)**Office of Analysis**

[Computerized Accident/Incident Reporting System \(CAIRS\)](#): A database used to collect and analyze DOE and DOE contractor reports of injuries, illnesses, and other accidents that occur during DOE operations. Contact: [Janet Macon](#)

[Daily Occurrence \(DO\) Reports](#) A daily summary and listing of occurrence reports submitted to DOE. Contact: [Eugenia Boyle](#)

[Electrical Safety](#) The Department has undertaken recent and ongoing efforts to improve electrical safety. Contact: [Eugenia Boyle](#)

[Operating Experience Summaries](#) HSS publishes the OE Summary to promote safety throughout the DOE complex by exchanging lessons-learned information between DOE facilities. Contact: [Eugenia Boyle](#)

[Lessons Learned and Best Practices](#) The DOE Corporate Operating Experience Program facilitates the sharing of performance information, lessons learned, and good practices across the DOE Complex to prevent the recurrence of adverse events. Contact: [Mark Petts](#)

[Occurrence Reporting and Processing System \(ORPS\)](#): The Department of Energy's Occurrence Reporting Program provides timely notification to the DOE complex of events that could adversely affect public or DOE worker health and safety, the environment, national security, DOE's safeguards and security interests, functioning of DOE facilities, or the Department's reputation. Contact: [Eugenia Boyle](#)

[Quarterly Worker Injury/Illness Information](#) The Under Secretary Quarterly Reviews are just one initiative in support of DOE's proactive approach to employee health and safety. Contact: [Rolland Sigler](#)

[The DOE Radiation Exposure Monitoring System \(REMS\)](#) database is used to report occupational radiation exposures for all monitored DOE employees, contractors, subcontractors, and members of the public. Contact: [Nimi Rao](#)

[Safety and Health Alerts, Safety Bulletins](#) Actionable information that has a high potential to impact safety and health at DOE facilities. Contact: [Tom Williams](#)

[Suspect/Counterfeit Items and Defective Items \(SCI/DI\)](#) DOE is committed to ensuring that items and components installed in safety-related or mission-critical applications meet their intended function and operability requirements. The Office of Health, Safety and Security has established a process to identify SCIs or DIs that are deemed safety-significant and broadly applicable to DOE facilities. Contact: [Tom Williams](#)



The Office of Analysis web site was last updated March 18, 2008

[Security & Privacy Notice](#) • [HSS Information Inventory](#) • [HSS Organization](#)

[Doing Business with DOE](#) | [Competitive Sourcing](#) | [DOE Directives](#) | [Small Business](#)



U.S. Department of Energy | 1000 Independence Ave., SW | Washington, DC 20585

1-800-dial-DOE | f/202-586-4403 |

[Web Policies](#) | [No Fear Act](#) | [Site Map](#) | [Privacy](#) | [Phone Book](#) | [Employment](#)



## OFFICE OF HEALTH, SAFETY AND SECURITY

## Health, Safety and Security

Home

Organization Chart

Contact HSS

## HSS Document Notification Service

Register

## HSS QUICK REFERENCE

- Integrated Safety Management Program
- 10 CFR 851, Worker Safety and Health Program
- DOE Directives, Regulations, and Standards
- DOE Technical Standards
- HSS-Related Links
- HSS Reporting Databases
- MSDSs

## HSS Document Collection

HSS Document Collection This collection is currently undergoing a review of its contents in an effort to gather all available documents from across the HSS organization.

Text size: [Smaller](#) - [Normal](#) - [Larger](#) - [Largest](#)You are Here: [DOE](#) > [HSS](#)

## Corporate Reporting Databases

The Corporate Reporting Databases provide Web-based systems and data analysis documents to facilitate access to data on occurrences, accidents, illnesses, exposures, environmental impacts, performance, and compliance. Database access is restricted to authorized DOE staff and contractors. To register for database access, please visit the database web site at the link below and submit an access request. Once your request is approved, you will receive a user ID and password which will allow you to access the database.

- [Comprehensive Epidemiologic Data Resource \(CEDR\) System](#): CEDR is a DOE public-use repository of data from occupational and environmental health studies of workers at DOE facilities and nearby community residents. Contact: [Barbara Brooks](#)
- [Computerized Accident/Incident Reporting System \(CAIRS\)](#): This system collects and analyzes DOE and DOE-contractor reports of injuries, illnesses, and other accidents that occur during DOE operations. Contact: [Janet Macon](#), HS-32
- [Corrective Action Tracking System \(CATS\)](#): The CATS web-based database is used to enter, track, and report the status of corrective actions developed and implemented in the DOE Corrective Action Management Program (CAMP) to effectively resolve and prevent recurrence of reported findings. The web-site includes guidance for accessing, reviewing and editing the database. Contact: [Larry McCabe](#), HS-31
- [Noncompliance Tracking System \(NTS\)](#): The NTS is a database for DOE contractors to report unsafe actions or conditions that possibly violate nuclear safety requirements for protecting workers and the public. The contractor line management tracks to closure the corrective actions in each report to prevent recurrence. The corrective actions are approved by both DOE field office personnel and investigators in the Office of Price-Anderson Enforcement. Contact: [Lisa German](#), HS-42
- [Occurrence Reporting and Processing System \(ORPS\)](#): This system provides timely notification to the DOE complex of events that could adversely affect public or DOE worker health and safety, the environment, national security, DOE's safeguards and security interests, functioning of DOE facilities, or the Department's reputation. Contact: [Jeannie Boyle](#), HS-32
- [Pollution Prevention \(P2\)](#): This site announces P2-related news and developments, as well as providing a convenient on-line reporting system to the DOE sites and program offices. Contact: [Josh Silverman](#), HS-21
- [Radiation Exposure Monitoring System \(REMS\)](#): The REMS database tracks occupational radiation exposures for all monitored DOE employees, contractors, subcontractors and members of the public. A password is not needed to access this database. Contact: [Nimi Rao](#), HS-32

This page was last updated on March 03, 2008

Doing Business with DOE | [Competitive Sourcing](#) | [DOE Directives](#) | [Small Business](#)

U.S. Department of Energy | 1000 Independence Ave., SW | Washington, DC 20585

1-800-dial-DOE | f/202-586-4403 |

[Web Policies](#) | [No Fear Act](#) | [Site Map](#) | [Privacy](#) | [Phone Book](#) | [Employment](#)



U.S. DEPARTMENT OF  
**ENERGY**

SCIENCE &  
TECHNOLOGY

ENERGY  
SOURCES

ENERGY  
EFFICIENCY

THE  
ENVIRONMENT

PRICES &  
TRENDS

NATIONAL  
SECURITY

SAFETY &  
HEALTH

OFFICE OF HEALTH, SAFETY AND SECURITY

CAIRS

## Computerized Accident Incident Reporting and Recordkeeping System (CAIRS)

Home

Facts About CAIRS

- References and Resources

- Statistics

Standards Assistance

Training

What's New

Text size: [Smaller](#) - [Normal](#) - [Larger](#) - [Largest](#)

You are Here: [DOE](#) > [HSS](#) > [CSA](#) > [CSP](#)

## Accident Recordkeeping and Reporting



### Computerized Accident Incident Reporting System

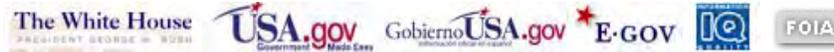


- [CAIRS Database](#) The Computerized Accident/Incident Reporting System is a database used to collect and analyze DOE and DOE contractor reports of injuries, illnesses, and other accidents that occur during DOE operations.
- [CAIRS Registration Form](#) CAIRS is a Government computer system and, as such, has security requirements that must be followed. Access to the database is open to DOE and DOE contractors. Additional information regarding CAIRS registration maybe found here.
- [Facts About CAIRS](#) This section provides answers to some basic questions about the CAIRS database. It includes information on accessing the database and provides a summary of some of the information contained in the system.
- [References and Resources](#) This section provides a link to various DOE and external references used in the accident recordkeeping and reporting program, including the Users' Manual for CAIRS, the OSHA Recordkeeping webpage, frequently asked questions, and the DOE directives which establish the reporting requirements.
- [Statistics](#) This site contains links to various summary accident information, as reported by DOE and DOE contractor organization. A link is also provided to the Bureau of Labor Statistics webpage, where similar occupational injury and illness accident information is available.
- [Standards Assistance](#) The OSH Regulatory and Policy Response Line provides assistance to DOE and DOE contractors on questions on applicability of various standards, including the accident recordkeeping. This site provides a link to the DOE Standards Response Line and to the OSHA Letters of Interpretation.
- [Training](#) This section provides a link to the CAIRS Direct Data Entry On-line Training Module, which is a self-paced training module that allows users to complete training on electronic submittal of CAIRS reports. This page also includes notifications of upcoming workshops or training that may be of interest to the recordkeeping and reporting program managers.
- [What's New](#) Provides a link to notify CAIRS users of various items of interest including, changes in organization codes and issuance of or changes in formats of quarterly summary reports.

This page was last updated on May 19, 2008

[Security & Privacy Notice](#) • [HSS Information Inventory](#) • [HSS Organization](#)

[Doing Business with DOE](#) | [Competitive Sourcing](#) | [DOE Directives](#) | [Small Business](#)



U.S. Department of Energy | 1000 Independence Ave., SW | Washington, DC 20585

1-800-dial-DOE | f/202-586-4403 |

[Web Policies](#) | [No Fear Act](#) | [Site Map](#) | [Privacy](#) | [Phone Book](#) | [Employment](#)



For HSS InfoCenter Use ONLY	
Homegroup:	User ID:
Contr. Code:	Password:
CAIRS Code:	
CAIRS Password:	
HS-31 Program Manager Approval:	

**COMPUTERIZED ACCIDENT/INCIDENT REPORTING SYSTEM**

HSS InfoCenter Helpline 301-903-8358 • 1-800-473-4375

Internet: [HSS.infocenter@hq.doe.gov](mailto:HSS.infocenter@hq.doe.gov)

Recordkeeping and Reporting Web Page:

<http://www.hss.energy.gov/csa/csp/cairs/>

## REGISTRATION FORM

User Registration for (Circle one or both):

**CAIRS**

**CAIRS DATA ENTRY**

**Completed registration request should be sent by facsimile to HSS InfoCenter at (301) 903-9823**

*(Type or Print)*

1. Name \_\_\_\_\_ Birth date \_\_\_\_/\_\_\_\_/\_\_\_\_  
(Last) (First) (Middle Initial) (Month) (Day)

2. Job title \_\_\_\_\_

3. Company name \_\_\_\_\_

4. Address \_\_\_\_\_ Mail stop \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

5. Work phone \_\_\_\_\_ Work fax \_\_\_\_\_

6. Internet e-mail address (e.g. [HSS.InfoCenter@hq.doe.gov](mailto:HSS.InfoCenter@hq.doe.gov)) \_\_\_\_\_

7. USA citizenship (check one)     Yes             No (foreign nationals are screened by DOE before it grants access to its computer system)

8. Check the box that applies:     New User     Update User     User Replacement     Delete User

9. Computer security:    Indicate by your signature on the line below that you have read, understand, and will comply with the following:

- A. I understand that using DOE computer systems, products, services, or equipment for personal use constitutes misuse/non-official use of Government property.
- B. I understand that all computer files are subject to review for the purpose of ensuring Official Use Only of Government property.
- C. I understand that I am responsible for protecting my assigned password for confidentiality. Sharing my password with anyone else is a security infraction and may result in my system access being revoked.
- D. I understand that there is a potential for Unclassified Sensitive and Privacy Act information being contained in the computer system and that such information must be protected from unauthorized access and disclosure as required by DOE Order.
- E. I understand that information obtained from CAIRS may contain Unclassified Controlled Nuclear Information (UCNI). Access to UCNI requires a "need to know" per DOE Order.
- F. I understand that users failing to comply with the computer security policies described herein may be subject to disciplinary action.

User Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Manager's Name: \_\_\_\_\_ Manager's Signature: \_\_\_\_\_ Date: \_\_\_\_\_





U.S. DEPARTMENT OF  
**ENERGY**

SCIENCE &amp; TECHNOLOGY

ENERGY SOURCES

ENERGY EFFICIENCY

THE ENVIRONMENT

PRICES &amp; TRENDS

NATIONAL SECURITY

SAFETY &amp; HEALTH

OFFICE OF HEALTH, SAFETY AND SECURITY

CAIRS

## Computerized Accident Incident Reporting and Recordkeeping System (CAIRS)

Home

Facts About CAIRS

- References and Resources

- Statistics

Standards Assistance

Training

What's New

Text size: [Smaller](#) - [Normal](#) - [Larger](#) - [Largest](#)You are Here: [DOE](#) > [HSS](#) > [CSA](#) > [CSP](#)

## Facts About CAIRS

### What is CAIRS?

CAIRS is a database used to collect and analyze DOE and DOE contractor reports of injuries, illnesses, and other accidents that occur during DOE operations in accordance with DOE Order 231.1. CAIRS reporting is managed by the Office of Corporate Safety Programs (HS-31), with hardware and software support from the Office of Information Management (HS-1.22).

### Who is allowed access to CAIRS?

[Access to CAIRS](#) is available through registration, and is free of charge to the staff of all DOE organizations and contractors for use in conducting their official duties. CAIRS users have access to all records in the database. However, CAIRS does contain sensitive information, and fields containing these data are masked from the view of general users. [Access to sensitive data](#) requires special authorization. The [CAIRS Standard Reports](#) (discussed below) are available to any Internet user by selecting the [Statistics](#) icon at <http://www.hss.energy.gov/csa/analysis/cairs>.

### What types of data does CAIRS contain?

The data contained in CAIRS consist of DOE and DOE contractor reports of injury/illness, property damage, and vehicle accident events. It also includes exposure information such as hours worked, miles driven, property valuation, etc. that can be used to calculate accident rates.

### How many years of data are available?

The CAIRS database contains individual accident reports and exposure information from 1983 to the present for injury/illness cases. It also contains vehicle and property damage cases and exposure information from 1975 to the present. Statistical data (rates and summarized counts of events) are also available.

### How often are CAIRS data updated?

The database is continually being updated. The Manual, DOE M 231.1-1A, requires that all new injury/illness reports be submitted twice each month on or before the 15th and the last workday of the month. However, new or revised accident reports may be submitted at any time, and some organizations do submit this information more frequently. Workhours and revisions are required quarterly.

### How are CAIRS data collected?

CAIRS Reports are submitted electronically using CAIRS Direct Data Entry or CAIRS Bulk Upload Processing.

### How are CAIRS data used?

The information contained in CAIRS provides a centralized collection of DOE accident data for users to perform various analyses, including developing trends and identifying potential hazards. The results of these analyses can be used to evaluate safety and health performance, to analyze causes of inadequate performance, to define and prioritize means for improvement of safety and health performance, and to determine needs for modification of DOE safety and health requirements in order to reduce the probability of future accidents.

### What are the reporting thresholds for CAIRS injury/illness, vehicle accident, and property damage cases?

The current reporting criteria for CAIRS injury/illness cases are contained in DOE Manual 231.1-1A, and include similar recording and reporting requirements as those required by 29 CFR 1904. Although property and vehicle damage reports are not currently required, the reporting threshold for property damage cases was originally set at \$1,000 and remained that way until January 1, 1996, when it was raised to \$5,000. The vehicle accident reporting threshold was \$250 from 1975 through 1985, \$500 from 1986 through 1995, and was raised to \$1,000 effective January 1, 1996.

### What functions are available through CAIRS?

CAIRS functions are divided into two areas: CAIRS Database Modules and CAIRS Input Modules.

The CAIRS Database Modules consist of four basic modules (Standard Reports, Logs, Basic Reports, and Search and Distribution) that provide access to different types of information. The difference in the modules is seen in the ease of use and the flexibility in formatting reports and customizing searches.

### CAIRS Standard Reports

The CAIRS Standard Reports module provides easy access to the static, preformatted reports. The standard report options are discussed in detail in the [online helps](#) and the reference manual.

### CAIRS Logs

The CAIRS Logs module allows you to easily prepare simple listings of accidents for your own or other organizations. The report format for CAIRS logs is fixed. However, the user can be selective in choosing which organizations to include and the time frame of the report. The Logs options are discussed in detail

in the [online help](#) and the reference manual.

#### CAIRS Basic Reports

The CAIRS Basic Reports option allows you to create more complex reports of accident experience and baseline information. Using CAIRS basics reports, a user has some flexibility in report format and the level of detail. The basic report options are discussed in detail in the [online help](#) and the reference manual.

#### CAIRS Search and Distribution

The CAIRS Search and Distribution option provides the capability of performing detailed searches of the CAIRS data and displaying the results in user-defined reports. Using CAIRS Search and Distribution, users have maximum flexibility in customizing reports. The Search and Distribution options are discussed in detail in the [online help](#) and the reference manual.

The CAIRS Data Input Modules provide access to the Input Center. Access to the Input Center is limited to individuals with data entry, approval, and management functions. The modules available through the CAIRS Input Center allow authorized users to add, revise, and delete cases using either CAIRS Direct Data Entry or CAIRS Bulk Upload Processing. CAIRS Input Modules also allow users to submit workhours and view reports prior to submission.

This page was last updated on May 19, 2008

[Security & Privacy Notice](#) • [HSS Information Inventory](#) • [HSS Organization](#)

[Doing Business with DOE](#) | [Competitive Sourcing](#) | [DOE Directives](#) | [Small Business](#)



U.S. Department of Energy | 1000 Independence Ave., SW | Washington, DC 20585

1-800-dial-DOE | f/202-586-4403 |

[Web Policies](#) | [No Fear Act](#) | [Site Map](#) | [Privacy](#) | [Phone Book](#) | [Employment](#)

[ABOUT DOE](#) | [ORGANIZATION](#) | [NEWS](#) | [CONTACT US](#)

SEARCH

GO



U.S. DEPARTMENT OF  
**ENERGY**

SCIENCE &  
TECHNOLOGY

ENERGY  
SOURCES

ENERGY  
EFFICIENCY

THE  
ENVIRONMENT

PRICES &  
TRENDS

NATIONAL  
SECURITY

SAFETY &  
HEALTH

OFFICE OF HEALTH, SAFETY AND SECURITY

CAIRS

## Computerized Accident Incident Reporting and Recordkeeping System (CAIRS)

Home

Facts About CAIRS

- [References and Resources](#)

- [Statistics](#)

[Standards Assistance](#)

[Training](#)

[What's New](#)

Text size: [Smaller](#) - [Normal](#) - [Larger](#) - [Largest](#)

You are Here: [DOE](#) > [HSS](#) > [CSA](#) > [CSP](#)

## References and Resources

### References

[CAIRS Reference Manual](#)  
[CAIRS Direct Data Entry Manual](#)  
[CAIRS Direct Data Entry Training Package](#)  
[DOE ES&H Reporting Order 231.1 and Manual \(current\)](#)  
[Quick Source Guides](#)  
[DOE and Other](#)

### Resources

[OSHA's Occupational Injury and Illness Recordkeeping Webpage](#)  
[DOE Frequently Asked Questions](#)  
[North American Industry Classification System \(NAICS\)](#)  
[Standard Industrial Classification \(SIC\) Manual](#)  
[Program Updates](#)  
 - [January 27, 2006](#)

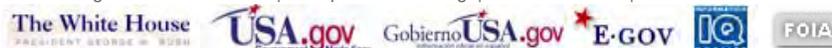


**Organization Code Lists:** This hyperlink provides you with a list of active DOE organizations and their associated organization codes as used in CAIRS. The organizations are grouped by Field Office and are listed in numerical order from lowest to highest. The following additional listings are available from the on-line helps:  
[Listing of active organization codes by area office](#)  
[Listing of active organization codes by site](#)  
[Listing of active organization codes by operation type](#)  
[Listing of active and inactive organization codes by field office](#)

This page was last updated on April 14, 2008

[Security & Privacy Notice](#) • [HSS Information Inventory](#) • [HSS Organization](#)

[Doing Business with DOE](#) | [Competitive Sourcing](#) | [DOE Directives](#) | [Small Business](#)



U.S. Department of Energy | 1000 Independence Ave., SW | Washington, DC 20585

1-800-dial-DOE | f/202-586-4403 |

[Web Policies](#) | [No Fear Act](#) | [Site Map](#) | [Privacy](#) | [Phone Book](#) | [Employment](#)

[ABOUT DOE](#) | [ORGANIZATION](#) | [NEWS](#) | [CONTACT US](#)

SEARCH

GO



U.S. DEPARTMENT OF  
**ENERGY**

SCIENCE &  
TECHNOLOGY

ENERGY  
SOURCES

ENERGY  
EFFICIENCY

THE  
ENVIRONMENT

PRICES &  
TRENDS

NATIONAL  
SECURITY

SAFETY &  
HEALTH

OFFICE OF HEALTH, SAFETY AND SECURITY

CAIRS

**Computerized Accident  
Incident Reporting and  
Recordkeeping System  
(CAIRS)**

Home

Facts About CAIRS

- References and Resources

- Statistics

Standards Assistance

Training

What's New

Text size: [Smaller](#) - [Normal](#) - [Larger](#) - [Largest](#)

You are Here: [DOE](#) > [HSS](#) > [CSA](#) > [CSP](#)

**Statistics**

**Department of Energy**

[Quarterly Worker Injury and Illness Rate Charts](#)

[Occupational Injury and Property Damage Summary Reports](#)

[CAIRS Archives](#)

[DOE and Contractor Injury and Illness Experience by Year and Quarter \(most recent\)](#)

[DOE Field Office Reports](#)

**Other**

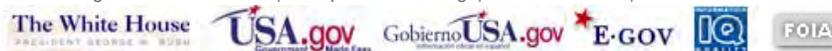
Bureau of Labor Statistics ([Safety and Health Statistics](#)) - A database containing private industry occupational injury and illness statistics

This page was last updated on July 11, 2008



[Security & Privacy Notice](#) • [HSS Information Inventory](#) • [HSS Organization](#)

[Doing Business with DOE](#) | [Competitive Sourcing](#) | [DOE Directives](#) | [Small Business](#)



U.S. Department of Energy | 1000 Independence Ave., SW | Washington, DC 20585

1-800-dial-DOE | f/202-586-4403 |

[Web Policies](#) | [No Fear Act](#) | [Site Map](#) | [Privacy](#) | [Phone Book](#) | [Employment](#)



## OFFICE OF HEALTH, SAFETY AND SECURITY

## CORPORATE PERFORMANCE ASSESSMENT

## Corporate Safety Analysis

Text size: [Smaller](#) - [Normal](#) - [Larger](#) - [Largest](#)You are Here: [DOE](#) > [HSS](#) > [CSA](#)[Home](#)[Sub Offices](#)[Mission & Functions](#)[Office of Corporate Safety Programs](#)[Office of Analysis](#)[Safety Alerts](#)[Safety Bulletins](#)[Annual Reports](#)[Special Operations Reports](#)[Safety Advisories](#)[Special Reports](#)[Causal Analysis Reviews](#)[Contact Us](#)**Quarterly Worker Injury/Illness Rate Charts**

The Department of Energy (DOE) takes a proactive approach to employee health and safety that makes our worksites among the safest in the nation. As one initiative in support of this approach, the Office of Health, Safety and Security prepares Worker Injury/Illness Rate Charts, the most recent are available below.

The DOE Computerized Accident/Incident Reporting System (CAIRS) is used by all DOE sites and provides the Department with a centralized mechanism to track safety metrics related to injury and illnesses. The Department uses two primary performance indicators to track and evaluate injuries and illnesses to workers. These include the Total Recordable Case (TRC) rate, which involves injury/illness cases that require medical treatment beyond first aid, and DART Case rate. DART - (Days Away, Restricted or on Job Transfer), the number of days away from work plus the number of days on restricted work activity or job transfer (OSHA Form 300 columns K plus L). Formerly LWD. Both of these indicators are normalized as rates [in terms of cases per 200,000 workhours (or 100 Manyears) as defined by the Department of Labor (DOL)], to provide a consistent and regular indication of workplace safety.

The TRC and DART Case Rates are grouped organizationally under respective Program Secretarial Offices (PSO) as shown below. Where PSO categories have multiple sites evaluated during Quarterly Reviews, the respective PSO charts include a ranking chart based on the most recent quarter TRC Rates.



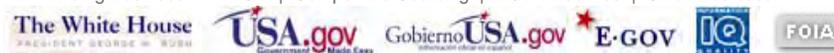
1. [Office of Environmental Management \(EM\)](#)
2. [Office of Science \(SC\)](#)
3. [Office of Nuclear Energy \(NE\)](#)
4. [Office of Fossil Energy \(FE\)](#)
5. [Office of Energy Efficiency \(EE\)](#)
6. [Office of Civilian Radioactive Waste \(RW\)](#)
7. [National Nuclear Security Administration \(NNSA\)](#)

Note: All injury/illness rates were extracted from the CAIRS database as of August 27, 2007. . All Site injury/illness rates include all contractors and their subcontractors, and no Federal employees (except FE which has Government-Owned-Government-Operated facilities).

This page was last updated on [September 06, 2007](#)

[Security & Privacy Notice](#) • [HSS Information Inventory](#) • [HSS Organization](#)

[Doing Business with DOE](#) | [Competitive Sourcing](#) | [DOE Directives](#) | [Small Business](#)



U.S. Department of Energy | 1000 Independence Ave., SW | Washington, DC 20585

1-800-dial-DOE | f/202-586-4403 |

[Web Policies](#) | [No Fear Act](#) | [Site Map](#) | [Privacy](#) | [Phone Book](#) | [Employment](#)

# DOE and Contractor Injury and Illness Experience By Year and Quarter 2003 Through 2008,1st Qtr

Data extracted 7/8/2008

---

Data presented here have been extracted from the Department of Energy's Computerized Accident/Incident Reporting System (CAIRS) as of the date prepared and include all new or revised data received for the period of the report.

NOTICE: Due to changes in the recordkeeping requirements, Injury/Illness data, beginning with calendar year 2002, may not be comparable with that of prior years.

Reports are available here in:

- HyperText Markup Language (HTML).
- EXCEL File - containing data for each reporting organization by year, by quarter.

REPORT	FILE FORMAT
Total DOE and Contractor	<a href="#">HTML</a>
Total Operation Types	<a href="#">HTML</a>
Total Field Organizations	<a href="#">HTML</a>
All Reporting Organizations	<a href="#">EXCEL</a>

For reference, the following are also available:

[List of DOE Reporting Organizations](#)

A [Glossary](#) of terms used in these reports

An [Explanation of Calculations](#) used to compute rates



**Architectural/Engineering** - (see [Operation Code](#))

**Area Office** - The DOE government oversight office (federal employees) which manages a DOE Area organization.

**Area Organization** - A division of a Field Organization, usually comprised of an Area Office together with all contractor and subcontractor organizations under its jurisdiction.

**BLS** - Bureau of Labor Statistics, U.S. Department of Labor, - references statistical data on the U.S. private sector which are used for comparative purposes. [See BLS statistics home site](#)

**Contractor** - An independent company or consortium of companies who contract with the DOE to carry out work or projects. Organizations are sometimes designated by the name of the facility or site they manage and other times are named for the contracting companies.

**Cost Construction** - (see [Operation Code](#))

**Cost Index** - The approximate dollar loss (direct and indirect) per 100 hours worked of all injuries and illnesses, calculated as follows:  $100 (1,000,000 D + 500,000 T + 2,000 LWC + 1,000 WDL + 400 WDLR + 2,000 NFC)$  divided by total workhours. Note: Coefficients in the Cost Index formula are weighting factors which were derived from a study of the direct and indirect dollar costs of injuries.

Where:

D=The number of fatalities.

T=The number of permanent transfers or terminations due to occupational illness or injury.

LWC=The number of lost workday cases.

WDL=The number of days away from work.

WDLR=The number of restricted workdays.

NFC=The number of non-fatal cases without days away from work or restricted workdays.

**D** - Deaths, the number of occupational fatalities.

**DAFW** - (Days Away From Work), the number of days away from work, as identified on the OSHA Form 300 in column K. Formerly WDL.

**DAFWC** - (Days Away From Work Case), an injury or illness case where the most serious outcome of the case, as identified on the OSHA Form 300 column H, resulted in days away from work. Cases involving one or more days away from work. (Note: these cases may or may not include days of restricted time)

**DART** - (Days Away, Restricted or on Job Transfer), the number of days away from work plus the number of days on restricted work activity or job transfer (OSHA Form 300 columns K plus L). Formerly LWD.

**DART Case**- an injury or illness case where the most serious outcome of the case, as identified on the OSHA Form 300 in columns H or I, resulted in days away from work or days of job restriction or transfer. Formerly LWC.

**DOE** - Department of Energy.

**DOE Complex** - Includes all DOE offices, contractors and subcontractors.

**DTR** (Days On Job Transfer Or Restriction), the number of days on job transfer or restriction, as identified on the OSHA Form 300 in column L. Formerly WDLR.

**Equivalent Employees (FTE)** - Equivalent number of employees calculated from workhours (assumes each employee works 2,000 hrs./year or 500 hrs./qtr.)

**Field Code** - First two digits of the organization code, representing the cognizant field organization

**Field Office** - The DOE government office (federal employees), which oversees a field organization called a Field Office. This term was used previously to refer to a DOE office now called an "Operations Office".

**Field Organization** - The organizational entity, remote from DOE Headquarters, at which contracted work is conducted under the direction of DOE field personnel. A field organization may consist of an Operations Office, Field Office, or Project Office together with all contractors and subcontractors under their jurisdiction.

**Government** - (see [Operation Code](#))

**Incidence Rate** - The number of injuries, illnesses or lost workdays per 200,000 work-hours (approximately 100 person-years). (also refer to Rates).

**Lump Construction** - (see [Operation Code](#))

**LWC** - Lost Workday Case. A case that involves days away from work or days of restricted work activity, or both.

**LWD** - Lost Workdays. The number of workdays (consecutive or not), beyond the day of injury or onset of illness, the employee was away from work or limited to restricted work activity because of an occupational injury or illness.

**MVM** - Million vehicle miles.

**NFC** - (Non-Fatal Cases without DART) a case where the most serious outcome of the case was identified as "other recordable cases" on the OSHA Form 300, column J.

**NSC** - National Safety Council - data are from ACCIDENT FACTS, (the latest year available and previous editions where applicable). All NSC averages and rates refer to U.S. industry with the exception of vehicle rates which are based on the total miles traveled by registered highway vehicles.

**Oil and Gas** - (see [Operation Code](#))

**Operation Code** - A one digit code (1 through 9 and D) representing the predominant type of operation for the reporting organization. Note: An additional reference (code 56) is sometimes used to represent the combination of cost construction (code 5) and lump construction (code 6).

<u>CODE</u>	<u>OPERATION TYPE</u>	<u>Description</u>
1	Government	federal employees
2	Production	routine and or production type work
3	Research	research type work such as laboratories and universities
4	Service	plant and facility services and maintenance
56	Total Construction	combination of Cost and Lump Construction
5	Cost Construction	construction contracted on a cost-plus basis
6	Lump Construction	construction contracted on a lump-sum basis
7	Architectural/Engineering	architectural/engineering activities
8	Oil and Gas	drilling for, or storing of petroleum products
9	Security	security and protective forces
D	D & D	deactivation & decommissioning

**Operations Office** - The DOE government office (federal employees) which oversees one of the eight major DOE field organizations, called "Operations".

**Organization Code** - A [seven digit code](#) identifying the reporting organization, the first two digits identify the cognizant field organization, in some cases the third digit identifies an area office. The seventh digit of the organization code identifies the operation type (see [Operation Code](#)).

**Project Office** - The DOE government office (federal employees), which oversees a field organization called a Project Office.

**Production** - (see [Operation Code](#))

**Property Valuation** - The estimated replacement cost of all property assigned to an organization.

**Rate** - Normalization of statistical data according to standard [rate calculations](#). The number of injuries, illnesses or lost workdays per 200,000 work-hours (approximately 100 person-years).

**Research** - (see [Operation Code](#))

**Security** - (see [Operation Code](#))

**Service** - (see [Operation Code](#))

**Subcontractor** - Companies or entities which have working contracts with DOE contractors or other subcontractors. This designation is also used for entities which contract directly with a DOE office on a secondary level.

**Summary Records** - Records which are captured and summarized from the database on a specific date, as opposed to live data from the database.

**TRC** - Total Recordable Case. the total number of work related injuries or illnesses that resulted in "death", "days away from work", "job transfer or restriction" or other recordable case" as identified in columns G, H, and J of the OSHA Form 300.

**T/T** - Terminations or Transfers due to occupational injuries or illnesses.

**WDL** - Workdays Lost. The number of workdays (consecutive or not) on which the employee would have worked but could not because of occupational injury or illness.

**WDLR** - Workdays Lost Restricted. The number of workdays (consecutive or not) on which because of injury or illness: (1) The employee was assigned to another job on a temporary basis; or (2) the employee worked at a permanent job less than full time; or (3) the employee worked at a permanently assigned job but could not perform all duties normally connected with it.

**Yr-Q or Year Qtr** - The calendar year (yy) or (yyyy) and quarter (n) of the data. (Note: injury/illness cases and any subsequent associated lost or restricted days are registered against the date of the accident or diagnosis.)

**YTD** - Year-to-date.

[DOE organizational acronyms and abbreviations](#) are listed separately.

---



OFFICE OF HEALTH, SAFETY AND SECURITY

CAIRS

Computerized Accident Incident Reporting and Recordkeeping System (CAIRS)

Text size: [Smaller](#) - [Normal](#) - [Larger](#) - [Largest](#)

You are Here: [DOE](#) > [HSS](#) > [CSA](#) > [CSP](#)

- Home
- Facts About CAIRS
  - References and Resources
  - Statistics
- Standards Assistance
- Training
- What's New

**Training**

The Office of Health, Safety and Security periodically offers occupational injury and illness recordkeeping and reporting and CAIRS training sessions for DOE and Contractor personnel. For additional information or to request training not presently scheduled, please contact CAIRS Support through the HSS User Support by email to: [cairs\\_support@hq.doe.gov](mailto:cairs_support@hq.doe.gov) or by phone at (800) 473-4375.

SESSIONS	SCHEDULE - FY 2008
<a href="#">CAIRS Direct Data Entry On-Line (self-paced)</a>	Ongoing
<a href="#">Recordkeeping and Reporting - General Session Workshop</a>	April 2008
<a href="#">Review of DOE Recordkeeping and Reporting Requirements</a>	April 2008
<a href="#">Fundamentals of CAIRS</a>	April 2008
<a href="#">CAIRS Direct Data Entry and Introduction to CAIRS Coding</a>	April 2008
<a href="#">Using CAIRS for Analysis: Reports and Users' Assistance</a>	April 2008
<a href="#">CAIRS Direct Access</a>	



This page was last updated on January 23, 2008

[Security & Privacy Notice](#) • [HSS Information Inventory](#) • [HSS Organization](#)

[Doing Business with DOE](#) | [Competitive Sourcing](#) | [DOE Directives](#) | [Small Business](#)



U.S. Department of Energy | 1000 Independence Ave., SW | Washington, DC 20585

1-800-dial-DOE | f/202-586-4403 |

[Web Policies](#) | [No Fear Act](#) | [Site Map](#) | [Privacy](#) | [Phone Book](#) | [Employment](#)

CSI ORPS Occurrences Reported From January 1, 2006 Through August 25, 2008

( ) Indicates Totals for 2006

"Blue Number" Indicates Totals for 2007

"Green Number" Indicates Totals for 2008 (to August 25)

Occurrences (Roll Up)	Under Secretary of Energy									National Nuclear Security Administration		Office of Science		All Other PSOs							
	DOE			EM			NE			Other			NA		SC						
	Performance Measures for "Potential Offsite Loss of Control of Radiological and Contaminated Material"	(259)	175	48	(152)	71	26	(8)	7	1	(0)	0	0	(58)	57	12	(41)	40	9	(0)	0
Performance Measures for "Potential Offsite Environmental or Public Impact (non-radiological)"	(254)	258	50	(78)	87	15	(6)	11	0	(13)	11	2	(110)	104	22	(46)	44	11	(1)	1	0
Performance Measures for "Potential for Inadvertent Criticality"	(41)	46	10	(25)	24	9	(1)	1	1	(0)	0	0	(15)	19	0	(0)	2	0	(0)	0	0
Performance Measures for "Potential for Injuries"	(602)	487	108	(185)	127	35	(42)	21	3	(20)	26	3	(235)	217	45	(118)	93	22	(2)	3	0
Performance Measures for "Potential for Radiation or IH Exposure"	(162)	154	35	(55)	47	13	(6)	10	1	(8)	6	0	(59)	70	15	(33)	20	6	(1)	1	0
Performance Measures for "Fire or Explosion"	(123)	125	34	(36)	30	8	(3)	11	0	(10)	5	3	(55)	66	18	(19)	13	5	(0)	0	0

Potential Offsite Loss of Control of Radiological and Contaminated Material	Under Secretary of Energy									National Nuclear Security Administration		Office of Science		All Other PSOs							
	DOE			EM			NE			Other			NA		SC						
	Offsite Loss of Control of Radioactive Materials or Spread of Contamination	(17)	18	7	(5)	6	2	(1)	1	0	(0)	0	0	(8)	6	2	(3)	5	3	(0)	0
Transportation Incidents Involving Radiological and Contaminated Material	(17)	9	4	(7)	2	2	(1)	0	0	(0)	0	0	(7)	5	1	(2)	2	1	(0)	0	0
Events Related to Excessed Equipment	(4)	3	0	(3)	1	0	(0)	0	0	(0)	0	0	(1)	1	0	(0)	1	0	(0)	0	0
Onsite Loss of Control of Radioactive Materials or Spread of Contamination	(178)	109	28	(115)	52	17	(4)	2	0	(0)	0	0	(30)	30	7	(29)	25	4	(0)	0	0
Personnel Radiation Exposure and/or Contamination	(43)	36	9	(22)	10	5	(2)	4	1	(0)	0	0	(12)	15	2	(7)	7	1	(0)	0	0

Potential Offsite Environmental or Public Impact (non-radiological)	Under Secretary of Energy									National Nuclear Security Administration		Office of Science		All Other PSOs							
	DOE			EM			NE			Other			NA		SC						
	OSHA Reportable Exposures	(80)	72	13	(19)	17	2	(2)	2	0	(5)	4	0	(31)	36	7	(22)	12	4	(1)	1
Transportation Incidents Involving Hazardous Material	(39)	40	16	(17)	18	5	(0)	0	0	(1)	1	1	(19)	18	7	(2)	3	3	(0)	0	0
Events Related to Excessed Equipment	(3)	1	1	(2)	0	0	(0)	0	0	(0)	0	0	(1)	1	0	(0)	0	1	(0)	0	0
Noncompliance Notifications	(36)	43	4	(9)	18	3	(1)	3	0	(0)	1	0	(18)	13	1	(8)	8	0	(0)	0	0
Onsite or Offsite Reportable Environmental Release	(96)	102	16	(31)	34	5	(3)	6	0	(7)	5	1	(41)	36	7	(14)	21	3	(0)	0	0

Potential for Inadvertent Criticality	Under Secretary of Energy									National Nuclear Security Administration		Office of Science		All Other PSOs							
	DOE			EM			NE			Other			NA		SC						
	Loss of Criticality Control Events	(26)	28	7	(14)	11	6	(1)	1	1	(0)	0	0	(11)	15	0	(0)	1	0	(0)	0
TSR Violations Related to Criticality	(9)	7	2	(6)	5	2	(0)	0	0	(0)	0	0	(3)	1	0	(0)	1	0	(0)	0	0
Critical Equipment Failure	(6)	11	1	(5)	8	1	(0)	0	0	(0)	0	0	(1)	3	0	(0)	0	0	(0)	0	0

Potential for Injuries	Under Secretary of Energy									National Nuclear Security Administration		Office of Science		All Other PSOs							
	DOE			EM			NE			Other			NA		SC						
	Accident Investigations	(11)	4	1	(2)	3	0	(1)	0	0	(0)	0	0	(6)	1	0	(2)	0	1	(0)	0
Injuries or Exposures (Individuals & Multiple Persons)	(256)	223	58	(63)	48	16	(10)	9	2	(14)	13	1	(110)	99	25	(57)	51	14	(2)	3	0
Electrical Safety	(176)	151	38	(59)	38	15	(18)	9	1	(1)	6	2	(63)	72	15	(35)	26	5	(0)	0	0
Near Misses	(159)	109	11	(61)	38	4	(13)	3	0	(5)	7	0	(56)	45	5	(24)	16	2	(0)	0	0

Potential for Radiation or IH Exposure	Under Secretary of Energy									National Nuclear Security Administration		Office of Science		All Other PSOs							
	DOE			EM			NE			Other			NA		SC						
	OSHA Reportable Exposures	(80)	72	13	(19)	17	2	(2)	2	0	(5)	4	0	(31)	36	7	(22)	12	4	(1)	1
Personnel Radiation Exposure and/or Contamination	(43)	36	9	(22)	10	5	(2)	4	1	(0)	0	0	(12)	15	2	(7)	7	1	(0)	0	0
Ventilation System Equipment Failures	(39)	46	13	(14)	20	6	(2)	4	0	(3)	2	0	(16)	19	6	(4)	1	1	(0)	0	0

Potential Fire or Explosion	Under Secretary of Energy									National Nuclear Security Administration		Office of Science		All Other PSOs							
	DOE			EM			NE			Other			NA		SC						
	Explosion/Onsite Fires	(113)	114	30	(32)	26	8	(3)	7	0	(8)	5	1	(51)	63	16	(19)	13	5	(0)	0
Wildland Fires	(10)	11	4	(4)	4	0	(0)	4	0	(2)	0	2	(4)	3	2	(0)	0	0	(0)	0	0

# A History of Improving DOE Safety Performance 1997-2007



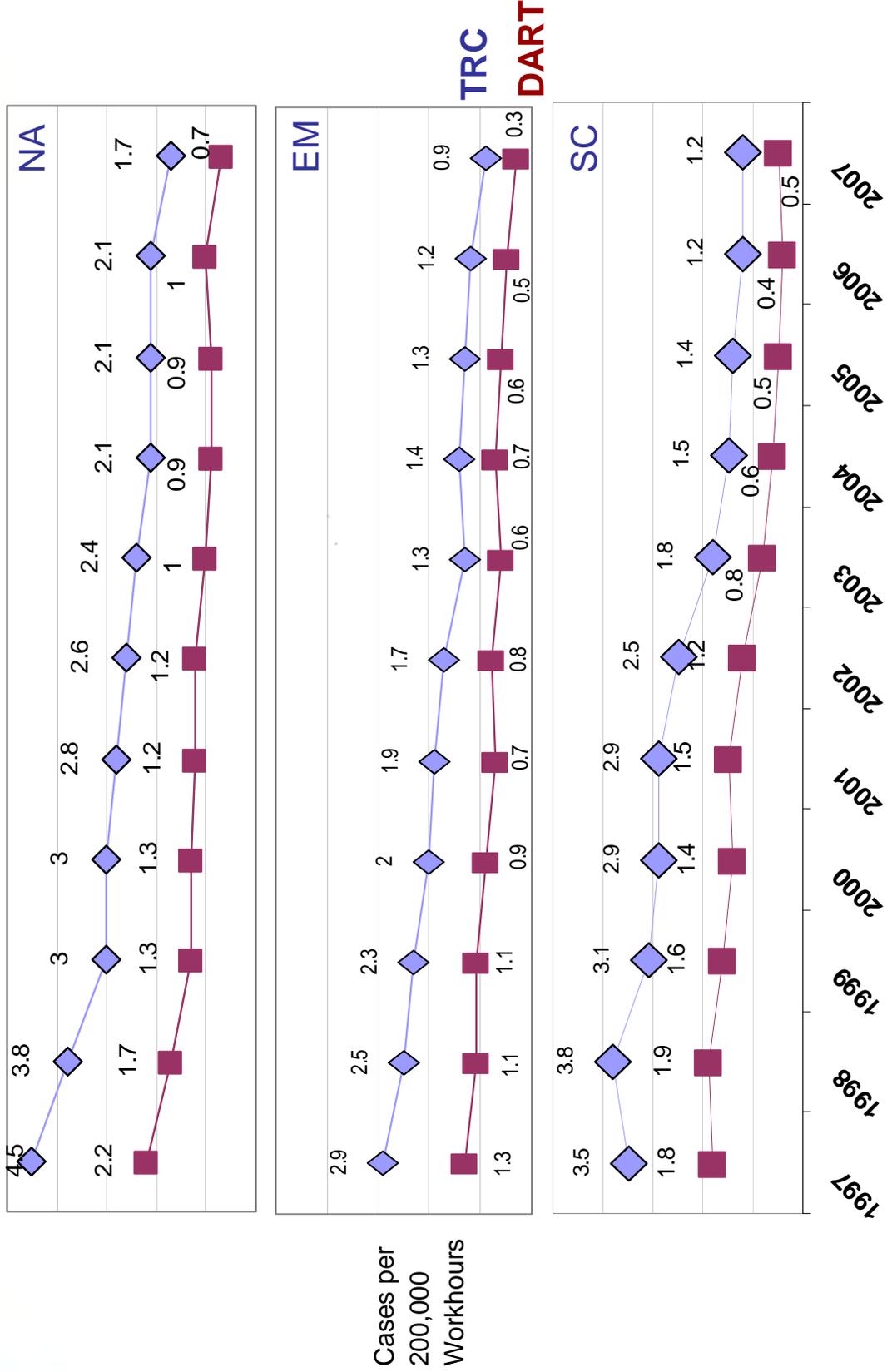
## Total DOE Workforce TRC and DART Case Rates (Government Employees and Contractors)





# NA, EM and SC TRC Rates and DART Case Rates

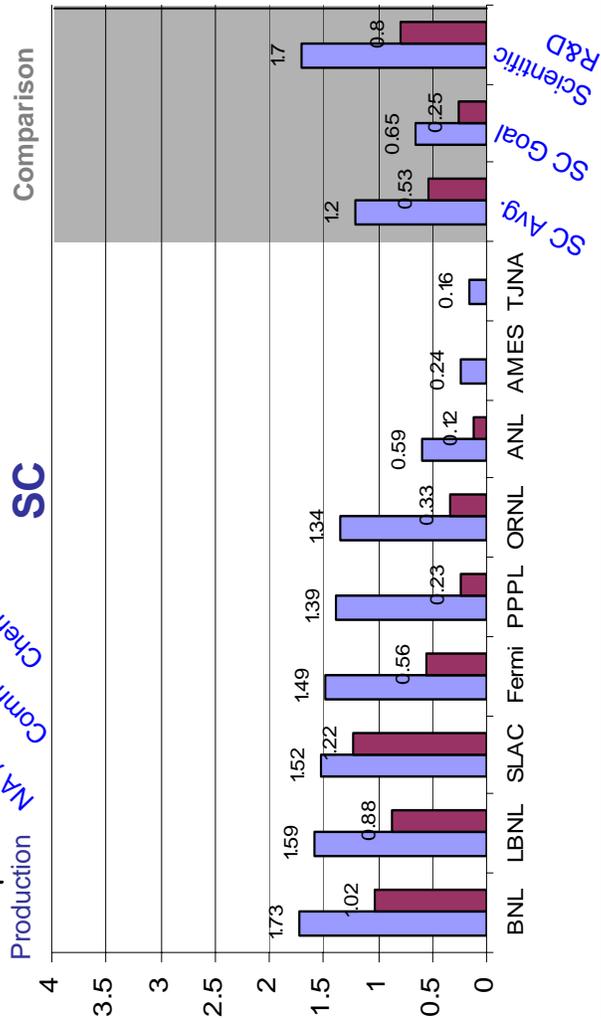
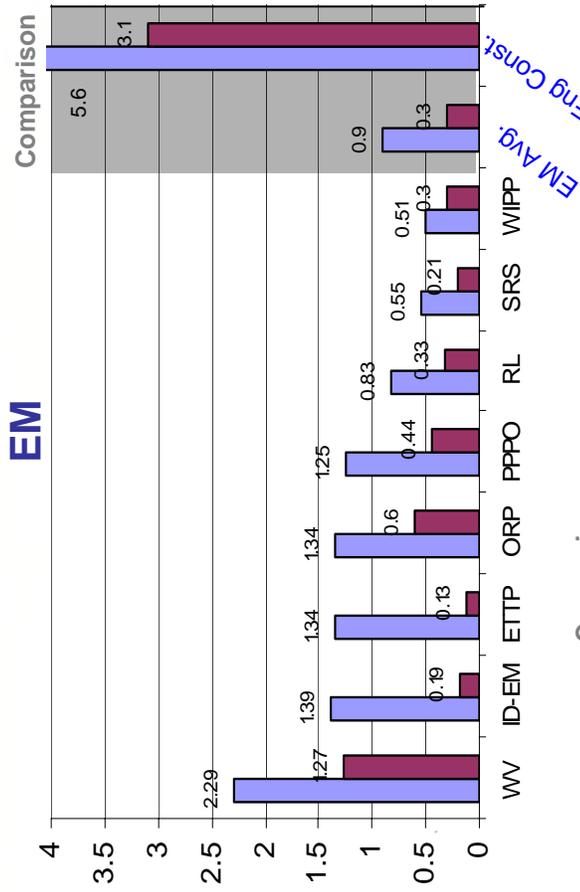
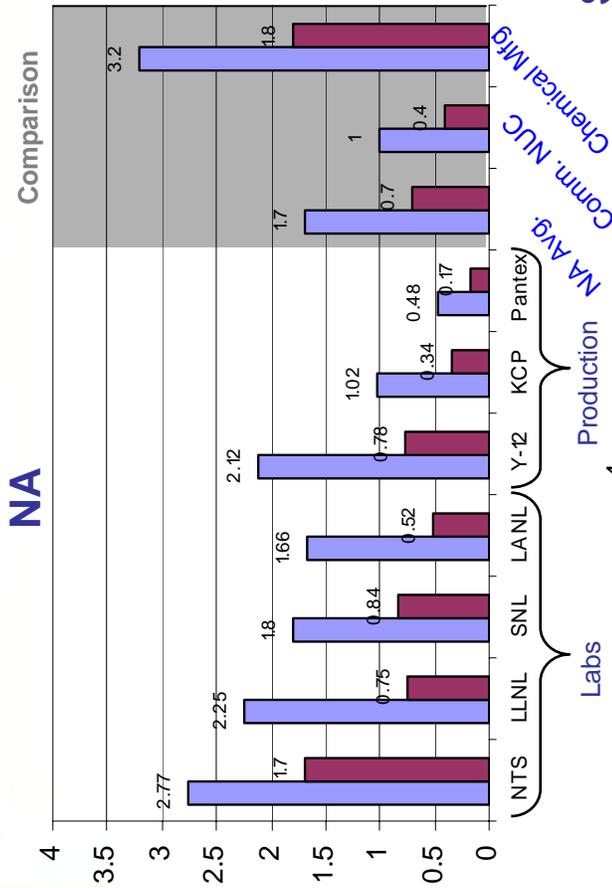
Jan 1, 1997 – Dec 31, 2007





# NA, EM and SC TRC Rates and DART Case Rates

Jan 1, 2007 – Dec 31, 2007



TRC Rate  
DART Case Rate

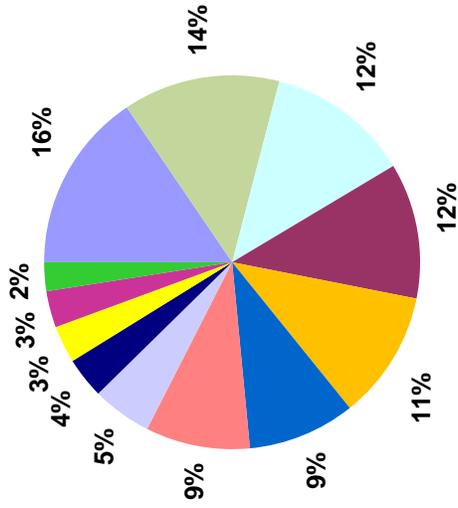
Note: Comparable industry comparisons, not world class data subset.

# Work Activities Resulting in Injury/Illness (CAIRS Data)

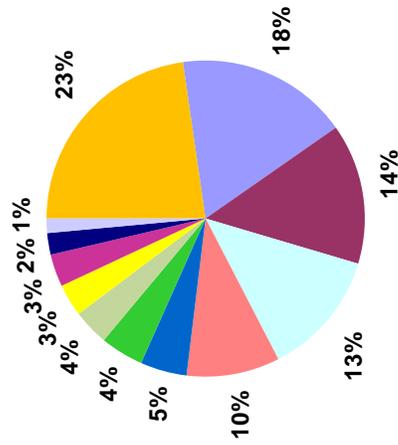
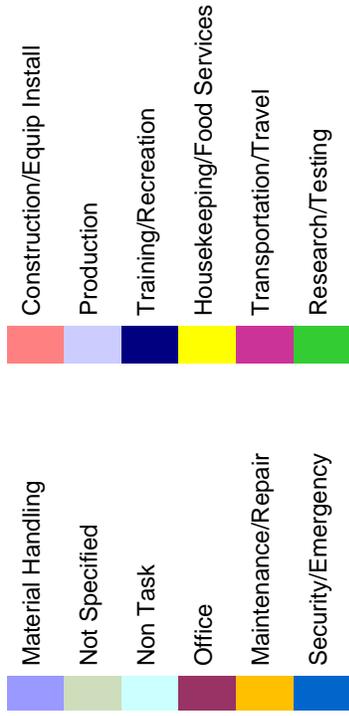
Jan 1 – Dec 31, 2007



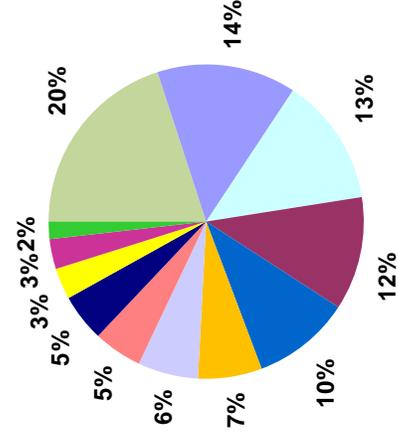
## ALL DOE



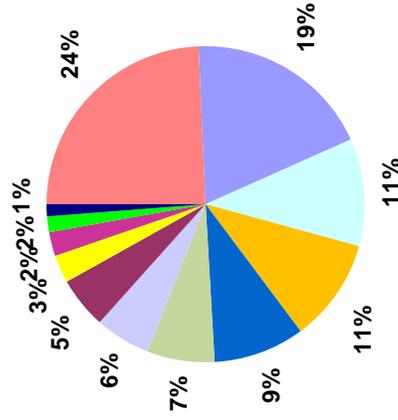
Reporting Improvement  
Not Specified  
EM – 16% to 7%  
SC – 37% to 4%  
NA – 42% to 20%



## SC



## NA



## EM

## Work Activities Resulting in Injury/Illness (CAIRS Data)

Jan 1 – Dec 31, 2007

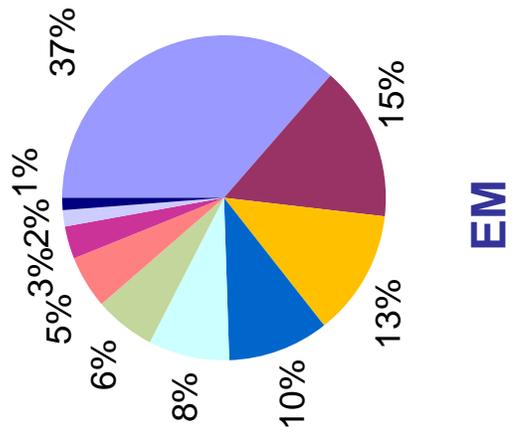
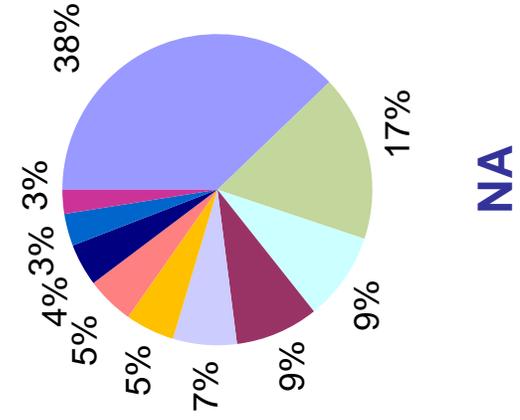
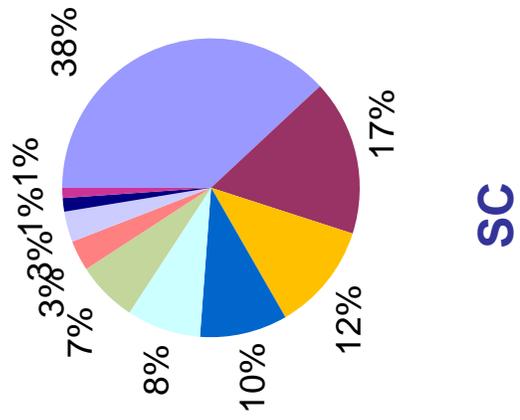
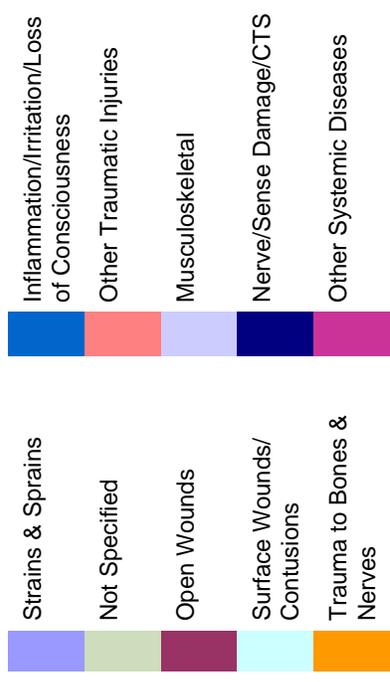
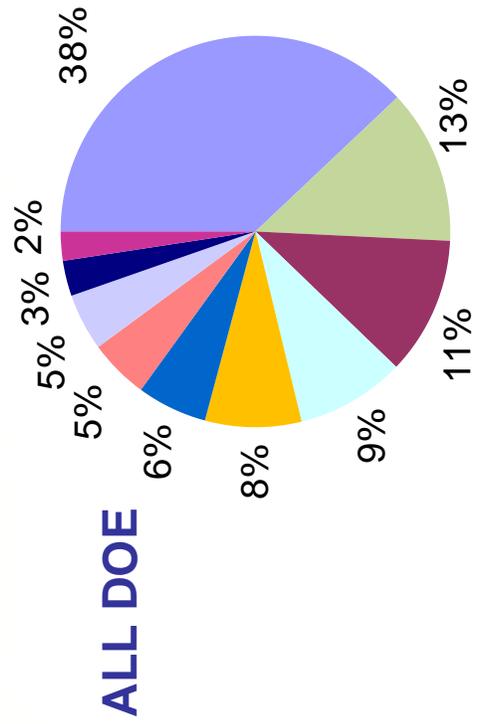


- Commonality: Ergonomics remains a common cause of material handling and office events, the top two *Work Activities Resulting in Injury*
- Although NA improved from 42% to 20% *Not Specified* activities, 75% of the injuries are mission-related
- SC is dominated by *Maintenance/repair* injuries resulting from aging infrastructure with sub-optimal conditions for access, work, etc.
- EM: *Construction and Equipment Installation* the largest category
  - Both new construction and demolition involve excavation, moving heavy loads, temporary utilities, etc. Both activities should be planned and controlled, but demolition/teardown produces more unexpected conditions
  - Unreliable as-built drawings in demolition projects
    - Structural stability may be unknown
    - Hidden electrical or chemical sources
    - Classified rooms or vaults for which no documentation or drawings exist



# Nature of Injury/Illness Types (CAIRS Data)

Jan 1 – Dec 31, 2007



SC

NA

EM

## Nature of Injury/Illness Types (CAIRS Data)

Jan 1 – Dec 31, 2007



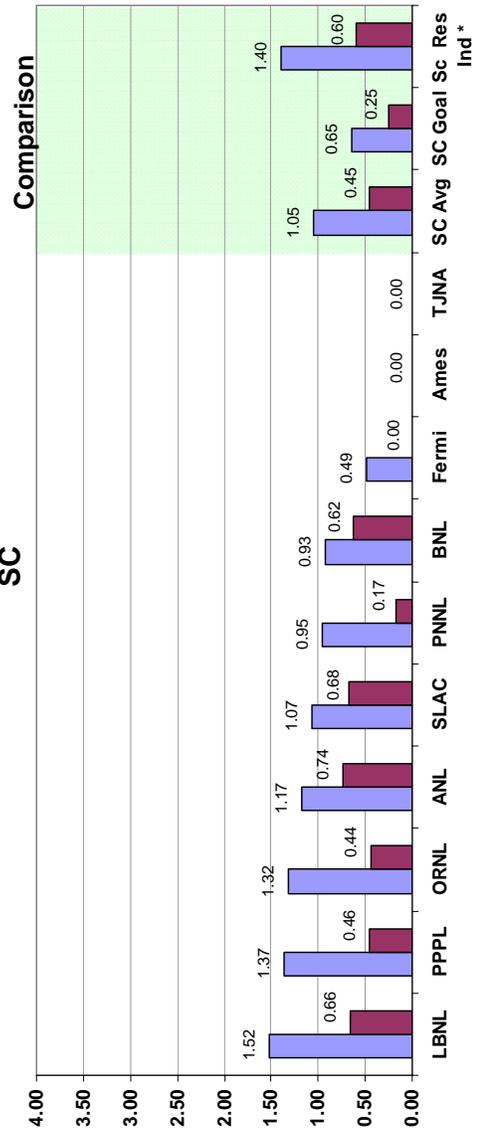
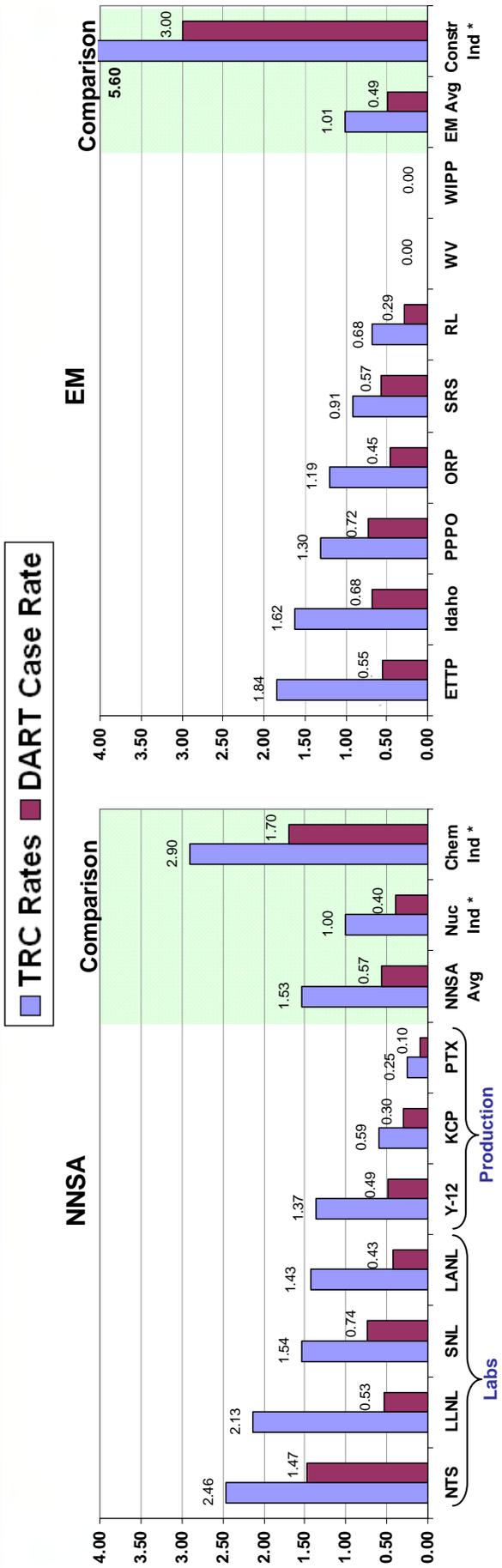
- Types of injuries are not unique to the different types of work being performed by the PSOs because we have worked out of the system the severe occurrences that are mission-dependent.
- While *Strains and Sprains* dominate these ordinary hazards, *Strains and Sprains* are often lost when dealing with highly hazardous activities (e.g., low probability/high consequence versus high probability/low consequence)
- Work planning should recognize lifting hazards, repetitive motion or awkward postures. However, workers often perceive the activity to be low-risk. An improvement could be best sought by encouraging workers to evaluate any special requirements.
- 10 CFR 851 and ISM require the employer to analyze causes of injuries. Despite analysis we still have injuries with causes that are *not specified*. Implementation of 10 CFR 851 is of great concern to the unions.



**This page intentionally left blank**

# NNSA, EM and SC TRC and DART Case Rates

## Jan 1 – June 30, 2008



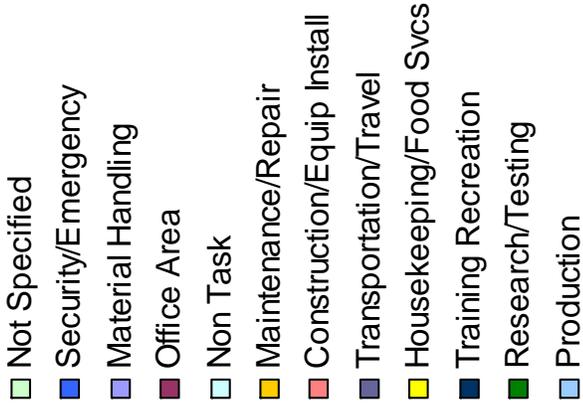
**Industry comparable rates are averages for all sizes and do not represent "best in class"**

- \* Constr Ind = NAICS Code 237 Heavy & Civil Engineering Construction
- \* Nuc Ind = NAICS Code 221113 Nuclear Electric Power Generation
- \* Chem Ind = NAICS Code 325 Chemical Manufacturing
- \* Sc R&D = NAICS Code 5417 Scientific R&D

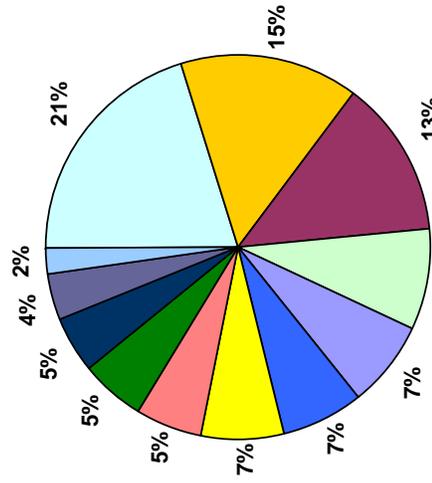
# Work Activities Resulting in Injury/Illness Types (CAIRS Data) Jan 1 – June 30, 2008



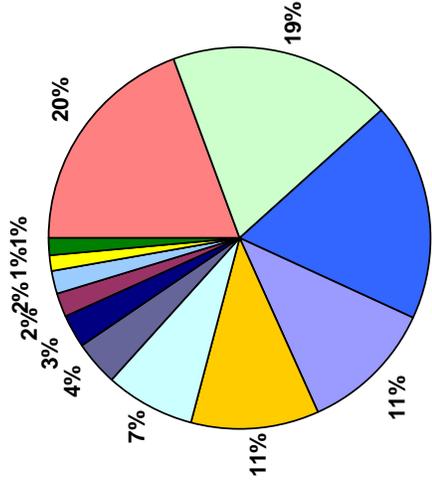
**All DOE**



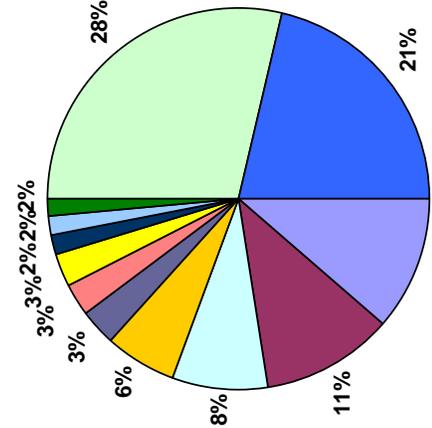
**SC**



**EM**



**NA**

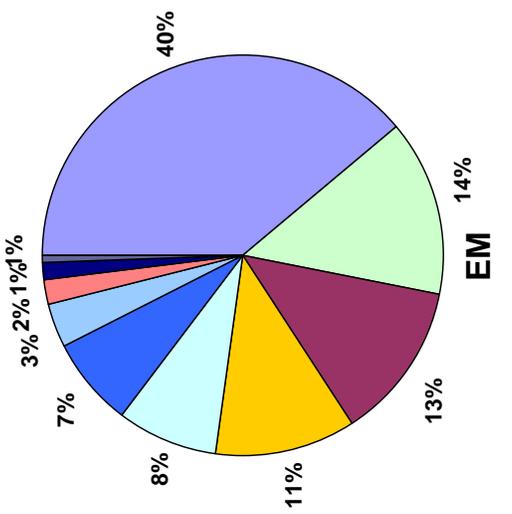
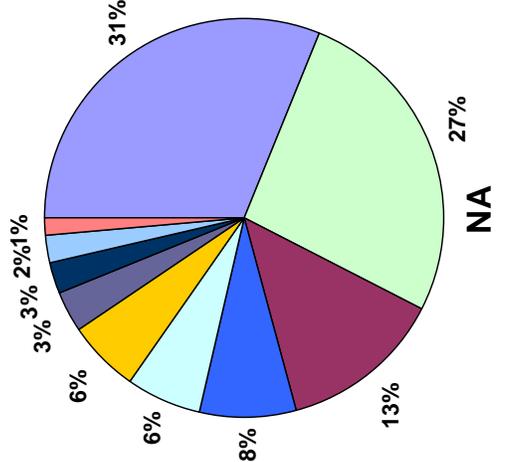
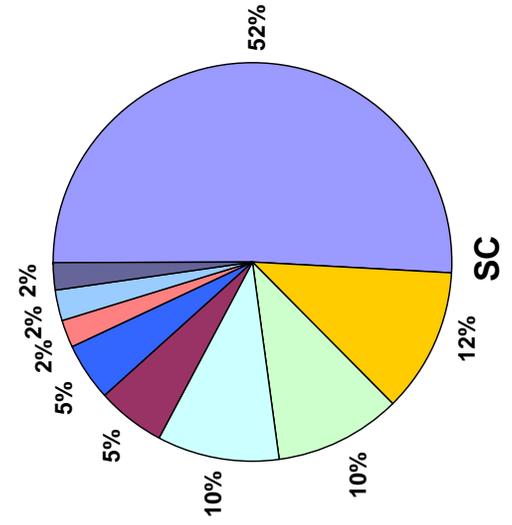
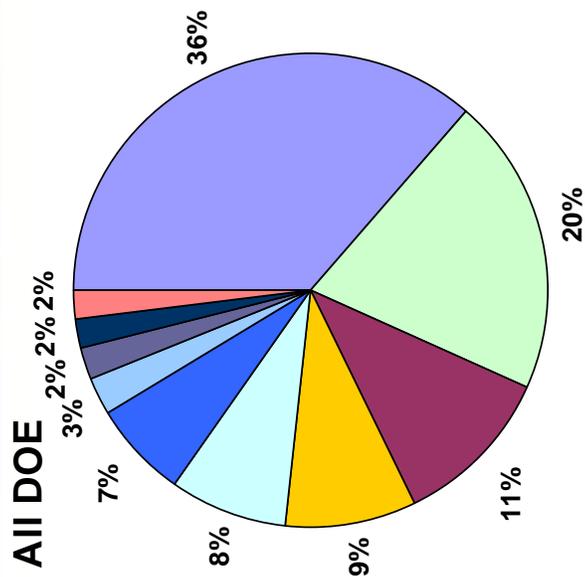




# Nature of Injury/Illness Types (CAIRS Data)

Jan 1 – June 30, 2008

- Strains & Sprains
- Not Specified
- Open Wounds
- Trauma to Bones/Nerves
- Surface Wnds/Contus
- Inflamm/Irrit/Loss of Consc
- Musculoskeletal
- Other Systemic Diseases
- Nerve/Sense Dmg/CTS
- Other Traumatic Injuries



## Trends from CY 2007 to Q1-Q2 2008



- TRC and DART rates generally continue to decrease with a few exceptions
- Strains & Sprains decreased slightly (38% → 36%), however at SC they increased from 38% to 52%, while at NNSA they dropped from 38% to 31%.
- Material Handling injuries showed the biggest decrease (16% → 11%) with all 3 PSO's showing improvement
- Security/Emergency injuries have also risen in 2008 (9% → 17%), especially at NNSA (10% → 21%) and EM (9% → 19%)
- “Not Specified” work activity and injury type reporting which had shown improvement in 2007 are increasing
- Non Task injuries decreased overall by 2%, however at SC they increased from 13% to 21%



# Analysis of Injuries at DOE Work Sites

# **AN ANALYSIS OF INJURIES AT DEPARTMENT OF ENERGY WORK SITES**

**Prepared by the Construction Industry Research and Policy Center under  
contract CPWR–2006–Schriver with the Center to Protect Workers’ Rights**

**March 2007**

**William R. Schriver, Principal Investigator**

**James E. Beavers, Co–Principal Investigator**

**Thomas E. Cressler, Research Associate**



# **An Analysis of Injuries at Department of Energy Work Sites**

## **1. INTRODUCTION**

The Construction Industry Research and Policy Center (CIRPC) at the University of Tennessee was awarded a contract by the Center to Protect Workers' Rights, under their grant program with the National Institute of Occupational Safety and Health (NIOSH), to analyze injuries of employees of the U. S. Department of Energy (DOE) and their contractors' working at DOE work sites. The injury data analyzed were injuries recorded in DOE's Computerized Accident Incident Reporting System (CAIRS).

During the process of analyzing the types and causes of injuries reported in CAIRS records, it became apparent that responses to several data items in the Individual Accident/Incident Reports varied in completeness, relevance and accuracy. Consequently, the original statement of work was amended to include an evaluation of the data recorded in the Reports. However, the apparent laxity in accurate and complete reporting of crucial data in CAIRS in no way reflects upon the outstanding safety record experienced at DOE worksites. Injury rates per 100 full-time workers at DOE worksite remain far below the national average for the private sector. At DOE worksites the injury rates for 2001, 2002, 2003, 2004 and 2005 were 2.4, 2.2, 1.8, 1.6 and 1.6, respectively. Comparable rates for the total private sector were, respectively, 5.7, 5.3, 5.0, 4.8 and 4.6. Thus recorded injuries in the private sector were 2.6 times greater in the private sector than on DOE worksites.

## **2. OBJECTIVES**

The primary objective of this study was to gain understanding of direct and indirect causes of types of injuries during the performance of various tasks in sufficient detail to suggest

and test intervention strategies in subsequent studies. Secondary objectives were to evaluate the quality of the injury cases recorded in CAIRS and to estimate the cost of injuries to DOE.

The specific steps undertaken in the study are: (1) examination of type of injuries by activity being performed; (2) examination of the relationship between type of injuries and number of lost workdays; (3) analysis of frequency of injuries coded by sex, age, time of day of occurrence, occupation, type of injury, type of work being performed, and object causing the injury; (4) development and analysis of a coding scheme for textual descriptions of conditions existing at time of injury, action of the injured worker which directly caused the injury and factors which likely contributed to the injury event; (5) evaluation of the quality of the data recorded in CAIRS; (6) estimate the cost of injuries to DOE; and (7) suggestions for improvements in CAIRS data quality.

### **3. DATA**

CAIRS is a database managed by the DOE's Office of Corporate Safety Analysis, and it is used to collect and analyze DOE and DOE contractor reports on injuries and illnesses occurring at DOE operations (CAIRS Website). The database is updated continuously, and individual accident reports are available from 1983 through present to DOE staff and contractors. CIRPC was granted special permission by DOE to access their database.

Appendix A contains the CAIRS Form (DOE F 5484.3) used to report recordable injuries (those injuries requiring more than in-house first-aid treatment). Although several coded data fields, such as Items 4, 6, 7, 26, 31a and 33a, provided data for the study, the textual information taken from Items 31 (Activity: What was the injured person doing immediately before the incident occurred?), and 32 (Event: What happened?), 33 (Nature of Injury: What was the injury?) was crucial in understanding the often incomplete responses to item 36 (Causes:

Conditions that existed at time of the event; Actions on part of the injured that contributed to the event; and Factors which contributed to the event), focus of this study. This process allowed CIRPC to code in most cases the information required for response to Item 36. The reason Item 36 was of particular interest was, because it should provide information crucial to the subsequent development of intervention strategies at DOE worksites as well as worksites in general.

The records analyzed in this study were restricted to physical injuries resulting in 10 or more lost workdays and those occurring within a single workday, excluding injuries resulting from repetitive motion occurring over longer periods of time. The years 2000 through 2005 were selected for study, and they contained 1809 records of injuries resulting in 10 or more days of lost time. The contract with CPWR required CIRPC to include the analysis of 1000 injury records, so 167 records were randomly selected from each of the six years producing an overall sample of 1002 records. In the selection process 260 injuries were encountered which resulted from repetitive motion over a period of time exceeding a single day, most involving carpal tunnel syndrome, and random replacements were selected for them.

#### **4. FINDINGS**

##### **A. Causes of Injuries**

Although Item 36 in the CAIRS Injury Report is intended to capture information on: (1) the physical conditions that existed at the time of the injury event; (2) the action the injured person performed which directly caused the event; and (3) the underlying causes which contributed to the event, the actual data provided in many of the 1002 records examined in this study were either missing or often insufficient in describing “what, when, how, where,” the necessary ingredients for development of intervention tactics. However, by carefully reading responses to the entire Injury Report it was possible in most cases to create the information

which should have been reported in Item 36. More will be said about the quality of the CAIRS injury data in the following section of the findings.

The data from Item 36 (original data plus constructed data inferred from other items in the Injury Report where original data were missing or insufficient) were coded into two categories of physical conditions, 14 categories of actions and 23 categories of underlying causes.

Table 1 shows the frequency of recorded injuries which occurred under two conditions: (1) normal conditions, i.e., the typical environment in which the employee worked or traveled according to the victim's occupation; and (2) hazardous conditions, i.e., an environment where there was a specific(s) hazard not normally encountered by the employee in accordance with the victim's occupations. An example of an injury occurring under normal conditions would be a forestry worker tripping over a felled log; while this environment might be hazardous to employees in other occupations, this would be a normal environment in which foresters are expected to work. An example of an injury occurring under hazardous conditions would be an employee delivering mail who slipped on a greasy floor, an unexpected condition not normally encountered.

It can be seen from Table 1 that the majority of injury events occurred under normal conditions, varying by year from a low of 116 (69.5%) events in 2005 to a high of 144 (86.2%) in 2002. Overall, 775 (77.3%) of the 1002 injury events occurred under normal conditions as defined by the authors.

Table 2 shows the frequency of 11 categories of actions performed by the victims which directly caused the injury events overall and for each of the six years. It can be seen that the overall leading cause was "Mis-Step/Improper Movement" with 393 (39.2%) of the 1002 events,

followed by “Normal Task Actions” (where the victim was performing normal work/travel tasks and did not inadvertently cause the event) with 364 (36.3%) events. Other high-frequency causes were “Did Not Follow Procedure” with 121 (12.1%) and “None: Action Did not Cause Accident” with 48 (4.8%) events.

Table 3 shows the frequency of 21 categories of factors contributing to the injury event by year and overall. It can be seen that the overall leading factor was “Lack of Attention/Poor Judgment” with 538 (53.7%) of the 1002 events, followed by “Unsafe Situation (Tripping Hazards, Ergonomic Conditions)” with a frequency of 248 (24.8%) of the events, “None” with 133 (13.3%) of the events, “Unknown Employee Health Condition” with 119 (11.9%) of the events, and “Weather (Wind, Ice, Rain)” with 90 (9.0) events.

The Injury Reports were also reviewed to determine who directly caused the injury: the victim receiving the injury, another individual, a combination of the victim and another person, or no one directly caused the injury – the victim was simply at the wrong place at the wrong time. Table 4 shows the results. It can be seen that in most cases the victim caused most injuries; in 765 (76.3%) of the cases reviewed the victim caused the injury. The next most prevalent condition was “Wrong Place at Wrong Time” with a frequency of 188 (18.8%) of the cases, followed by “Other Person” with 22 (2.2%) of the cases, and “Combination” with 11 (1.1%) of the cases. In 16 cases (1.6%) it was not possible to determine who caused the injury.

Another way of viewing the injuries was to classify each in terms of work status at time of injury: the victim was performing a work task, the victim was in work status but moving between work sites, or the victim was in a non-work activity. Table 5 shows the frequency of injuries by work status at time of injury. It can be seen that most injuries occurred during the performance of work tasks with 805 (80.3%) of the injuries occurring in this category, followed

by “Non-Work Activity” with 96 (9.6%) cases and “Change in Location” with 88 (8.8%) cases. It was not possible to classify 13 (1.3%) of the cases.

As stated earlier the data analyzed consisted of random samples of 167 injury records for each of the six years, 2000 through 2005. However, since injury cases involving carpal tunnel syndrome (CTS) and other cases where the injury did not have a specific time of occurrence (occurring during a period of more than one week) were excluded from this study, larger samples were actually reviewed in each year in order to obtain 167 non-CTS and related cases. Table 6 shows the number of CTS and no-point-in-time (NPIT) injury records which were encountered during the process of selecting 167 eligible cases each year. Table 6 shows the results of the occurrence of CTS and other NPIT injury cases during the random selection of 167 eligible cases. The important finding was that there was a sharp decline in the occurrence of CTS cases over the six-year period, falling from a high of 62 (26.6% of total CTS cases) cases in 2000 to a low of 24 (12.4%) cases in 2005. Only 15 other NPIT cases were encountered during the selection process over the six-year period, and their trend of occurrence was relatively flat over time, peaking with six (40.0%) cases in 2002.

#### **B. Estimate of Quality of Data Recorded on the CAIRS Injury Record Form**

While reviewing the sample of 1002 CAIRS Injury Records, it became apparent that the quality of the data was poor in many instances. Information was frequently incomplete or missing altogether from narrative descriptions of various aspects of the injury event. Although the task of analyzing the quality of the CAIRS data was not originally in the statement of work, the PI’s saw an opportunity for improvement of the data by empirically documenting error and incompleteness rates for 14 data items in the CAIRS Individual Accident/Incident Report (Appendix A). A sample of 10 accident records was randomly selected for each of the six years,

2000 through 2005, and the data recorded for the following 14 items were analyzed for its accuracy and its completeness: (1) Item 31; (2) Item 31A; (3) Item 32; (4) Item 32A; (5) Item 33; (6) Item 33A; (7) Item 34; (8) Item 34A; (9) Item 34C; (10) Item 34D; (11) Item 35; (12) Item 36-Part 1; (13) Item 36-Part 2; and (14) Item 36-Part 3. Table 7 shows the results of the analysis. Although the analysis was subjective in many instances, overall the rate of incompleteness for the seven Items requiring text was 7.8 percent and the overall error (incorrect text) rate for the seven text items was 21.1 percent. The overall error rate for the seven Items requiring a coded definition was 9.0 percent.

However, since Item 36-Part 1, Part 2 and Part 3 are the most important items in the injury record in terms of efficacy and efficiency in the design and implementation of accident intervention programs, their incompleteness rates and error rates should be specifically noted, in order to evaluate the quality of CAIRS data. In the sample of 60 recorded injuries shown in Table 7 Item 36-Part 1 had an incomplete rate of 6.7 percent and an error rate of 26.7 percent; Item 36-Part 2 had an incomplete rate of 11.7 percent and an error rate of 38.3 percent; and Item 36-Part 3 had an incomplete rate of 6.7 percent and an error rate of 38.7 percent.

Four deaths occurred during the 2000-2005 period which by chance were not selected in the sample of 1002 analyzed in Tables 1 through 6 or the sample of 60 analyzed in Table 7. The PI's reasoned that data accuracy might be better in incidents involving serious injuries or deaths. Therefore, the injury reports for the four death cases were analyzed to see if their data were more complete and more accurate. It was found that rate of incompleteness for the seven text Items was 25 percent, and the error rate was 35.7 percent. The error rate for the seven Items requiring a coded definition was 7.1 percent. Thus there was no evidence of improvement in the quality of data for the death cases.

**Table 1. Conditions Existing at Time of Event**

Cause Conditions	2000		2001		2002		2003		2004		2005		Total	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Standard Conditions (Normal)	119	71.2%	138	82.6%	144	86.2%	134	80.2%	123	73.7%	116	69.5%	774	77.3%
Hazardous Conditions (Unsafe)	45	26.9%	28	16.8%	16	9.6%	30	18.0%	44	26.3%	46	27.5%	209	20.9%
Unknown	3	1.8%	1	0.6%	7	4.2%	3	1.8%	0	0.0%	5	3.0%	19	1.9%
<b>TOTAL</b>	167	100%	167	100%	167	100%	167	100%	167	100%	167	100%	1002	100%

**Table 2. Direct Actions Causing the Event**

Actions	2000		2001		2002		2003		2004		2005		Total	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Mis-Step / Improper Movement	58	34.7%	54	32.3%	55	32.9%	79	47.3%	80	47.9%	67	40.1%	393	39.2%
Improper Climbing	5	3.0%	2	1.2%	4	2.4%	1	0.6%	1	0.6%	2	1.2%	15	1.5%
Improper Use of Equipment/Selection of Tool	1	0.6%	2	1.2%	0	0.0%	0	0.0%	2	1.2%	2	1.2%	7	0.7%
Lack of Pre-Job Inspection/Failed to Prepare	1	0.6%	0	0.0%	0	0.0%	1	0.6%	0	0.0%	1	0.6%	3	0.3%
Normal Task Actions	57	34.1%	68	40.7%	65	38.9%	60	35.9%	50	29.9%	64	38.3%	364	36.3%
Unsafe Position (ergonomics)	5	3.0%	5	3.0%	3	1.8%	1	0.6%	1	0.6%	3	1.8%	18	1.8%
Did Follow Procedure	25	15.0%	24	14.4%	19	11.4%	13	7.8%	23	13.8%	17	10.2%	121	12.1%
None (action didn't cause accident)	10	6.0%	8	4.8%	12	7.2%	7	4.2%	9	5.4%	2	1.2%	48	4.8%
Used an Improper Procedure	1	0.6%	2	1.2%	2	1.2%	0	0.0%	0	0.0%	0	0.0%	5	0.5%
Unknown (Lack of Information Reported)	4	2.4%	2	1.2%	7	4.2%	5	3.0%	1	0.6%	9	5.4%	28	2.8%
<b>TOTAL</b>	<b>167</b>	<b>100%</b>	<b>1002</b>	<b>100%</b>										

**Table 3. Contributing Factors**

Factors	2000		2001		2002		2003		2004		2005		Total	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
No/Poor Procedure	22	13.2%	10	6.0%	4	2.4%	13	7.8%	11	6.6%	14	8.4%	74	7.4%
Lack of Understanding/Training	3	1.8%	3	1.8%	1	0.6%	1	0.6%	2	1.2%	3	1.8%	13	1.3%
Lack of Attention / Poor Judgment	91	54.5%	73	43.7%	91	54.5%	94	56.3%	112	67.1%	77	46.1%	538	53.7%
Equipment Failure	7	4.2%	8	4.8%	3	1.8%	12	7.2%	6	3.6%	5	3.0%	41	4.1%
Didn't use proper tools / equipment	6	3.6%	7	4.2%	7	4.2%	6	3.6%	9	5.4%	5	3.0%	40	4.0%
Unsafe Equipment (Design / Set-up)	6	3.6%	8	4.8%	7	4.2%	8	4.8%	5	3.0%	11	6.6%	45	4.5%
Rushing / Hurry Task	8	4.8%	6	3.6%	7	4.2%	7	4.2%	7	4.2%	6	3.6%	41	4.1%
Weather (Wind, Ice, Rain, etc.)	10	6.0%	16	9.6%	9	5.4%	12	7.2%	21	12.6%	22	13.2%	90	9.0%
Unsafe Situation (Tripping Hazards, Ergonomic Conditions)	38	22.8%	34	20.4%	33	19.8%	38	22.8%	46	27.5%	59	35.3%	248	24.8%
Employee Misconduct	1	0.6%	1	0.6%	0	0.0%	2	1.2%	1	0.6%	2	1.2%	7	0.7%
Poor Supervision	5	3.0%	4	2.4%	9	5.4%	1	0.6%	2	1.2%	8	4.8%	29	2.9%
Unknown/Employee Health Condition	22	13.2%	22	13.2%	23	13.8%	18	10.8%	17	10.2%	17	10.2%	119	11.9%
Poor Communications	2	1.2%	1	0.6%	1	0.6%	3	1.8%	2	1.2%	1	0.6%	10	1.0%
Improper PPE	0	0.0%	0	0.0%	0	0.0%	1	0.6%	1	0.6%	1	0.6%	3	0.3%
No PPE	1	0.6%	3	1.8%	4	2.4%	2	1.2%	4	2.4%	2	1.2%	16	1.6%
Continued work after injury	3	1.8%	16	9.6%	16	9.6%	1	0.6%	6	3.6%	2	1.2%	44	4.4%
Unexpected event	4	2.4%	4	2.4%	0	0.0%	9	5.4%	7	4.2%	5	3.0%	29	2.9%
Rarely performed task	2	1.2%	2	1.2%	4	2.4%	2	1.2%	1	0.6%	2	1.2%	13	1.3%
None	14	8.4%	26	15.6%	31	18.6%	24	14.4%	22	13.2%	16	9.6%	133	13.3%
Unknown (Lack of info.)	9	5.4%	3	1.8%	8	4.8%	7	4.2%	7	4.2%	16	9.6%	50	5.0%
Repetitive actions	1	0.6%	7	4.2%	2	1.2%	5	3.0%	1	0.6%	2	1.2%	18	1.8%
<b>TOTAL</b>	<b>255</b>	<b>153%</b>	<b>254</b>	<b>152%</b>	<b>260</b>	<b>156%</b>	<b>266</b>	<b>160%</b>	<b>290</b>	<b>174%</b>	<b>276</b>	<b>165%</b>	<b>1601</b>	<b>160%</b>

**Table 4. Person Causing Injury**

Injury Initiated By	2000		2001		2002		2003		2004		2005		Total	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Victim	128	76.6%	125	74.9%	114	68.3%	124	74.3%	129	77.2%	145	86.8%	765	76.3%
Other Person	6	3.6%	2	1.2%	5	3.0%	4	2.4%	5	3.0%	0	0.0%	22	2.2%
Combination	5	3.0%	0	0.0%	0	0.0%	2	1.2%	3	1.8%	1	0.6%	11	1.1%
Wrong Place at														
Wrong Time	24	14.4%	37	22.2%	42	25.0%	35	21.0%	30	18.0%	20	12.0%	188	18.8%
Unknown	4	2.4%	3	1.8%	6	3.6%	2	1.2%	0	0.0%	1	0.6%	16	1.6%
<b>TOTAL</b>	<b>167</b>	<b>100%</b>	<b>1002</b>	<b>100%</b>										

**Table 5. Work Status of Victim**

Injury Initiated By	2000		2001		2002		2003		2004		2005		Total	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Performing Task	137	82.0%	141	84.4%	133	79.6%	139	83.2%	123	73.7%	132	79.0%	805	80.3%
Change in Location														
Moving to/from Task	22	13.2%	7	4.2%	6	3.6%	12	7.2%	16	9.6%	25	15.0%	88	8.8%
Non-Work Activity	4	2.4%	17	10.2%	23	13.8%	15	9.0%	28	16.8%	9	5.4%	96	9.6%
Unknown	4	2.4%	2	1.2%	5	3.0%	1	0.6%	0	0.0%	1	0.6%	13	1.3%
<b>TOTAL</b>	<b>167</b>	<b>100%</b>	<b>1002</b>	<b>100%</b>										



**Table 7. Incomplete Rate and Error Rate for 14 Items in Sample of 60 Injury Records**

<b><u>Item</u></b>	<b><u>Incomplete</u></b>	<b><u>Wrong</u></b>
31 (Text)	10 (16.7%)	7 (11.7%)
31A (Code)	–	9 (15.0%)
32 (Text)	2 (3.3%)	6 (10.0%)
32A (Code)	–	5 (8.3%)
33 (Text)	1 (1.7%)	1 (1.7%)
33A (Code)	0	3 (5.0%)
34 (Text)	–	19 (31.7%)
34A (Code)	–	3 (5.0%)
34C (Code)	–	4 (6.7%)
34D (Code)	–	0
35 (Code)	–	0
36-Part 1 (Text)	4 (6.7%)	16 (26.7%)
36-Part 2 (Text)	7 (11.7%)	23 (38.3%)
36-Part 3 (Code)	4 (6.7%)	23 (38.7%)

## **APPENDIX A**



Information about the Case

- 15) Case number: 200602
- 16) Accident Type: Injury/Illness
- 17) Investigation Type: C
- 18) Accident Place: Indoors
- 19) On Employer's Premises: Yes
- 20) Specific Location: SC-10 Room 31
- 21) Date of Injury or Illness (YYYYMMDD): 20060330
- 22) Time employee began work (military): 07
- 23) Is time of event known: Yes
- 24) Time of event (military): 10
- 25) OSHA Injury/Illness Classification: Injury
- 26) Number of days away from work: 0
- 27) Number of days of restricted work activity or job transfer: 0
- 28) Permanent transfer to a different job because of disability due to accident: No
- 29) Terminated because of disability due to accident: No
- 30) Is the case closed: Yes
- 
- 

Information about the Case -- Continued

- 31) ACTIVITY: What was the employee doing just before the incident occurred? Describe the activity as well as the tools, equipment, or material the employee was using. Be specific. Examples: 'climbing a ladder while carrying roofing materials'; 'spraying chlorine from hand sprayer'; 'daily computer key-entry.'  
Opening a box containing a blood diagnostic specimen
- 31-a) Activity code: 0901 - RESEARCH/TESTING ACTIVITY
- 32) EVENT: What happened? Tell us how the injury occurred. Examples: 'When ladder slipped on wet floor, worker fell 20 feet'; 'Worker was sprayed with chlorine when gasket broke during replacement'; 'Worker developed soreness in wrist over time.'

Small puncture wound of the left index finger while opening a box containing blood diagnostic specimens

32-a) Event code: 0009 - Contact with objects and equipment, nec

33) NATURE of Injury/Illness: What was the injury or illness? Tell us the part of body that was affected and how it was affected, be more specific than 'hurt', 'pain', or 'sore.' Examples: 'strained back'; 'chemical burn, hand'; 'carpal tunnel syndrome.'

Small puncture wound of the left index finger

33-b) Nature code: 0036 - PUNCTURE  
33-b) Part of body affected code: 3401 - FINGER(S)

34) OBJECT: What object or substance directly harmed the employee? Examples: 'concrete floor'; 'chlorine'; 'radial arm saw.' If this question does not apply to the incident leave it blank. Broken vacutainer blood tube

34-a) Primary object or substance (Source) code: 1215 - LABORATORY GLASSWARE

34-b) Other objects or substances: - (Unspecified)

34-c) Did equipment design or defect contribute to accident cause or severity? No

34-d) Personal protective equipment code (PPE being used by employee at the time of event): 0603 - SAFETY GLASSES WITH SIDE SHIELDS 0906 - LAB COAT

35) Did the employee die? No

If 'Yes', enter date of death (YYYYMMDD)

36) CAUSES: State the conditions that existed at the time of the event, the actions on the part of the employee that contributed to the incident, and the factors or underlying causes that contributed to the incident.

*Conditions:* Employee was performing routine laboratory functions opening sample boxes arriving at the lab.

*Actions:* While lifting vials in a zip-lock bag from the shipping box, punctured the left index finger on a vial that was broken in transport.

*Factors:* Root cause identified as improperly packaged blood diagnostic specimens for transport.

36-a) Direct cause: DD - Design/Material

Indirect cause: IE- Employee

37) CORRECTIVE ACTIONS: Describe actions taken or recommended to prevent recurrence of the incident

*Actions Taken:* Follow up to identify specimen source person - Negative HIV and Hepatitis panel documented. Initiated the requirement for the use of nitrile gloves for opening packages in addition to existing practices of handling blood products. Re-familiarization of the lab staff of potential hazards of sharps and bloodborne pathogens in arriving samples and to suspend work and/or take special precautions when irregularities are experienced.

*Actions Recommended:* All submitting organizations notified that improperly packaged diagnostic specimens will not be accepted at the lab. Completion of a lessons learned document.



## IBEW Model for Union-Based Injury and Illness Tracking

# **A Model Approach for Union-Based Injury and Illness Tracking**

---

---

**Katherine Hunting, PhD, MPH**  
George Washington University (GWU)

**Janie Gittleman, PhD, MRP**  
**Michael McCann, PhD**  
Center to Protect Workers' Rights (CPWR)

**Jim Tomaseski**  
International Brotherhood of Electrical  
Workers (IBEW)

# Background

- **Since 1986, IBEW has asked its locals to report fatalities and specified types of non-fatal injuries and illnesses (lost-time injuries of most interest).**
- **A standard form exists for this purpose.**
- **About 1,500 such reports are received every year by IBEW's Safety & Health Department.**

# Current Utilization

- **On a regular basis, one IBEW Department (Utility) publishes summary of fatalities and selected “serious accidents” that offer prevention insight:**
  - electrical contact
  - other than electrical contact
- **Case-report format:**
  - detailed event descriptions
  - findings from investigations
- **Case reports illustrate risky scenarios that individuals can relate to, avoid**

# Utility Department Reports

- Are seen as a valuable resource
- For example, 6 years of Utility Department case reports were used as the primary basis for OSHA standard-setting regarding electric generation, transmission, and distribution (OSHA 1910.269)

# However . . . aside from Utility

**No comprehensive use of case reports:**

- **Reporting is not complete.**
- **Reporting is not standardized.**
- **Of reports received, most have not been computerized.**
- **Usefulness has not been widely demonstrated at the International or Local level.**

# Potential for Prevention

---

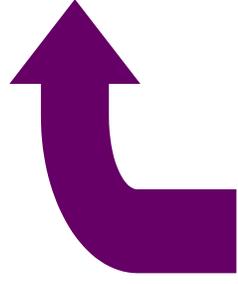
---

**Reporting infrastructure is in place! If reporting is improved, injury and illness case reports could be used more systematically to:**

- **provide insight into injury and illness patterns among IBEW members; and**
- **assist International and Locals in targeting prevention activities.**

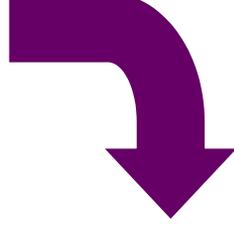
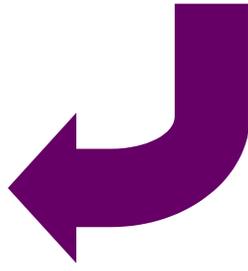
# Positive Feedback

Case reports submitted  
by Local unions



incentives for more  
complete and  
consistent reporting

systematic analysis  
and summary  
by International



prevention ideas useful  
to Local union members

# Pilot Project

- **IBEW, CPWR, GWU have begun a collaborative effort to utilize case reports for prevention**
- **Microsoft Access database developed for the injury/illness reports**
- **Data entered for a pilot analysis of ~400 case reports from year 2000**

# Pilot Study Results: Injury Data

➤ Injury patterns to be described . . . .

# Pilot Study Insights: Methods

Case report formats not standardized:

- two different versions of the IBEW reporting form in use
- some locals send in WC first reports
- other locals used employer accident report forms

Tradeoff: use of WC and employer forms reduces need to fill out duplicate forms, but increases difficulty of data entry

# Pilot Study Insights: Methods

---

## Incomplete and inconsistent data:

- important data items missing
- narrative data sometimes detailed; sometimes sketchy
- various interpretations of data items

# Pilot Study Insights: Methods

## Case definition open to interpretation:

- In addition to fatalities, IBEW requests reporting specified other events, but only “saves” reports on lost-time events
- Not known what proportion of injuries and illnesses are actually reported
- Reported cases don’t represent all injuries and illnesses, only targeted ones. Thus, these reports will provide a different picture than other surveillance data sources.

# Future Directions

---

---

- **Use insights from pilot project to refine database content, format, and procedures.**
- **Develop an online form.**
- **Continue data entry on an ongoing basis.**
- **Use a participatory approach to develop a full scale injury/illness tracking activity.**

# Anticipated Program Elements (1)

- ▶ **Educate local unions on injury reporting program.**
- ▶ **Make decisions about and develop guidelines for issues such as:**
  - **which injuries to report;**
  - **when to report;**
  - **mechanisms for reporting;**
  - **interpretation of information on the form.**
- ▶ **Disseminate guidelines in written form, at progress meetings, at conferences.**

## Anticipated Program Elements (2)

- **Collect 1-2 years worth of data from IBEW locals.**
- **Allow online or hard-copy reporting.**
- **Develop QA procedures to ensure the completeness of reporting**
  - **maximize participation rates among locals**
  - **ensure that all injuries which meet reporting criteria are submitted**
- **Develop QA procedures for processing incoming data.**

# Anticipated Program Elements (3)

---

- **Develop standardized queries for analyzing the injury data.**
  - **by injury circumstances**
  - **by injury diagnosis/body part injured**
  - **by IBEW Department**
  - **by Local and District**
  - **by employer**
  - **by worker characteristics**
  - **by time lost**

# Anticipated Program Elements (4)

---

- **Develop standard reports and feedback mechanisms for informing the locals of:**
  - **their injury/illness patterns**
  - **selected overall patterns**
  - **selected comparisons between their data and national or regional data**
- **Develop prevention recommendations**
- **Use case reports selectively to illustrate recommendations**

# Aims

- **Transfer of expertise to IBEW**
- **Self-sustaining surveillance activity**
- **Used by IBEW in conjunction with other available surveillance data (e.g. BLS) to develop locally-based or nationally-based injury prevention activities.**

# Acknowledgements

---

---

**... Thanks to Manuel Maderos (formerly at IBEW) for his involvement in the conception of this project.**

**... And to Kendra Worrey at CPWR for data entry and troubleshooting!**



# Metal Trades Department

## **Metal Trades Dept. Calls for Oversight Hearings Into Operations of Energy Employees Occupational Illness Compensation Program (EEOICP)**

Mon Apr 28, 2008 11:25am EDT

WASHINGTON, April 28 /PRNewswire-USNewswire-- The AFL-CIO Metal Trades Department (MTD) is calling for congressional oversight hearings to investigate the failure of the Energy Employees Occupational Illness Compensation Program (EEOICP) to provide adequate benefits to nuclear weapons workers and survivors victimized by radiation or exposure to toxic agents in their work environment. MTD President Ron Ault charged that the program--designed to compensate the victims of nuclear exposure in Department of Energy nuclear research and development projects from the mid-1940s through the present-- has:

- Wasted more than one-third of its multi-billion dollar allocation on top-heavy administrative costs;
- Splintered operations and responsibilities among several agencies;
- Frustrated claimants and survivors with drawn-out and faulty claims-processing;
- Imposed an impossible burden on victims to verify claims rather than the government;
- Relied on nonexistent or inadequate government records; and
- Ignored a congressional mandate to report the massive burden of occupational disease among these workers; and
- Failed to recommend standards for preventing future cases.

"It's shameful to see how the highest ideals of the sponsors of this legislation have been hijacked by a bureaucracy intent on evading responsibility and avoiding justice," declared Metal Trades Department President Ron Ault. "Congress directed that the government should provide equity and relief to the workers who became sick as a result of their service to the nation during a time of national need. Instead, the bureaucracy has built a maze of rules and arbitrary barriers designed to frustrate legitimate claims."

"During the era of the Cold War, thousands of men and women worked selflessly, putting what they were told was the national interest ahead of their personal health and safety. Many of these workers never were told of the dangers they faced. And, because of strict secrecy and classification standards, they never even disclosed to their families what they were doing. Furthermore, also out of secrecy concerns, much of this work was compartmentalized, creating additional confusion over what types of exposures and risks these workers encountered during their careers. Now, after the crisis has passed, and many of these same workers have become chronically ill--and many have died as a result of their exposures-- we ask: What kind of country would turn its back on them and their survivors? We implore Congress to revisit this legislation and take the necessary steps to make sure that these workers are not neglected, and their contributions are not forgotten," Ault said.

Since this legislation was enacted eight years ago, the program has wasted at least one-third of the money that Congress provided on overhead and administrative costs while splintering adjudication and administration among a number of federal entities. While the program has paid out some \$3.5 billion in benefits--and at least \$1 billion in administrative costs--there remain

hundreds if not thousands of unpaid, lost and derailed claims languishing in file boxes in the Department of Labor (DOL), the Department of Energy (DOE) and the National Institute of Occupational Safety and Health (NIOSH).

The program has been crippled from the outset. Initially, DOE told Congress it expected 3,000 claims under the new law. Within two years after enactment, some 40,000 claims had been received and DOE had made only one award.

According to an investigation conducted for the MTD by Sheldon W. Samuels of the Ramazzini Institute and Drexel University's School of Public Health, the Department of Energy had run up a woeful record of failures in administering the program in its first three years of life -- failing to work with state workers compensation commissions; hiring merely one part-time physician on staff and 100 contract physicians to review cases-- when it needed a minimum of 500; developing a helter-skelter system for reviewing and processing claims; hiring an unqualified contractor under a no-bid contract to set up its electronic data system; dismissing its advisory committee of workers' compensation experts after the committee criticized DOE's operations; and overspending on administrative costs fourfold.

The operations of other agencies with responsibilities under the act as amended to repair DOE's failure in 2004 were not much better. NIOSH was assigned to assess radiation exposure claims. It has only recently begun to update biomedical data originally developed from studies of veterans exposed to radiation during atomic tests in the 1940s and 50s and cancer-related deaths among Japanese survivors of Hiroshima and Nagasaki. Even the DOL was appalled by the work NIOSH was doing in processing EEOICP claims, sending some two-thirds of the claims NIOSH processed back for re-work. An audit of NIOSH processes found some 14.5 percent of claims it handled were erroneously rejected.

The union found many survivors who have applied for benefits have been told that they must produce medical and other records in order to prevail--records from 20 to 30 years ago. Virtually all workers involved with nuclear weapons research and development were sworn to secrecy about their work--forbidden to discuss it with spouses or family members. Consequently, many legitimate survivor claimants may not even know they are eligible, the union said.

Responsibility for administering benefits for former nuclear weapons workers originally had been split between the Department of Energy and the Department of Labor, with DOE assuming responsibility for "toxic illnesses" and DOL handling conditions specifically related to exposure from beryllium, silicosis and radiation. In 2004, the amended act gave NIOSH responsibility for radiation dose reconstruction. The Metal Trades Department has charged that the agencies have adopted processes that shift an impossible burden of proof on many claimants: finding records that were never made or were never accurate, or no longer exist.

SOURCE Metal Trades Department AFL-CIO

Ron Ault, President, Metal Trades Department AFL-CIO, 1-202-508-3705

The Greatest Occupational Health  
Scandal in the History of the United States:  
The Workers' Compensation Program of  
the Department of Energy

A Joint Probe Report

Metal Trades Department, AFL-CIO and The Ramazzini Institute for  
Occupational and Environmental Health Research

April 9, 2008

Ron Ault

President, Metal Trades Department

Sheldon W. Samuels

Executive Vice President, The Ramazzini Institute

## Acknowledgements

The Department and the Institute gratefully acknowledge the assistance of Professor Laurence Fuortes, MD, of the University of Iowa, College of Public Health. Mrs. Sarah Ray Dworzack (formerly Executive Director of the Institute's experimental Amarillo Health Consortium) has been a source of critical information. In a real sense, she represents the subject of this report.

Many others have contributed significantly to our work, but for practical and warranted reasons must at this time remain anonymous.

Without the traditional frankness and the encouraging trust of the members of the Metal Trades Councils of the nation's nuclear weapons facilities, this report would and could never be written.

## Financial Disclosure

Support for the research and publication of this report is drawn entirely from a fund created by Dr. Irving J. Selikoff. Contributions to the fund are unsolicited and have come from Dr. Selikoff, the Samuels family, unions, corporations, plaintiff's attorneys and individuals. The Selikoff Fund supports the research and publications of *The Ramazzini Institute for Occupational and Environmental Health Research*, a 501[c] 3 Maryland-registered charity that facilitates studies in issues of ethics and public policy in the work and community environments. From a taskforce of colleagues convened in 1990 by its founder, Dr. Irving J. Selikoff, the *Institute* has evolved as an international, free-standing, independent, internet-assisted network of collaborating scholars and scientists.

## The Bottom Line

This report is called a probe because it is limited. The authors are not detached observers. We are directly involved in the defense of the victims of incompetent, and perhaps dishonest, administrators in the Executive Branch of our government. We made no attempt to conduct a fully comprehensive study, which requires more than our primary sources of information: government documents on the internet, what workers and their families tell us, information from trusted scientific sources, and what we ourselves have observed. Only mandated access to information will reveal in depth what we believe to be the greatest occupational health scandal in the history of the United States: the workers' compensation program of the Department of Energy. Only the Congress of the United States has that access. Here, we make the case for an investigation of our charges.

In this report, we charge the conscious underestimation of the burden of occupational disease that has afflicted tens of thousands of workers in the nuclear weapons complex of our nation in the face of overwhelming evidence. We charge that reckless stewardship of the complex has resulted in an immense, unnecessary economic burden – many billions of dollars - concentrated on the shoulders of nuclear weapons workers and their families, but also borne by our nation as a whole. We charge incompetence that has led to a financial disaster: billions of dollars paid with more billions to be paid for excessive administrative costs totaling close to 30% of benefit payments made to claimants, compared to 2.5% in the Social Security disability Insurance system.

Finally, we charge that the direct or indirect employer of these workers, the government itself, at its highest levels, consciously and illegally ignores the prevention of preventable disease for which fair reimbursement of medical expenses and lost wages is claimed.

The worker's reality is a paper chase that pits older workers or survivors' memories of what might have happened decades ago, against nonexistent or incomplete, and in some cases distorted or destroyed records, primarily of radiation exposure monitoring by the government and its partner corporations and subcontractors. The system assumes workers are not eligible for radiation disease compensation unless they can prove they are through a convoluted process that requires more precise and certain information than is available to many, if not most, workers. Justice has been denied to tens of thousands of workers and their survivors, workers whose lives have been discarded with less care than the millions of tons of radioactive waste generated by the nuclear weapons program.

These are our honest beliefs. It is for the people, the Congress and the judicial system to investigate and decide if we are right.

## Bound to Fail: Compromised and Ignored Laws

The origin of the scandal can be traced to the inadequacy of the underlying legislation to deal realistically with a long tradition of multi-agency failure. The overt policy of the government to delay or ignore feasible protections for human life, or even – as mandated by the Congress - to acknowledge the full burden of occupational disease and to develop and promulgate standards for its prevention, persists for decades without effective challenge. The long period of latency that characterizes the

bulk of occupational disease is a detectable physiological murmur, but the silence of the steward marks an abyss of unnecessary death and disease.

Archaic concepts of single cause-single effect tort law inherent in state and federal compensation systems have been perpetuated, driving the assignment of tasks that cannot be performed without perverting the reality of multifactor causation. Scientists can attempt to calculate the “added burden of occupationally attributable risk.”<sup>1</sup> Especially in the absence of credible exposure information, they have difficulty calculating the “probability of causation” required to meet the “more likely than not” tort criterion of causation for individual cases. Scientific fictions have been built around perceptions of political necessity that stand in the way of the honest efforts of well-meaning legislators to relieve the suffering of their constituents. Neither - the Congress nor the constituent - have understood their roles in a fairy tale of false hope, both victims of incompetent-if-not-dishonest defenders of what are now century-old failed public health policies.

Unions organizing Department of Energy or atomic weapons facilities and their contractors and subcontractors worked hard to achieve passage of the Energy Employees Occupational Illness Compensation Program Act of 2000. A separate law, the Radiation Exposure Compensation Act, covers uranium workers. The laws, heavily compromised during the legislative negotiations, established a complex workers’ compensation program. The agreed objective was to provide lump sum payments and medical benefits as compensation to covered employees suffering from designated illnesses resulting from exposures while working. This legislation also provided payment to some of the family survivors.

The legislation originally divided responsibility for the compensation program between the Department of Energy and the Department of Labor. DOL was responsible for Part B, which covered illnesses from radiation, beryllium and silicosis. DOE was responsible for Part D, which covered all “toxic illnesses.” A claimant could be eligible for compensation under both Part B and Part D. This law included all workers, including those employed by subcontractors, who are eligible for workers’ compensation benefits as a result of working at a DOE or AWE facility where they were exposed to a toxic substance.

*And it was supposed to be a simple process. Instead of simplicity, a complex nightmare places an unjust burden on claimants, particularly if the claimants are survivors. Claimants have to prove that the disease was caused by employment in a covered worksite, from specific sources of exposures in that workplace, and that the disease is a “covered occupational disease”.*

The list of covered disease is at best arbitrary and not always based on elementary medical science. An example: in the case of head and neck cancers, oropharyngeal and bronchial cancers are covered, but epiglottic or laryngeal cancers are excluded. The respiratory epithelium lining the oropharynx, epiglottis, larynx and bronchus is contiguous and the structures of the tissue are identical. These tissues are all similarly exposed to airborne toxic agents, whether tobacco smoke, asbestos, airborne radioactive particulates or a gas. The current exclusion of particular cancer sites is not supported by up-to-date studies of radiation effects, but still largely on the limited epidemiology available from Japanese World War II atom bomb victims.

---

<sup>1</sup> Nelson N. *A Personal View of Occupational Cancer and Its Prevention*, JNCI 1981, 67:227

Citing the need to protect national security, workers were frequently denied information about their exposures, and under the National Security Act, workers were not allowed to tell their families about their work. The result: survivors frequently lack the basic knowledge to file a valid claim.

#### Failure # 1: The Government Underestimates the Toll of Occupational Disease

About five years ago, in November 2003, in congressional testimony, Under Secretary of Energy Robert G. Card testified that the government had grossly underestimated the number of expected claims. When the legislation was being considered in 2000, DOE estimated that 3000 workers would be compensated for work-related illnesses. However, by 2003 the compensation program had received more than 40,000 applications, and the administration of the program was overwhelmed.

The reason for the discrepancy is clear. Historically, occupational disease has been consistently and consciously underestimated by our government since the first systems of safety regulation and workers' compensation were put into place a century ago. Even after the passage of the Occupational Safety and Health Act of 1970, the conscious underestimates continued, accompanied by a trivial regulatory effort, few health hazard evaluations and under funded, overly earmarked research and education. When the EEOICPA was passed, it was estimated that administrative costs and worker benefits would amount to about \$120 million annually for the first three years of the program. Three years later, the expected 2004 fiscal year claims were projected by Card to cost \$1.5 billion.

Card's admission was startling. There has never been better evidence of the underestimate of the added burden of occupational risk: thousands of cases within the limited spectrum of disease covered by the current law. Each legitimate case bears a risk attributable in some share to toxic exposures in the workplace known to have been present, even if only quantified by length of service. There has never been better evidence of the massive burden of disease that DOE had denied existed for a half century.<sup>2</sup> Shifting the burden onto the shoulders of workers and their families, in dollars, amounts to at least \$1.5 billion by DOE's own admission! The reality is that many billions more had already been shifted to the families when DOE's estimate was made.

#### Failure # 2: DOE's Mismanagement of Part D

DOE established the Office of Worker Advocacy to manage the program efficiently, but it turned into something very different from the start. In his 2003 testimony, Card described the process that DOE followed for Part D claims: "DOE gathers records from around the country relating to the workers' occupational histories and their health conditions, and then refers the application to a panel of doctors" to decide if the disease is compensable. At that point, when DOE had received 40,000 claims, it had only made only one award. It had woefully mismanaged the program in every conceivable way:

---

<sup>2</sup> Among the belittled studies: Mancuso TF, Stewart A, Kneale G. *Radiation Exposures of Hanford Workers Dying of Cancer and Other Causes*, Health Physics 33: 369-385, 1977.

- DOE failed to establish enforceable agreements with state workers' compensation commissions to identify and hold so-called "willing payers" accountable.
- DOE had one part-time physician on staff and it had only been able to contract with 100 physicians to help review the cases, even though it needed 500 physicians to cover the workload.
- DOE failed to establish a procedure to assemble a claim systematically. Instead it heaped boxes of frequently unsorted information onto the physicians, expecting them to expend great effort to first organize the information and then interpret it.
- DOE hired an unqualified contractor to manage the project in a no-bid contract, to create an electronic data management system which did not work.
- DOE dismissed its own advisory committee of workers' compensation experts because the committee found the program to be unworkable under the administration that DOE had established.
- And, DOE was exceeding the projected budget for administrative cost by at least four-fold.

This was just another episode in DOE's continuing failure to protect the safety and health of its workers. From the start, during the Manhattan Project, preventable disease was not prevented, the essential medical and exposure records often were never generated, and, finally, many of the generated records were altered or 'disappeared'. By 2004, even a Republican-controlled Congress could not deny or tolerate the massive extent of mismanagement of Part D at DOE by a Republican administration. After four years Congress amended the EEOICPA, abolishing the old Part D and replacing it with a new Part E, for which it gave administration to DOL. Unfortunately, Congress never seriously tried to determine if the mismanagement was intentional, to keep workers from getting compensation by [to use the words of the Government Accountability Office] "inappropriate efforts to contain the cost of benefits paid to claimants".<sup>3</sup> DOE's historical failures to protect workers' health were swept under the rug. Nor have they learned that, contrary to the intent of Congress, DOE's establishment is still running key elements of the operating program.

### Failure # 3: NIOSH's Mismanagement of Radiation Dose Reconstruction

Under Part B of the EEOICPA, the administration of radiation exposure claims was divided between DOL and NIOSH. DOL received the claims, then sent them to NIOSH for dose reconstruction to determine if the cancers could be attributed to occupational radiation exposure in a DOE facility. NIOSH was also responsible for reviewing petitions from claimants to be covered under the "Special Exposure Cohort" (SEC) provision of EEOICPA. The SEC was created to cover workers where DOE had lost, destroyed or otherwise tampered with occupational safety and health records so that they could be considered to be unreliable. NIOSH created the Office of Compensation Analysis and Support to administer the program, guided by an absurd policy that assumes, overtly, that there is no a circumstance in which NIOSH cannot make a valid dose reconstruction.

An important study supported by NIOSH's own Health-Related Energy Research Branch reported in June 2000 a contrary finding by an independent investigator.<sup>4</sup>

<sup>3</sup> Bertoni D. GAO Testimony before the Subcommittee on Immigration, Border Security and Claims, Committee on the Judiciary, House of Representatives, December 5, 2006.

<sup>4</sup> Wilkinson, G.S. (State University of New York at Buffalo) *et al*] *Mortality among Female Nuclear*

Studying 67,976 female nuclear weapons workers, he noted that: "Recorded doses for external radiation are potentially subject to error because of inconsistent dose monitoring practices ... and because certain types of radiation such as neutrons were not measured very well in the past. " Confounders such as lifestyle factors, radiation due to medical procedures and other workplace exposures "could not be evaluated."

Contrary to advice received from union representatives, NIOSH decided to hire a single contractor with the most extensive knowledge of DOE and health physics experience, but not necessarily the most appropriate, conflict-free competence. This meant that only a couple of contractors could qualify, and assured that NIOSH would get a contractor that was part of the DOE establishment, which is itself little more than a conglomerate of contractors and subcontractors. Not surprisingly, NIOSH hired Oak Ridge Associated Universities, a consortium that had been created by DOE in the 1950s to collect records for epidemiological, medical monitoring and other studies, and now is once again given responsibility for a similar task despite the obvious conflict of interest.

It took NIOSH three years to get its procedures in place and begin to process claims routinely. Hundreds if not thousands of claims have never been processed, and some have been sitting at NIOSH for 5-6 years! By 2007, even DOL did not trust the work NIOSH was doing. It began sending the majority of claims processed back to NIOSH for "re-work". In the first batch sent back, NIOSH had to change its determination in 15 percent of the cases. By the end of FY 2007, NIOSH's record was:

- \$280 million spent on its dose reconstruction and related activities.
- 16,500 dose reconstructions completed, of which 2/3rds had been sent back for re-work by DOL.
- Claims approved based on NIOSH dose reconstruction totaled \$719 million. In addition to this, \$150 million had been paid for new SEC claims.
- Performing its duties cost 32.2% of benefit payments.
- And, when it re-worked cases sent back by DOL, NIOSH found it had made errors which had led to denying 14.5 percent of claims which should have been paid.

#### Failure # 4: DOL's Loss of Credibility

From the start of the program, DOL's leadership worried that the EEOICP would become another mismanaged "Black Lung Program" of supposedly "rampant" payment of claims. DOL actually reinforced this perception by retaining a DOE security contractor to run its Resource Centers, which are the field offices where workers can go for help with their claims applications, and then tasking the contractor with only helping claimants with their paperwork, not with the development of evidence needed to support a claim. Finally, Congressional investigators need to answer a question they and others have asked:

*Has DOL conspired with the Office of Management and Budget in the White House, a "potential" noted by the GAO<sup>5</sup>, to find illegal<sup>6</sup> ways to limit the number claims approved, especially under the SEC provision of the EEOICPA?*

Because of wide-spread discontent with the administration of the program, the 2004 amendments to the Act provided for the establishment of an independent Ombudsman within the DOL. The Ombudsman's report for 2006 indicated that 13% of claimants were filing complaints about DOL's administration of the program.

#### The Massive Costs of Mismanagement

Since 2001, DOL has received over 71,000 eligible claims and paid \$2.3 billion in claims under Part B, and it has received 47,000 eligible claims and paid almost \$1 billion under Part E. In addition, it has paid \$190 million in medical benefits. Thus, the total amount paid has been almost \$3.5 billion. The yearly cost of administration, including NIOSH charges, is over \$100 million per year. Between what DOE, DOL and NIOSH have spent to date, it is not unlikely that administrative costs have totaled \$1 billion, or close to 30% of benefit payments made to claimants. That compares to 2.5% in the Social Security Disability Insurance system

These are, of course, not the full costs of occupational disease to workers covered by current laws, to their families and to their communities. The real total is neither counted nor published.

A major defect in the law is that medical costs are only paid from the time that an application for compensation is made, instead of from the time the disease was diagnosed. Since most claims are for cancer, this means the claimant already had to have developed the cancer before he or she applied, and therefore has had to absorb all the cost of treatment of the cancer. Numerous claimants have testified how the treatment of such illnesses alone bankrupted them.

#### The Soaring Costs of Healthcare

When workers develop occupational illnesses they end up alone in a no-man's land. The nation's troubled workers' compensation systems are a distinct and separately financed part of the nation's medical service delivery systems and share the problems of health care cost containment.

The costs of the medical benefits in the compensation systems are increasing faster than the cash or wage replacement benefit. Thus even a decade ago, the medical benefit cost more than 40% of the total cost.<sup>7</sup> When labor pressed for the DOE compensation program, we believed that these costs would be reduced by the reduction of litigation and red tape. We have been disappointed. But that is not our only concern. The awards do not fully reflect the full medical costs of work-related disease.

---

<sup>5</sup> Bertoni, D, Note 2 above, p2.

<sup>6</sup> See Turner D. *Schumer asks probe of plan to limit aid*. Buffalo News Dec. 8, 2006.

<sup>7</sup> Burton, J.F., National health care reform: should workers' compensation be included? in Grannemann, T.W. editor, Review, regulate, or reform? Cambridge, MA: Workers Compensation Research Institute. 1994. p26.

*All disease, not simply that listed, for which a job generates an added burden of risk ought to be proportionately compensated.* The DOE comp system continues to fail in that regard. The uncompensated balance of actual medical costs – billions of dollars – comes out of the family budget and community resources.

Another factor also is deeply disturbing. The usual unsuccessful cost containment measures directed towards health care providers are even less successful in workers' compensation than in the rest of the health care system.<sup>8</sup> The usual methods - control of fee schedules, limiting choice of physician [a point of great controversy], use of deductibles and other forms of co-insurance and economic pressures on the patient, and regulation of hospitals - fail to work in the 'comp' setting. The system is "broken."<sup>9</sup> As a result, workers' compensation program costs are higher than they need to be. Only comprehensive, universal health care in which all factors of disease are treated equally will solve that portion of the cost problem.

The workers' compensation system is not only 'broken'; it was never effectively established. As early as 1926, the President of the American Federation of Labor, William 'Big Bill' Green, pointed to the failure of the systems to account for toxic agents in "the work environment."

#### Who Can We Trust?

The unions insisted on strong roles for the Department of Labor and the National Institute for Occupational Safety and Health to speed the process, reduce administrative costs and red tape, and eliminate obvious conflicts of interest enabling some trust in the system. President George Bush issued an Executive Order to implement a Congressional mandate assigning primary responsibility for administering the compensation program to the Department of Labor. The Executive Order directed the Department of Health and Human Services to perform several technical and policymaking roles in support of the DOL program with the assistance of the National Institute for Occupational Safety and Health, which is called an institute but contrary to the intent of Congress is just a fully subordinate division of the Centers for Disease Control and Prevention in the Department.

Many of us in the labor movement don't feel rewarded for their trust in NIOSH. The process is still slow and laborious. Conflicts of interest have not been resolved. Red tape, for example, is all too obvious in the approval process for entry in the special exposure cohort that is supposed to be the catch basin for the large numbers of compensable workers for whom the records are either inadequate or nonexistent. And most importantly, there is little evidence that the dose calculations that they have made can be replicated with any degree of certainty. Replication of a process or result is the paramount criterion of scientific validity.

#### Confusing Precision with Justice

---

<sup>8</sup> Burton, J.F. op cit. p.36.

<sup>9</sup> Burton, J.F. op cit. p.47.

Under the law, a covered employee seeking compensation for cancer, other than as a member of the Special Exposure Cohort seeking compensation for a specified cancer, is eligible for compensation only if DOL determines that the cancer was "at least as likely as not" (a 50% or greater probability) caused by radiation doses incurred in the performance of duty while working for DOE and/or an AWE facility.

*While NIOSH assumes overtly that there is no a circumstance in which NIOSH cannot make a valid dose reconstruction, they don't tell us what that "valid" reconstruction depends on: constantly shifting assumptions, new 'data', forgotten 'data', destroyed 'data', 'data' that never existed, and constant revisions to the scientific methods they use: a kaleidoscopic tragedy!*

The agency estimates the percentage of cases of illness caused by a health hazard among a group exposed to ionizing radiation in the performance of their job. They estimate the probability or likelihood that the cancer of an individual member of that group was caused by the exposure.

The likelihood that radiation caused cancer in a worker is evaluated by using medical and scientific information about the relationship between specific types and levels of radiation dose and the frequency of cancers in exposed populations. A determination is made of whether or not a specific type of cancer occurs more frequently among a population exposed to a higher level of radiation than a comparable population (a population with less radiation exposure but similar in age, gender, and other factors that have a role in health). *If the radiation exposure levels are known in the two populations*, then it is possible to estimate the proportion of cancers in the exposed population that may have been caused by a given level of radiation. *If the information is sufficient and of reasonable quality*, the findings are translated into a series of mathematical equations that estimate how much the risk of cancer in a population would increase as the dose of radiation incurred by that population increases.

The labor movement has argued for four decades that the required exposure information is either largely nonexistent or largely unusable.

The series of equations, known as a dose-response or quantitative risk assessment model, may also take into account other health factors potentially related to cancer risk, such as gender, smoking history, age at exposure (to radiation), and time since exposure. NIOSH admits that the risk models then applied to determine the likelihood that the cancer of an individual worker was caused by his or her radiation dose are "imperfect", but "reasonable".

The reconstruction program uses methods devised for another purpose. In 1985, in response to a congressional mandate in the Orphan Drug Act of 1983, a panel established by the National Institutes of Health developed a set of radioepidemiologic tables. The tables serve as a reference tool providing probability of causation estimates for individuals with cancer who were exposed to ionizing radiation. Use of the tables requires information about the person's dose, gender, age at exposure, date of cancer diagnosis and other relevant personal factors. The tables are used by the Department of Veterans Affairs to make compensation decisions for veterans with cancer who were exposed in the performance of duty to radiation from atomic weapon detonations.

*The primary source of data for the 1985 tables is research on cancer-related deaths occurring among Japanese atomic bomb survivors from World War II. However,*

*updating the data base is the least of the problems of the tables. Their provenance has become a classic case of the ills of "mandated science".<sup>10</sup>*

Responding to congressional interests must be expected of any agency of government. It is to the credit of the leadership of the National Institutes of Health that they recognized the pot holes in the road on which they were being driven. They took the most defensible route; they formed a committee of scientists headed by a legend of integrity and competence: the late Dr. J. Edward Rall, the agency's chief scientist, who selected as members true peers. Differences in perspective and interests aside, they all did 'the right thing'. They began their work with the controversial state of the data as it existed, not as what they wished it to be. That work was to create a decision making matrix the value of which is determined not by its correspondence to reality, but by its usefulness [heuristic value] in assisting best guesses. More, they were instructed to produce a product "simple enough to use in policy decisions and be presented in a form accessible to nonscientists ... based in science rather than politics." They, like all truly accomplished scientists, understood the world of 'as if' which is the world of science. Out of ignorance or intention, users, not the committee, have abused the language of that world.

Imprinted on the task they were given was an instruction to find a method to determine "the probability of causation" of a specific cancer in a specific person, a concept - the committee itself concluded - that was "primarily a useful fiction based in science but not scientific in character."<sup>11</sup>

The committee noted the uncertainties of applying the tables in any individual case, one of which is the certainty value of information fed into the matrix. Actual use has proved their case for caution: *garbage in, garbage out!*

Decades too late, the 1985 tables - which are mandated to be revised every four years - have been revised by the National Cancer Institute and the Centers for Disease Control and Prevention. As the revisions are completed, DOL will employ the updated version of the tables, with modifications as a basis for determining probability of causation for employees covered under the law.

A major scientific change achieved by this update is the use of risk models developed from data on the occurrence of cancers (cases of illness) rather than the occurrence of cancer deaths among Japanese atomic bomb survivors. The risk models are further improved by being based on current data. Many more types of cancer have been included in the revised report. The new risk models also take into account factors that modify the effect of radiation on cancer, related to the type of radiation dose, the amount of dose, and the timing of the dose, allowing the user to apply the NCI risk models directly to data on an individual employee, *if the data exists or can be found*. NIOSH admits that "there typically is uncertainty about the radiation dose levels to which a person has been exposed, as well as uncertainty relating levels of dose received to levels of cancer risk observed in study populations."

---

<sup>10</sup> Parascandola M. *Uncertain Science and a Failure of Trust: The NIH Radioepidemiologic Tables and Compensation for Radiation-Induced Cancer*, Isis Dec 2002: 93(4) 559-584.

<sup>11</sup> Parascandola M. Note above, p570.

*What has happened to the claims DOE, DOL, and NIOSH turned down on the basis of the outdated tables? As revisions are made, will previously refused claims be re-examined? How many billions will be spent to clean up the mess?*

NIOSH claims that it is using a statistical model that will “help minimize the possibility of denying compensation to claimants with cancers likely to have been caused by occupational radiation exposures” [thirty three kinds of cancer and most types of radiation determinations.]

This sophisticated approach begs the question: no matter how advanced the model is, what good is it if the underlying data are unreliable? NIOSH has never been able to provide a satisfactory answer to this basic question.

Government Breaks the Law!

The Department of Health and Human Services, in promulgating its regulations on its role in the compensation program, makes *a special point of interest to every worker who works where ionizing radiation is a hazard*, not just those who work in a DOE or AWE facility. DHHS correctly notes<sup>12</sup> that the compensation law does not authorize the use of the new information being gathered and organized to establish new radiation protection standards that would prevent cancer and other diseases associated with radiation from occurring among current, active workers.

DHHS fears being accused of doing what it ought to do<sup>13</sup>, and instead ignores another law: the Occupational Safety and Health Act which was passed in 1970 to prevent occupational disease for which *more than 13,000 new claims are being filed annually by DOE facility workers or their survivors*. The OSHAct specifically authorizes the use of new information by the Department to recommend new standards. More, the Department ignores the evidence of the flood of claims for the rapid promulgation of a broad range of new work environment standards, some of which have lingered in the limbo of the Federal Register for decades. Indeed, the Department has a specific mandate to report to the Congress conditions and scientific evidence that fly in their face every day, the conditions and evidence of unnecessary death and disease in the workforce.

By ignoring the law, The Department threatens the lives of workers and the welfare of their families at great cost to the public. *NIOSH* is specifically charged under the OSHAct with developing criteria based on information [such as described in its regulations] for use in *new standards to be enforced in the private sector by OSHA and MSHA, and by means of Executive Order in government facilities*.

Using cost/benefit calculations prohibited by the OSHAct, policymakers in the administrative branch of the federal government have correctly concluded that it is cheaper to let workers unnecessarily die of unnecessary radiation exposure, since only some of those whose disease could be prevented by new standards will ever be compensated by the complex procedures for workers' compensation they have devised! *That is the official policy of the United States government, enforced by the*

<sup>12</sup> Federal Register: Vol. 67, No. 85, Thursday, May 2, 2002, Rules and Regulations, p. 22296.

<sup>13</sup> A spokesperson for the Department of Energy in congressional hearings worried about the use of the standards for “lowering of radioprotection standards”. Parascandola M. [note above, p568].

Office of Management and Budget within the Office of the President of the United States.

The Myth of the Cheating Worker

There is a myth, a common misconception that workers and their unions campaign for workers' compensation awards they do not deserve, and it has been perpetuated at DOL and elsewhere, where the claim is frequently made that coal miners got more out of the Black Lung program than they deserved, or asbestos-exposed workers made off like bandits. The truth, however, is quite different.

Workers exposed and made ill by toxic agents - such as asbestos, beryllium, and ionizing radiation - even when they have credible claims, will often not file for fear of being labeled "disabled" or "sick". Unable to participate or excluded from participation in "normal" work and community activities, they are depressed, shunned and sometimes assigned to low exposure jobs or areas that become what workers themselves call "leper colonies". That is the experience we have observed among workers whose bodies have become sensitive to breathing beryllium dust and who have been reassigned to non-exposure areas and jobs.

The process of ostracism or shunning (i.e., excluding someone from social acceptance or group membership) in small, interdependent work and peer groups and communities where occupational disease occurs literally amounts to "social death." The ramifications of being labeled disabled, sick, or otherwise unable to perform previously valued social roles at work, at home and in their communities can be devastating, and workers sometimes go to extreme lengths (e.g., decline to report disease or participate in potentially beneficial medical surveillance efforts, or even to see their family doctor) to hide the stigma of disease and their reduced ability to carry their 'load' for their family and among their neighbors.

In at least one case, a young, married beryllium-exposed Rocky Flats machinist under treatment with prednisone - a depressant - and forced to take early medical retirement - still another depressant - suicide was the apparent result. His death led to a special effort by The Ramazzini Institute, in which the Metal Trades Department of the AFL-CIO participates, for independent support groups such as the one encouraged by labor and conducted by National Jewish Medical and Research Center in Denver. Although suicide rates are elevated among some groups of workers, it is a relatively rare event. Less rare is *parasuicide*: largely unreported suicidal behaviors that endanger the depressed worker short of death. These cases may occur from more than twice to nearly 183 times more often than reported suicides [depending upon age and sex].<sup>14</sup>

Depression has been observed and reported, but not studied, in Oak Ridge, Pantex and Hanford DOE facilities.

The effect of stigma is a barrier to participation in medical and workers compensation information programs, even those sponsored by the unions and when the benefits to the worker is clear. The legacy of secrecy among DOE workers clearly has a deleterious impact on their coping mechanisms and health that compounds their depression, and has resulted in a pervasive lack of trust in the institutions and professions upon which they depend for their well-being.

---

<sup>14</sup> Eastwood R. *Suicide and Parasuicide* in *Maxcy-Rosenau Public Health and Preventive Medicine*, Last JM, ed., Selikoff IJ, assoc. ed., New York: Appleton-Century-Crofts 1980, 1359-1371.

## Reality

Workers and their unions do not expect NIOSH to remake a system of which it is only a part. Nor is there a similar expectation for the Departments of labor and Energy. They do not expect these agencies to go beyond their congressional mandate. They know about the deficiencies of the bureaucracy and the laws under which they operate, mostly with dedicated Commissioned Corps Officers and Civil Servants. Workers are also aware of the remedies: the replacement of incompetent program directors, a change in law, truth-telling scientists everyone can trust, and sensitivity to the abuse of workers, like the experience of retired Pantex worker, Sarah Dworzack Ray:

*"As a surviving spouse, a former weapons worker, and someone whose entire family except for my mother worked in the weapons complex, I speak from an entirely different perspective. I know firsthand the immense sorrow of losing my partner when he was only 54 years old. I also know the frustration of trying to navigate a strange and constantly changing system.*

*"I filed a claim for my deceased husband when the EEOICP program was originally announced, but did not hear from anyone about my claim until 4 years later when I received a call at my work place from someone who wanted to speak with my deceased husband. This person went on to tell me that my deceased husband had submitted the wrong paperwork when he filed his claim and that he would have two weeks to correct the problem. Although to most of you this was just a call -- to me it meant I had to once more rip open that part of my heart and deal with the loss of my deceased husband again. I can't really explain the devastating feeling of loss. I was reduced to tears and once again my heart was broken. I know I'm not the only survivor who has experienced these emotions.*

*"I was one of the rare survivors who had at least some knowledge of what my deceased husband did in his job at Pantex in Amarillo, Texas. However, I had no knowledge of the work he also performed at the Burlington plant in Iowa. Yet I was asked to describe what he did, exposures, etc. How could I possibly know anything about the Burlington activities since I did not work there. My deceased husband, like most weapons workers, never talked about what he did. Like most weapons workers, he had signed an oath of secrecy and never violated that trust during his lifetime.*

*"I have talked with many workers and their families who have experienced similar problems. In addition to being asked to describe things we have no knowledge of, we are also asked to provide medical records that go back beyond five years. Those who are familiar with today's medical records system know that doctors and hospitals no longer keep records beyond five years so it is impossible for a worker or his/her family to get these records.*

*"The amount of money paid to a claimant or family is miniscule. If my deceased husband had lived until retirement he would have earned considerably more than the \$150,000 allowed under Sub Part B for an approved cancer. Since he died approximately 11 years before age 65, that would mean that he was paid less than \$15,000 per year for his services. I doubt anyone could get an electronic engineer to work for that little money.*

*It does amaze me that such a low value is placed on the life of an "expendable" weapons worker. They didn't know they were expendable.*

*"I know many sick workers who are just "hanging on." Because of high medical costs for cancers and other illnesses, many former workers have had to hock their homes to meet every day expenses. An approved claim would mean that they had some help with their medical expenses for cancers caused by their work at a weapons facility. Approved entry into the SEC would mean that these people would be able to get the medical care they deserve, and still have a roof over their heads.*

*"Knowledge today is so much greater. Things like MSDS sheets weren't available to workers. Workers weren't told to limit their time around radiation emitting devices. They only knew that they had custody of controlled items and could not leave them unattended. This meant that clerks as well as weapons assembly operators and many others were often surrounded by radioactive items for long periods of time. Most of these workers were not in the dosimetry program, so there is no possible record of their exposures. They have had to reconstruct (guess) about radiation exposures based on information from today's operations. The Site Profiles published by NIOSH are "snapshots in time today" and do not represent the facilities in the past. The dose reconstruction process is apparently unexplainable in simple language; most workers are unable to comprehend a copy of their dose reconstruction. Very few people outside the scientific community understand the language and mathematics used. Who, or what agency, provides the system of checks and balances for this process? Who checks the work of NIOSH to make sure that the reconstructions are correct and based on solid evidence? Our democratic form of government was designed to provide a system of checks and balances.*

*"The unions at Pantex ask that workers from 1950 through 1991 be given a special cohort (or class) status in the SEC so that they can have a chance for compensation for radiation induced cancers. We filed our petition two years ago."*

[In September 2006, Mrs. Ray, with Dr. Laurence Fuortes and Sheldon Samuels, petitioned NIOSH for an act of justice: the right of Pantex workers for whom records do not exist to enter a "Special Exposure Cohort" so that the first, small step to possible compensation of these expended Americans can be taken.]

XXXXXXXX



Hidden Tragedy  
June 2008

Report by the Committee on Education  
and Labor



**HIDDEN TRAGEDY:  
Underreporting of Workplace Injuries and  
Illnesses**

**A MAJORITY STAFF REPORT BY  
THE COMMITTEE ON EDUCATION AND LABOR  
U.S. HOUSE OF REPRESENTATIVES**

**THE HONORABLE GEORGE MILLER  
CHAIRMAN**

---

**June 2008**

---

## TABLE OF CONTENTS

Executive Summary .....	2
Introduction.....	4
Why is Accurate Recordkeeping Important? .....	4
Background: The Recordkeeping System.....	5
The Status of Recordkeeping: An Academic Research Review .....	7
<i>Estimates of the BLS undercount vary, but it is clear that the SOII misses a significant number of workplace injuries and illnesses.</i> .....	8
<i>The annual downward trend reported in the SOII is also questionable.</i> .....	9
<i>Ergonomic injuries are significantly underreported.</i> .....	9
Why Are Injuries And Illnesses Underreported?.....	11
<i>Certain categories of workers, accounting for a significant portion of the workforce, are excluded from the survey.</i> .....	11
<i>Occupational illnesses are particularly difficult to identify as work-related.</i> .....	11
<i>Immigrants are less likely to report workplace injuries and illnesses.</i> .....	12
<i>Workers are often reluctant to apply for workers' compensation.</i> .....	12
<i>The musculoskeletal disorder column has been taken off of the OSHA 300 Log.</i> .....	13
<i>Some workers and employers do not understand the reporting system.</i> .....	13
<i>Employers have an incentive to underreport.</i> .....	14
<i>Methods used by employers to discourage accurate reporting.</i> .....	15
Direct intimidation of workers.....	15
Bringing seriously injured workers right back to work .....	17
Discouraging appropriate medical attention .....	17
Discouraging physicians from reporting injuries or diagnosing illnesses .....	19
“No fault” absentee policies.....	19
Safety incentive programs and games.....	19
Manager incentives and bonuses: .....	21
Drug testing after every accident or injury .....	21
Contractors and contracting out dangerous work .....	22
Misclassification of workers:.....	23
Underreporting Problems in the Railroad Industry.....	24
Behavioral Safety: Bad for Safety, Bad for Recordkeeping Accuracy.....	25
OSHA’s Role in Ensuring Accurate Reporting .....	29
Other Measures Can Be Used To Target Unsafe Workplaces.....	31
Appendix 1: House Hearings on Education and Labor, 110 <sup>th</sup> Congress .....	33
Appendix 2: Glossary .....	34
Appendix 3: Academic Study Table.....	35

## Executive Summary

The Occupational Safety and Health Act of 1970 requires the Department of Labor to collect and compile accurate statistics on the extent of occupational injuries, illnesses and fatalities in the United States. Employers are also required to keep accurate records of workplace injuries, illnesses and deaths. Top officials at the Department of Labor (DOL) and Occupational Safety and Health Administration (OSHA) often cite declining injury, illness and fatality numbers to demonstrate the effectiveness of their programs and to fight off criticism that OSHA has abandoned its original mission of setting and enforcing workplace safety and health standards.

But extensive evidence from academic studies, media reports and worker testimony shows that work-related injuries and illnesses in the United States are chronically and even grossly underreported. As much as 69 percent of injuries and illnesses may never make it into the Survey of Occupational Injuries and Illnesses (SOII), the nation's annual workplace safety and health "report card" generated by the Bureau of Labor Statistics (BLS). If these estimates are accurate, the nation's workers may be suffering three times as many injuries and illnesses as official reports indicate. Despite these reports, OSHA has failed to address the problem, relying on ineffective audits to argue that the numbers are accurate.

Experts have identified many reasons for underreporting. Twenty percent of workers—including public employees and those who are self-employed—are not even counted by BLS. Work-related illnesses are difficult to identify, especially when there are long periods between exposure and illness, or when work-related illnesses are similar to other non-work-related illnesses. In addition, recent changes in OSHA's recordkeeping procedures have affected the accuracy of the count of musculoskeletal disorders (MSDs). Finally, some employers are confused about reporting criteria and OSHA staff is often not well-trained to provide accurate advice.

But a major cause of underreporting, according to experts, is OSHA's reliance on self-reporting by employers. Employers have strong incentives to underreport injuries and illnesses that occur on the job. Businesses with fewer injuries and illnesses are less likely to be inspected by OSHA; they have lower workers' compensation insurance premiums; and they have a better chance of winning government contracts and bonuses. Self-reporting allows employers to use a variety of strategies that result in underreporting of injuries and illnesses:

- Workers report widespread intimidation and harassment when reporting injuries and illnesses. Reports, testimony and news accounts show that many employers have fired or disciplined workers who report injuries and illnesses or complain

about safety hazards. Others have added “demerits” to an employee’s record for reportable injuries or illnesses or for absenteeism that allegedly result from “safety violations.”

A recent *Charlotte Observer* series, “The Cruellest Cuts,” details the experiences of poultry workers who were disciplined, harassed and fired for reporting injuries, like shattered ankles, numb hands from tens of thousands of repetitive motions every day, and serious knife cuts. Many of their injuries often never appeared in the plant’s OSHA injury and illness logs. Steelworkers have described a problem called “bloody pocket syndrome,” where workers hide their injuries until after their shift to avoid being disciplined.

- Employers have been reported to provide inadequate medical treatment and force workers back to work too soon after serious injuries – sometimes right after surgery – so that their injuries will not be properly recorded.
- While they may be well-intentioned, widespread and popular safety incentive programs which provide awards for a period of time without a recordable injury, can have the effect of putting pressure on workers not to report their injuries.

Keeping track of the number of workplace injuries and illnesses that occur every year in the United States is not just an exercise in paperwork. For individual employers and workers, accurate counting of workplace injuries and illnesses is essential to identify and address safety and health hazards and to ensure that workers receive appropriate medical treatment. On a national level, accurate records are important to evaluate the state of worker health and safety in the country so that OSHA can effectively allocate its scarce resources, accurately target its inspections and evaluate the effectiveness of its efforts.

Several studies in the 1980s identified serious problems in the system of recordkeeping for injuries, illnesses and fatalities. As a result of those studies, significant changes were made in the way that fatality data were collected, and other changes were made in employers’ reporting requirements. Twenty years later, as more evidence of underreporting is generated, it is time to take another serious look at the recordkeeping system.

This report reviews the importance of accurate recordkeeping, evidence that injuries and illnesses are significantly underreported, the reasons why injury and illness statistics are underreported, methods that some employers use to discourage reporting, other measures that may be more helpful for OSHA and employers to identify workplace safety problems, and OSHA’s failure to address these problems adequately.

In compiling this report, majority staff has conducted interviews with a large number of employers, employees and labor representatives and has reviewed numerous academic studies, news articles and investigations, employer safety programs, and federal and state reports and investigations.

## Introduction

The Occupational Safety and Health Act of 1970 requires the Department of Labor to collect and compile statistics on the extent of occupational injuries, illnesses and fatalities in the United States. Employers are also required to keep accurate records of workplace injuries, illnesses and deaths. But extensive evidence from academic studies, media reports and worker testimony show that work-related injuries and illnesses in the United States are chronically underreported. A number of reports blame much of this phenomenon on intimidation and harassment of workers in retaliation for reporting injuries.

This report reviews the importance of accurate recordkeeping, evidence that injuries and illnesses are significantly underreported, the reasons why injury and illness statistics are underreported, methods that some employers use to discourage reporting and OSHA's failure to address these problems.

## Why is Accurate Recordkeeping Important?

***The lack of accurate surveillance information leads to the inability to allocate appropriate resources, the inability to initiate and prioritize targeted interventions, and the inability to evaluate the effectiveness of those interventions.***

-- Professor K D Rosenman, Department of Medicine, Michigan State University

For individual employers and workers, accurate counting of injuries, illnesses and other safety and health indicators is essential to identify the root causes of workplace incidents and illnesses, to address unsafe workplace conditions, to ensure that workers get appropriate medical treatment and to establish an effective management safety system.

In addition, accurate recordkeeping is essential on the national policy level to ensure that the goals of the Occupational Safety and Health Act, to ensure safe workplaces, are fulfilled:

- **Targeting of OSHA Inspections:** OSHA relies on accurate injury and illness data to target its inspections at the most dangerous worksites. Inaccurate data mean that OSHA may not be inspecting high hazard facilities.
- **Setting OSHA's priorities:** OSHA needs information on where workers are getting injured, sick and killed, in order to identify high-hazard industries where aggressive enforcement programs may be required, and to determine what new standards are needed and how to target its compliance assistance efforts.

- **Judging the effectiveness of OSHA programs:** An accurate and reliable assessment of the extent of occupational injuries, illnesses and fatalities is essential to enable policy makers to determine whether OSHA's programs are succeeding or failing and where improvements can be made.

Under the Bush Administration, OSHA has been criticized by Congress, the media, labor unions and citizens for failing to fulfill the original mandate of the Occupational Safety and Health Act. Numerous Congressional hearings have been held over the past year to oversee the performance of OSHA and the DOL. At almost every hearing where top OSHA or DOL officials have appeared, their main and often only defense against every issue raised – failure to issue standards, failure to issue promised guidelines, favoring voluntary programs over mandatory standards and enforcement, or failure to enforce ergonomic violations – has been that injuries, illnesses and fatalities have been going down, so the agencies must be doing something right.

**Congresswoman McCarthy.** I am asking, do you feel that you have enough inspectors to do the work that needs to be done around the country?

**Assistant Secretary Foulke.** I would say that we are obviously doing the job we need to be doing, because if you look today, the most recent data that we have, we had the lowest injury, illness and fatality rates ever.

-- Hearing on the Combustible Dust Explosion and Fire Prevention Act of 2008, March 12, 2008

- **Determining the state of workplace safety and health in this country:** There is no doubt that the state of health and safety in this country has improved since OSHA was created. But far too many workers are still killed and injured on the job. According to government statistics, 16 workers are killed in this country every day of the year from falls, trench collapses, getting caught in machinery, electrocutions, explosions, violence, and vehicle crashes.<sup>1</sup> NIOSH estimates that ten times that number die from occupational diseases such as cancer or respiratory diseases<sup>2</sup>. In addition, over 11,000 workers are injured every day – one every seven seconds.<sup>3</sup> Are workplace safety trends still improving? Could we be doing better? What are the research needs? Accurate statistics are necessary to make these determinations.

## Background: The Recordkeeping System

<sup>1</sup> Bureau of Labor Statistics, *Census of Fatal Occupational Injuries*, (2006), at [http://www.bls.gov/iif/oshwc/foi/foi\\_revised06.pdf](http://www.bls.gov/iif/oshwc/foi/foi_revised06.pdf)

<sup>2</sup> Kyle Steenland, Carol Burnett, Nina Lalich, et al., *Dying for Work: The Magnitude of US Mortality From Selected Causes of Death Associated With Occupation*, 43 AM. J. OF INDUSTRIAL MED. 461, (2003).

<sup>3</sup> Bureau of Labor Statistics, *Survey of Occupational Injuries and Illnesses*, at <http://www.bls.gov/iif/oshwc/osh/os/osnr0028.pdf>.

The Occupational Safety and Health (OSH) Act requires employers to keep accurate records of workers' injuries and illnesses, and mandates OSHA to develop regulations "requiring employers to maintain accurate records of...work-related deaths, injuries and illnesses."<sup>4</sup> OSHA establishes definitions and recordkeeping guidelines for employer reporting of injuries, illnesses and fatalities. Employers must only record injuries and illnesses if they involve lost work time, medical treatment other than first aid, restriction of work or motion, loss of consciousness, or transfer to another job. Employers are responsible for keeping a log of injuries and illnesses (OSHA 300 Log). The log must be available to employees and their representatives, and the Annual Summary of the log must be posted in the workplace each year from February 1 to April 30. In addition, the employer must investigate the circumstances of all cases recorded in the log and prepare an incident report outlining the factors that led to the incident.<sup>5</sup>

Under the OSH Act, the Secretary of Labor is charged with the responsibility to "develop and maintain an effective program of collection, compilation an analysis of occupational safety and health statistics," and to compile accurate statistics on work-related injuries and illnesses.<sup>6</sup> This charge has been delegated to BLS.<sup>7</sup>

The BLS selects a representative number of employers to report injury and illness data for use in creating the annual Survey of Occupational Injuries and Illnesses (SOII). The SOII constitutes the nation's official annual workplace injury and illness "report card." But the SOII excludes millions of workers, including self-employed individuals, farms with fewer than 11 employees, employees of federal, state and local government agencies, and private household workers.<sup>8</sup>

After a number of Congressional hearings on underreporting in the 1980s and 1990s, the National Academy of Sciences<sup>9</sup> and the Keystone Institute<sup>10</sup> conducted studies on the effectiveness and accuracy of OSHA recordkeeping. The NAS study found serious and willful underreporting among major corporations and looked at remedies to the problem.

As a result of this work, the method of collecting workplace fatality statistics was changed. Since 1992, workplace fatality statistics have been collected in a different manner than injuries and illnesses. Although employers are required to report all fatalities to OSHA, the BLS also makes independent efforts to establish the number of workers killed on the job each year. This program, called the Census of Fatal Occupational Injuries (CFOI), also uses such sources as death certificates, workers' compensation

---

<sup>4</sup> Occupational Safety and Health Act of 1970, 29 U.S.C. § 657.

<sup>5</sup> Occupational Safety and Health Administration, Recording and Reporting Occupational Injuries and Illnesses, 29 C.F.R. § 1904 (1994).

<sup>6</sup> Occupational Safety and Health Act of 1970, 29 U.S.C. § 673.

<sup>7</sup> Occupational Safety and Health Administration, Recording and Reporting Occupational Injuries and Illnesses, 29 C.F.R. § 1904 (2003).

<sup>8</sup> Bureau of Labor Statistics, *Occupational Safety and Health Summary Data* (February 05, 2002), at <http://www.bls.gov/iif/oshsum1.htm>.

<sup>9</sup> NATIONAL ACADEMY OF SCIENCES, COUNTING INJURIES AND ILLNESSES IN THE WORKPLACE: PROPOSAL FOR A BETTER SYSTEM, (Earl S. Pollack & Deborah Gellerman Keimig, eds. 1987).

<sup>10</sup> The Keystone Center, *The Keystone National Policy Dialogue on Work-Related Illness and Injury Recordkeeping, Final Report*, (1989).

records, news accounts, and employer and police reports to Federal and State agencies to verify the accuracy of workplace fatality statistics. Consequently, CFOI is considered to be more accurate and reliable than SOII. Prior to the launch of CFOI in 1992, workplace fatality estimates made by various organizations varied greatly from 3,000 to 11,000 deaths nationally per year.<sup>11</sup>

Also as a result of these studies, OSHA developed the Site Specific Targeting program (SST) in the mid 1990s, designed to target inspections at the most dangerous workplaces. In order to do this, OSHA developed the OSHA Data Initiative (ODI), which enables the agency to annually collect injury and illness information directly from employers in 80,000 larger establishments in high hazard industries, excluding the construction and maritime industries (determined by previous reported injury and illness rates.) The companies with the highest rates within those industries are among those selected for targeted inspections.<sup>12</sup>

## **The Status of Recordkeeping: An Academic Research Review**

Numerous studies have found that the Bureau of Labor Statistics Survey of Occupational Illnesses and Injuries (SOII) drastically underestimates the number of workplace injuries and illnesses suffered by American workers each year. Studies also question the extent of the downward trend reported by the SOII.

According to the studies cited below, the BLS annual survey may fail to report nearly 70 percent of lost-work time injuries and illnesses. Although the SOII portrays dramatic decreases in the rate of worker injury and illness throughout the last decade, independent analyses suggest that actual occupational injury and illness rates have remained constant or declined only modestly in recent years.<sup>13-14</sup> In fact, one study demonstrates that changes in OSHA's recordkeeping requirements—rather than a real reduction in workplace injuries and illnesses—have contributed significantly to the decline in injuries and illnesses reported in the SOII.<sup>15</sup>

Simply put, the SOII cannot be trusted as a gauge of the safety of American workplaces. As a result of its reliance on the flawed employer-based system underlying the SOII, OSHA may be failing to inspect dangerous workplaces, leaving many American workers at risk of injury, illness and exploitation.

---

<sup>11</sup> Guy Toscano & Janice Windau, *The Changing Character of Fatal Work Injuries*, MONTHLY LABOR REV., October 1, 1994, 17, at <http://www.bls.gov/opub/mlr/1994/10/art2full.pdf>

<sup>12</sup> Occupational Safety and Health Administration, *Site-Specific Targeting 2008 (SST-08)*, CPL-08-03 (CPL 02) (May 19, 2008), at [http://www.osha.gov/OshDoc/Directive\\_pdf/CPL\\_02\\_08-03.pdf](http://www.osha.gov/OshDoc/Directive_pdf/CPL_02_08-03.pdf).

<sup>13</sup> Lee S. Friedman & Linda Forst, *Occupational Injury Surveillance of Traumatic Injuries in Illinois, Using the Illinois Trauma Registry: 1995-2003*, 49 J. OCCUPATIONAL & ENVTL. MED. 401, (2007).

<sup>14</sup> Lee S. Friedman & Linda Forst, *The Impact of OSHA Recordkeeping Regulation Changes on Occupational Injury and Illness Trends in the US: a Time-series Analysis*, 64 OCCUPATIONAL ENVTL. MED. 454, (2007).

<sup>15</sup> *Id.*

***Estimates of the BLS undercount vary, but it is clear that the SOII misses a significant number of workplace injuries and illnesses.***

- Researchers at Michigan State University found that the SOII missed up to 68 percent of work-related injuries and illnesses occurring annually in Michigan from 1999 to 2001. After comparing BLS statistics to a number of other databases, the researchers found that the OSHA logs captured only around 31 percent of illnesses and 33 percent of injuries reported in other databases.<sup>16</sup>
- Another study that compared the SOII with worker's compensation records in six states estimates that the SOII missed almost 340,000 lost-time injuries in the sampled industries from 1998 to 2002. At most, the BLS survey reported 76 percent of all injuries in the six states in the sampled industries. Many more injuries and illnesses were reported to the state workers' compensation system than to the BLS.<sup>17</sup>
- A study of the Denver International Airport (DIA) construction project provides evidence that the SOII may underestimate injury and illness rates in the construction industry by over 50 percent. The researchers used workers' compensation and payroll data to estimate the total number of lost-work-time injuries during the project. It found that the overall injury rate for the DIA project was more than twice the rate reported by BLS for the construction industry during the project years.<sup>18</sup>
- One study estimates that the SOII misses between 33 and 69 percent of all work-related injuries and illnesses when the excluded categories of workers (e.g. government employees and the self-employed) are included in the count. In developing their estimate, the researchers took into account relative job risks and previous studies' findings regarding injury and illness underreporting in specific job categories.<sup>19</sup>
- Another analysis finds that for 1998, the actual number of workplace injuries and illnesses for private industries currently included in the BLS survey was 40 percent higher than the SOII estimate. If government employees and the self-employed are included, then the occupational injury and illness estimate for 1998 rises to 80 percent higher than the BLS estimate. The researchers used the National Health Interview Survey, conducted by the National Center of Health

---

<sup>16</sup> Kenneth D. Rosenman, Alice Kalush, Mary Jo Reilly, et al., *How Much Work-Related Injury and Illness is Missed by the Current System?*, 48 J. OCCUPATIONAL & ENVTL. MED. 357, (2006).

<sup>17</sup> Leslie I. Boden & Al Ozonoff, *Capture-recapture Estimates of Nonfatal Workplace Injuries and Illnesses*, 18 ANNALS OF EPIDEMIOLOGY 261, (2008).

<sup>18</sup> Judith E. Glazner, Joleen Borgerding, Jan. T. Lowery et al., *Construction Industry Rates May Exceed National Estimates: Evidence from the Construction of the Denver International Airport*, 34 AM. J. INDUSTRIAL MED. 105, (1998).

<sup>19</sup> J. Paul Leigh, James P. Marcin, & Ted R. Miller, *An Estimate of the U.S. Government's Undercount of Nonfatal Occupational Injuries*, 46 J. OCCUPATIONAL & ENVTL. MED. 10, (2004).

Statistics, to estimate injury rates and then compared their findings to the BLS estimates.<sup>20</sup>

***The annual downward trend reported in the SOII is also questionable.***

- While BLS figures show a consistent 37.4 percent decline in workplace injuries in Illinois between 1998 and 2003, an analysis employing Illinois Trauma Registry (ITR) data demonstrates a fairly level rate of traumatic workplace injuries in the state over the same period. The researchers argue that since the ITR is based on trauma center records from across the state and does not depend on employer self-reporting, it likely reflects a more accurate picture of the trends in occupational injuries than the SOII.<sup>21</sup>
- A study by NIOSH researchers using data from non-fatal hospital emergency department (ED) admissions finds that “no substantial reduction was observed in the overall number and rate of ED-treated occupational injuries/illnesses during 1996-2004.” This finding stands in contrast to the SOII, which documented a decline in injuries and illnesses for those years.<sup>22</sup>

Not only do the findings of this study bring into question the BLS’s reported decline in injuries and illnesses, but it also brings into question the total number of injuries and illnesses reported by the BLS. First, the authors point out that workers suffering from chronic occupational illnesses rarely go to emergency rooms for treatment (and that these illnesses are difficult to ascribe to previous workplace exposures). Second, previous studies show that emergency room admissions account for only around one-third of all occupational injuries and illnesses<sup>23</sup> implying that the real rate may be closer to 7.5 per 100 workers, rather than the 5.0 reported by BLS.

- According to researchers at University of Illinois at Chicago, 83 percent of the reported decrease in occupational injuries and illnesses in the US from 1992 to 2003 was caused by changes in recordkeeping rules in the 1990’s and early 2000’s, and only 17 percent of the decrease over that time were actually due to a true decrease in injuries and illnesses.<sup>24</sup>

***Ergonomic injuries are significantly underreported.***

---

<sup>20</sup> Gordon Smith, Helen Wellman, Gary Sorock, et al., *Injuries at Work in the US Adult Population: Contributions to the Total Injury Burden*, 95 AM. J. PUB. HEALTH 1213, (2005).

<sup>21</sup> Friedman & Forst, *supra* note 13.

<sup>22</sup> S.J. Derk, S.M. Marsh & L.L. Jackson, *Nonfatal Occupational Injuries and Illnesses—United States, 2004*, MORBIDITY & MORTALITY WEEKLY REPORT (April 27, 2007), at <http://www.cdc.gov/MMWR/preview/mmwrhtml/mm5616a3.htm>.

<sup>23</sup> S.J. Derk, S.M. Marsh & L.L. Jackson, *Nonfatal Occupational Injuries and Illnesses Among Workers Treated in Hospital Emergency Departments—United States, 2003*, MORBIDITY & MORTALITY WEEKLY REPORT (April 28, 2006), at <http://www.cdc.gov/MMWR/preview/mmwrhtml/mm5516a2.htm>.

<sup>24</sup> Friedman & Forst, *supra* note 14.

In February 2008, the *Charlotte Observer* published a six-part series called “The Cruellest Cuts: The Human Cost of Bringing Poultry to Your Table.” The *Observer* reported on the unsafe conditions in poultry plants in North and South Carolina, focusing on pressures on workers not to report injuries. According to the report, House of Raeford's 800-worker poultry processing plant in West Columbia, S.C., reported no musculoskeletal disorders over four years, although twelve employees who worked at the plant during that time said they suffered pain brought on by MSDs and two said they had surgery for carpal tunnel at company expense.

Similarly, House of Raeford's Greenville, S.C., plant has boasted of a five-year safety streak with no lost-time accidents. But the *Observer* reported that the plant kept that streak alive by bringing injured employees back to the factory hours after surgery.<sup>25</sup>

According to Tom Armstrong, a University of Michigan professor who has studied the prevalence of MSDs in poultry processing, “it’s highly unlikely a large poultry plant could go consecutive years without a case of carpal tunnel or tendonitis. ‘I’d be skeptical of the record-keeping in a situation like that.’<sup>26</sup>

Other studies have confirmed the *Observer's* conclusions that MSDs are underreported.

- In developing OSHA’s ergonomics standard in 2000, OSHA cited extensive peer-reviewed studies that documented extensive and widespread underreporting on the OSHA Log of occupational injuries and illnesses in general. Based on this evidence as well as evidence and testimony submitted during the hearing and public comment process, OSHA concluded that work-related MSDs such as back injuries, carpal tunnel syndrome, and tendonitis were being substantially underreported on OSHA Logs and that the number of lost-time, work-related MSDs quantified in the Agency’s risk assessment on the basis of the BLS data was understated by at least a factor of two.<sup>27</sup>
- A recent *American Journal of Industrial Medicine* study has confirmed OSHA’s findings that ergonomic injuries are underreported. Using worker’s compensation and physician reporting data from Connecticut, researchers estimate that from 1995 to 2001, the actual number of work-related upper-extremity MSDs in Connecticut was as much as six times higher than reported in the SOII. The researchers also conclude that there is no evidence to support the overall declines in MSDs indicated by the BLS survey.<sup>28</sup>
- A study of hotel workers in Las Vegas showed that more than three-quarters suffered work-related pain which was severe enough for over 80 percent to take

---

<sup>25</sup> Kerry Hall, Ames Alexander & Franco Ordonez, *The Cruellest Cuts: The Human Cost of Bringing Poultry to Your Table*, CHARLOTTE OBSERVER, Feb. 10, 2008, at 1A.

<sup>26</sup> *Id.*

<sup>27</sup> OSHA Ergonomics Program; Final Rule, 29 C.F.R. § 1910 (2000, amended June 30, 2003).

<sup>28</sup> Tim Morse, C. Dillon, E. Kenta-Bibi et al., *Trends in Work-related Musculoskeletal Disorder Reports by Year, Type, and Industrial Sector: A Capture-Recapture Analysis*, 48 AM. J. INDUS. MED. 40, (2005).

pain medication and over 60 percent to see a doctor. Yet two thirds of those workers did not report their injuries to their supervisors.<sup>29</sup>

## **Why Are Injuries And Illnesses Underreported?**

There are a number of reasons that injuries and illnesses are underreported to OSHA and the BLS. Many categories of workers are not counted by the BLS. Some workers do not want to get caught up in the slow difficult workers' compensation process. Others are not aware that their injury or illness is work-related or reportable, or do not report because they are afraid of being stigmatized. Some employers find OSHA's recordkeeping criteria confusing. But of far more concern are the incentives that employers have to underreport, and actions that some employers take to intimidate and harass workers who report injuries and illnesses.

***Certain categories of workers, accounting for a significant portion of the workforce, are excluded from the survey.***

Government workers, the self-employed, and farms with fewer than 11 employees are excluded from the SOII, further exacerbating the survey's undercount of occupational injuries and illnesses. These uncounted workers, over whom OSHA has limited jurisdiction, amount to over 20 percent of the total workforce. Government workers alone—including police officers, firefighters and public works employees who often work in high-risk conditions—accounted for over 14 percent of the labor force in 2007.<sup>30</sup>

***Occupational illnesses are particularly difficult to identify as work-related.***

Workers, employers and medical professionals often fail to detect the work-relatedness of occupational diseases such as asthma, heart disease, liver and kidney disorders and MSDs. This problem is particularly difficult with diseases that have long latency periods (the time between exposure and disease). For certain cancers, for example, twenty to thirty years may pass from the time of workplace exposure to the time of diagnosis. In addition, diseases such as asthma that are similar to non-occupational diseases are difficult to connect to workplace exposures.<sup>31</sup> Most physicians receive little training in occupational disease recognition and often fail to connect disease with work.<sup>32-33</sup>

The United States has no comprehensive occupational health data collection system, making it particularly difficult to collect occupational illness statistics. Many states have no mandates requiring health care professionals to report cases of occupational injury or

---

<sup>29</sup> Theresa Scherzer, Reiner Rugulies, & Niklas Krause, *Work-related Pain and Injury and Barriers to Workers' Compensation Among Las Vegas Hotel Room Cleaners*, 95 AM. J. PUB. HEALTH 483, (2005).

<sup>30</sup> Bureau of Labor Statistics, *Current Population Survey* (2007), at <ftp://ftp.bls.gov/pub/special.requests/lf/aat12.txt>.

<sup>31</sup> Ruth Ann Romero Jajosky et al., *Surveillance of Work-Related Asthma in Selected U.S. States Using Surveillance Guidelines for State Health Departments—California, Massachusetts, Michigan, and New Jersey, 1993–1995*, MORBIDITY & MORTALITY WEEKLY REP. (June 25, 1999), at <http://www.cdc.gov/MMWR/preview/mmwrhtml/ss4803a1.htm>.

<sup>32</sup> P.J. Landrigan & D.B. Baker, *The Recognition and Control of Occupational Disease*, 266 JAMA 676, (1991).

<sup>33</sup> M.B. Lax, *Occupational disease: Addressing the Problem of Under-Diagnosis*, 6 NEW SOLUTIONS 81, (1996).

illness, and numerous studies have noted inadequate reporting even in those states that have a mandate.<sup>34</sup>

***Immigrants are less likely to report workplace injuries and illnesses.***

- Immigrant workers, among the most vulnerable to employer exploitation, face many barriers in reporting workplace injuries and illnesses and in obtaining appropriate medical care. They often confront language problems and are more likely to work in jobs that do not provide health insurance or paid sick leave. If they are undocumented, they may fear employer retaliation that could result in the loss of their jobs or even deportation.<sup>35-36</sup>
- A study by researchers at the Wake Forest University School of Medicine found that injury and illness rates for Latino poultry workers in six counties in western North Carolina exceeded rates reported by plants to OSHA. The researchers suggested that many factors could contribute to the lack of injury and illness reporting by immigrants, including language barriers, fear of losing a job, incentive programs that reward low rates of absenteeism, and lack of access to health care.<sup>37</sup>
- Researchers at the UCLA Labor Occupational Safety and Health Program surveyed a group of 75 immigrants in the Los Angeles area who worked in low-wage, low skill jobs. They found that only 63 percent of the workers who experienced an injury reported it, and many of the workers knew others who did not report injuries that they suffered.<sup>38</sup>
- Even with unionization, immigrant workers may hesitate to report injuries and illnesses. Seventy-five percent of unionized hotel workers in a 2005 study reported work-related pain, but only 20 percent filed workers' compensation claims. The fear of getting "in trouble" or being fired was among the primary concerns for workers who did not report their injuries.<sup>39</sup>

***Workers are often reluctant to apply for workers' compensation.***

Workers are often discouraged from filing workers' compensation complaints because of the difficulty of the system and because employers sometimes discourage workers from applying for workers' compensation.<sup>40</sup>

---

<sup>34</sup> Lenore S. Azaroff, Charles Levenstein & David Wegman, *Occupational Injury and Illness Surveillance: Conceptual Filters Explain Underreporting*, 92 AM. J. PUB. HEALTH 1421, (2002).

<sup>35</sup> Jajosky, *supra* note 31.

<sup>36</sup> Marianne P. Brown, Alejandra Domenzain, & Nelliana Villoria-Siegert, *Voices from the Margins: Immigrant Workers' Perceptions of Health and Safety in the Workplace* (December 2002), at <http://www.iosh.ucla.edu/publications/voicesreport.pdf>.

<sup>37</sup> Sara A. Quandt, Joseph G. Grzywacz, Antonio Marin et al., *Occupational Illnesses and Injuries Among Latino Poultry Workers in Western North Carolina*, 49 AM. J. INDUS. MED. 343, (2006).

<sup>38</sup> Brown, Domenzain, & Villoria-Siegert, *supra* note 36.

<sup>39</sup> Scherzer, Rugulies & Krause, *supra* note 29.

<sup>40</sup> Azaroff, Levenstein, & Wegman, *supra* note 34.

Long waiting periods, insufficient wage replacement and fights over the work-relatedness of occupational illnesses can discourage workers from utilizing the workers' compensation system, particularly if they are covered by health insurance.<sup>41</sup>

The system is particularly difficult for immigrant workers who may not be aware that they are covered by the workers' compensation system. For low income workers, the waiting periods, disputes and low wage replacement can mean unemployment and financial disaster.

### ***The musculoskeletal disorder column has been taken off of the OSHA 300 Log.***

In 2001, OSHA published a change in recordkeeping requirements that would have required employers to check a special box on their injury/illness logs if an injury was an MSD.<sup>42</sup> This information would enable OSHA to better understand the magnitude and distribution of work-related MSDs, and would also provide a useful analytical tool at the establishment level. The Bush administration then delayed the effective date, and eventually repealed the provision altogether.

Although employers are still required to record on the log MSDs that are work-related and result in lost work time, some fear that the elimination of the specific reporting requirement has led to even more severe underreporting of MSDs.<sup>43</sup> This problem is compounded by the fact that employers and physicians may fail to diagnose an MSD as work-related because many work-related musculoskeletal disorders mimic non-occupational disorders.

### ***Some workers and employers do not understand the reporting system.***

Some experts who advise corporations on injury and illness reporting rules note that many employers are confused about reporting criteria and OSHA staff is often not well-trained to provide accurate advice.<sup>44</sup>

In addition, some mental health care workers who are assaulted by patients may not report their injury to workers' compensation or their employer, believing that such

---

<sup>41</sup> *Id.*

<sup>42</sup> The former Log (200 Log) included a column devoted to "repeated trauma" cases, which were defined as including noise-induced hearing loss cases as well as cases involving a variety of other conditions, including certain musculoskeletal disorders. Hearing Loss and MSD's were separated into two columns in the original 300 Log.

<sup>43</sup> AFL-CIO, *Comments of the American Federation of Labor and Congress of Industrial Organizations on OSHA'S Proposed Delay of the Effective Date of Employer Injury and Illness Recordkeeping Requirements for Musculoskeletal Disorders and Hearing Loss* (March 20, 2002) (on file with Committee staff); AFSCME, *Comments of the American Federation of State County and Municipal Employees on OSHA's Proposed Delay of the Effective Dates for Employer Injury and Illness Recordkeeping Requirements Related to Musculoskeletal Disorders and Hearing Loss* (August 30, 2002) (on file with Committee Staff).

<sup>44</sup> Interview by Committee staff with Steve Newell, Senior Consultant, ORC Worldwide (June 13, 2008).

assaults are “part of the job.”<sup>45</sup> According to interviews with committee staff, health care workers in understaffed institutions feel that if they take time off for injuries, their patients will be left without care.<sup>46</sup>

### ***Employers have an incentive to underreport.***

There are many incentives built into the injury and illness reporting system for some employers to underreport injuries and illnesses.

#### **1. Low injury and illness rates decrease the chance of being inspected by OSHA.**

As described above, OSHA’s Site Specific Targeting Program (SST) targets employers with high injury and illness rates for inspection. The system is based on employer self-reporting of injuries and illnesses. The higher an employer’s rate, the more likely the employer is to receive an OSHA inspection. The program therefore provides incentives for some employers to cheat.

In addition, OSHA’s Ergonomic Enforcement Plan, which relies on the lost workday rate reported by employers, also provides employers with an incentive to underreport. If an employer reports a low rate of ergonomic injuries and has an ergonomic program on the books, “OSHA will determine whether to conclude the ergonomics portion of the inspection.”<sup>47</sup>

Duke University researcher Hester Lipscomb, however, points out in a study of African-American women poultry workers, that

Unfortunately, this approach fails workers such as the women in our study who were in industries where under-reporting of injuries has been suggested. Not only was the validity of the data on which injury rates were based questioned; the establishments have an economic incentive to under-report in order to avoid evaluations.<sup>48</sup>

#### **2. Low numbers of injuries and illnesses decrease workers’ compensation expenses.**

Under workers’ compensation programs, employers must often pay the entire cost of treatment, unlike regular health insurance which involves co-pays. In addition, work-related injuries and illnesses can raise employers’ workers’ compensation premiums.

#### **3. Low injury and illness rates can earn businesses bonuses and incentives.**

---

<sup>45</sup> L. Erickson & S.A. Williams-Evans, *Attitudes of Emergency Nurses Regarding Patient Assaults*, 26 J. EMERGENCY NURSING 210, (2000).

<sup>46</sup> Phone Interviews by Committee Staff with Worker Representatives, Washington, D.C. (May 2008).

<sup>47</sup> Occupational Safety and Health Administration, *OSHA’s Ergonomic Enforcement Plan*, at [http://www.osha.gov/SLTC/ergonomics/enforcement\\_plan.html](http://www.osha.gov/SLTC/ergonomics/enforcement_plan.html).

<sup>48</sup> H.J. Lipscomb, J.M. Dement, C.A. Epling, M.A. McDonald, and A.L. Schoenfisch, *Are We Failing Vulnerable Workers? The Case of Black Women in Poultry Processing In Rural North Carolina*, 17 NEW SOLUTIONS 1-2 (2007).

States and other public entities sometimes offer bonuses to contractors who can show exemplary safety records upon completion of projects. Contractors with better safety records also have a better chance of winning government contracts.<sup>49</sup>

#### **4. Low injury and illness numbers look good to the public and to customers.**

Companies may boast to their customers, stockholders and the surrounding community about the number of days they have gone without a recordable injury.<sup>50</sup> In addition, high injury and illness numbers make employers ineligible for certain OSHA award programs such as the Voluntary Protection Program.<sup>51</sup>

#### ***Methods used by employers to discourage accurate reporting.***

Evidence compiled from worker interviews, labor union reports, academic studies and media investigations show that employer actions – some intentional and some unintentional – can discourage workers from reporting injuries and illnesses. As described below, these actions include directly intimidating and harassing workers, discouraging workers from receiving appropriate medical attention that might trigger the recording of an injury on the OSHA log and bringing seriously injured workers back to work immediately after surgery to ensure that no lost work-time is recorded that may raise workers compensation rates.

**Direct intimidation of workers:** The direct intimidation of workers to discourage reporting of injuries and illnesses takes many forms, both subtle and overt. Reports, testimony and news accounts show that many employers discourage reporting and retaliate against workers who report injuries and illnesses or complain about safety hazards. Disciplinary actions and intimidation may include job loss, pay cuts, denial of overtime or promotion opportunities, and/or harassment.

Workers in many industries have expressed their fear that reporting an injury or illness could cause them to lose their job. This fear is particularly acute in industries like poultry and meatpacking that rely heavily on immigrant workers, a population particularly vulnerable to employer exploitation.

---

<sup>49</sup> Elizabeth Douglass, *Edison Says Safety Data Were Rigged*, L.A. TIMES, October 22, 2004, at A1; Occupational Safety and Health Administration, *State Incentives Promoting Voluntary Compliance* (Aug. 2, 2007), at [http://www.osha.gov/dcsp/osp/oshspa/2002\\_report/state\\_incentives.html](http://www.osha.gov/dcsp/osp/oshspa/2002_report/state_incentives.html).

<sup>50</sup> Los Angeles County Metropolitan Transportation Authority, *Metro Gold Line Eastside Extension is More Than 80 Percent Complete* (May 23, 2008), at [http://www.metro.net/news\\_info/press/Metro\\_087.htm](http://www.metro.net/news_info/press/Metro_087.htm); *North Pole Workshop, North Pole Workshop Boasts Stellar Safety Record; Rest of Area Logs Injuries* (Dec. 25 2007), at <http://www.ohsonline.com/articles/56997>; National Semiconductor Corporation, *National Semiconductor Achieves One Million Hours of Manufacturing with No Lost Time Injuries* (Apr. 29, 2002), at <http://www.national.com/news/item/0,1735,758,00.html>; GlaxoSmithKline, *Corporate Responsibility Report 2005* (Mar. 24, 2006), at [http://www.gsk.com/responsibility/cr\\_report\\_2005/employees/hs-injury-illness-rate.htm](http://www.gsk.com/responsibility/cr_report_2005/employees/hs-injury-illness-rate.htm); Holz Rubber Co., *Holz Rubber Company Achieves No Lost-Time Injuries for One Year* (Nov. 1 2005), at <http://news.thomasnet.com/companystory/474094>.

<sup>51</sup> Occupational Safety and Health Administration, *Recognizing Excellence in Safety and Health Voluntary Protection Programs* (March 15, 2007), at [http://www.osha.gov/dcsp/vpp/vpp\\_kit.html](http://www.osha.gov/dcsp/vpp/vpp_kit.html).

- California state auditors and OSHA investigators identified repeated instances of worker intimidation and harassment intended to discourage occupational injury and illness reporting during the Kiewit-Pacific/FCI Constructors/Manson Construction—A Joint Venture (KFM) San Francisco Bay Bridge reconstruction project.<sup>52</sup>
- In 2008, the *Charlotte Observer's* “The Cruellest Cuts” report documented how the North Carolina poultry industry exploits immigrant workers’ fears of deportation to suppress reporting of painful and debilitating injuries. The newspaper interviewed more than 50 workers no longer employed at the poultry processing firm House of Raeford and ten of those reported that they were fired after reporting injuries.<sup>53</sup>
- At the Smithfield Packing Co. pork slaughterhouse in Tar Heel, North Carolina, workers reported being harassed and even terminated after reporting injuries and describe managers denying that injuries happened at work. In 2002, Melvin Grady tore his Achilles tendon when he slipped on a stairway at the Smithfield plant. According to Grady, Smithfield denied that the claim was work-related and informed Grady that he could not receive workers’ compensation benefits. The company sent him “short-term disability” payments for several weeks after he had surgery on his leg. In December 2002, Smithfield demanded that Grady provide a doctors’ note giving him permission to work without restrictions. When Grady, still recovering from his surgery, could not get the note from his doctor, Smithfield terminated him.<sup>54</sup>

Teresa Nieto stated that after a frozen hog carcass fell onto her back, she received only cursory care from the plant clinic. According to Nieto, upon returning to work, her supervisor and a member of the plant’s security team confronted her, threatening that they would send her to court for “acting up” and that no hog had fallen on her.<sup>55</sup>

- Workers in the steel industry report that they risk their jobs when they report safety hazards or even minor injuries. Steelworkers describe “bloody pocket syndrome” where workers who may have as little as a cut on their hand will hide it, fearing retaliation, and wait until after their shift to go to the hospital.<sup>56</sup>

<sup>52</sup> California State Auditor, *San Francisco-Oakland Bay Bridge Worker Safety: Better State Oversight Is Needed to Ensure That Injuries Are Reported Properly and That Safety Issues Are Addressed*, Report 2005-119 (February 9, 2006), at [www.bsa.ca.gov](http://www.bsa.ca.gov).

<sup>53</sup> Hall, Alexander & Ordonez, *supra* note 25.

<sup>54</sup> Human Rights Watch, *Blood, Sweat, and Fear: Workers’ Rights in U.S. Meat and Poultry Plants* (January 2005), at <http://www.hrw.org/reports/2005/usa0105/usa0105.pdf>

<sup>55</sup> Research Associates of America, *Packaged with Abuse: Safety and Health Conditions at Smithfield Packing’s Tar Heel Plant 9* (January 2007), at [http://www.smithfieldjustice.com/Documentos/Annual\\_Report/Static%20copy%20of%20Safety%20and%20Health%20Report.pdf](http://www.smithfieldjustice.com/Documentos/Annual_Report/Static%20copy%20of%20Safety%20and%20Health%20Report.pdf)

<sup>56</sup> Will Buss, *Steelworkers Perform Myriad of Tasks Consolidation Forces, Workers To Learn Different Tasks*, *Belleville News-Democrat*, April 4, 2005, at 1B.

- A contractor on the Colorado-to-Ohio Rockies Express natural gas pipeline is facing allegations from former safety inspectors that the company used threats, intimidation and attempted bribery to skirt safety requirements. The inspectors have stated that the company hid worker injuries and, in order to meet ambitious project deadlines, cut corners that endangered worker safety.<sup>57</sup>
- Rose Roddy was told by the Vice President of Human Resources at Peerless-Premier Appliance Co. that she would be deemed “industrially unemployable” by the company if she continued to suffer injuries on the job because she had suffered 14 “injuries” over her 24-year employment with the company – including “exposure to gas fumes” and “carbon monoxide exposure.”<sup>58</sup>
- Buzzi Unicem USA has a policy that describes measures that may be taken against an employee for a “safety rule” violation that results in “‘medical treatment’ for injuries or illnesses by a licensed physician or other health care giver.”<sup>59</sup> The “program,” involving three steps, places responsibility for accidents or illnesses squarely on the worker’s shoulders. Step three results in the employee’s termination.

**Bringing seriously injured workers right back to work:** To avoid lost work-time which will raise workers’ compensation rates, employers may bring employees who have suffered injuries back to work immediately for “light duty” work – even after major surgery.

- The KFM San Francisco Bay Bridge Project investigation provides an example of this employer tactic. After suffering a major knee injury, Arne Paulson was carried onto tugboats for months by co-workers so that no “lost time” or “restricted work” was recorded.<sup>60</sup>
- During his testimony before the Committee in 2007, Keith Ludlum, an employee at Smithfield Packing’s Tar Heel plant, told the story of a worker who broke his leg on the job. The worker, who required a full leg cast, was informed that he had to return to work the day after the accident or he would lose his job. Since he reported to work the next day, Smithfield avoided reporting a lost work day due to injury on its OSHA log.<sup>61</sup>

**Discouraging appropriate medical attention:** Employers may discourage workers

<sup>57</sup> Tom Beyerlein, *Concerns About Pipeline Were Ignored, Inspectors Say*, Dayton Daily News (May 18, 2008), at <http://www.daytondailynews.com/search/content/oh/story/news/local/2008/05/18/ddn051808pipelineinside.html>.

<sup>58</sup> Letter to Rose Roddy from Phyllis K. Schleicher, Vice President of Human Resources, Peerless-Premier Appliance Co. (January 10, 2003) (on file with committee staff).

<sup>59</sup> Memorandum on Buzzi Unicem USA, Safety and Health Rule Infraction Guidelines (March 31, 2006) (on file with committee staff).

<sup>60</sup> Erik N. Nelson, *Bay Bridge Worker Lost Job Due to Knee Injury*, INSIDE BAY AREA, August 24, 2006.

<sup>61</sup> *Strengthening America’s Middle Class Through the Employee Free Choice Act Hearing Before the House Comm. on Education and Labor, Subcomm. on Health, Employment, Labor, and Pensions*, 110<sup>th</sup> Cong. (2007) (written testimony of Keith Ludlum, employee of Smithfield Packing Co.).

from receiving appropriate medical attention in order to avoid triggering an injury or illness report. Employers often have their own on-site health care staff that is trained in which treatments do and do not constitute first aid because injuries requiring treatment beyond first aid are recordable.<sup>62</sup> Injuries requiring only first aid are not recordable.

Some workers have turned to a company health clinic only to be sent back to the production line with minimal treatment. Others have been discouraged from receiving treatment from anyone but the company doctor. Several case studies provide the stories of workers who were discouraged from receiving appropriate medical attention.

They'd say, "Oh, you're not hurting." They made me feel that I was bothering them to go to the nurse, that I was supposed to take the pain.

— Charlotte Outerbridge, *The Cruellest Cuts: The Human Cost of Bringing Poultry To Your*

- House of Raeford poultry worker Celia Lopez's hands began to hurt so badly that she could barely keep working after lifting and weighing thousands of turkey breasts each day. The first aid attendant and physician's assistant at the plant kept giving her pain relievers but refused to send her to a doctor. Finally, months later she went to a doctor and was diagnosed with carpal tunnel syndrome. The doctor who performed the surgery said that had she come in earlier, before the damage was so severe, she might have avoided surgery.<sup>63</sup>
- After Smurfit-Stone employee Francisco Pulido severed his left pinkie to the first knuckle, he was taken to Pinnacle Urgent Care, where he had to wait for the clinic to open because it was after hours. Pulido was finally treated, but not until he began to go into shock from "extreme pain." Smurfit-Stone then suspended Pulido for 3 days.

CalOSHA later fined the company \$3,700 for failing to properly train its employees. Smurfit Stone and Pinnacle managers are being prosecuted because they "allegedly discouraged employees from reporting on-the-job injuries and filing workers' compensation claims, threatened them with suspensions and terminations for trying to file claims, and engaged in other improper practices in an apparent attempt to reduce the packing company's insurance costs."<sup>64</sup>

Meanwhile, as a current and former manager faced insurance fraud charges, Smurfit-Stone trumpeted its "incredible record of safety achievement" and celebrated its "safest year in company history in 2007."<sup>65</sup>

<sup>62</sup> Azaroff, Levenstein, & Wegman, *supra* note 34.

<sup>63</sup> Ames Alexander, Franco Ordonez & Kerry Hall, *Workers Say They're Denied Proper Medical Care*, CHARLOTTE OBSERVER, Feb. 12, 2008.

<sup>64</sup> Jim Johnson, *New Charges in Salinas Workers' Comp Case*, THE MONTEREY COUNTY HERALD, January 3, 2008.

<sup>65</sup> *Smurfit-Stone Completes Safest Year in Company History*, PRNEWswire, February 5, 2008.

**Discouraging physicians from reporting injuries or diagnosing illnesses:** When workers must receive treatment, employers may “bargain” with or even threaten doctors to prevent the diagnosis of a recordable injury or illness.

- On the KFM San Francisco Bay Bridge project, welder Chris Hallstrom told Cal/OSHA that one of KFM’s safety managers would always accompany him into the exam room when being seen by a doctor for a work-related injury. The safety managers would attempt to “bargain over the wording of the work status report and the job restrictions” to try to avoid the triggering of a report.<sup>66</sup>
- The American College of Occupational and Environmental Medicine, representing 5,000 doctors, recently sent a letter to OSHA stating that doctors are routinely pressured to under-treat and mistreat workplace injuries and illnesses. For example, an employer may pressure doctors to treat a cut with bandages instead of stitches to avoid a triggering a report of an injury. Treatment with stitches is considered “medical attention beyond first aid” and renders the injury reportable, while treatment with bandages is considered “first aid” and not reportable.<sup>67</sup>

**“No fault” absentee policies:** Some companies give employees a fixed number of days off for all purposes, including sick and vacation leave and recuperation from a workplace injury or illness. If workers use up all permissible days, they may be terminated, even if they miss days due to work-related injuries.

Bashas’, which operates a food distribution warehouse that distributes food and merchandise to more than 166 grocery stores throughout Arizona, uses a point system for absences and tardiness. Although time lost due to industrial injury is supposed to be excluded from this point system, injured workers report that they have been assessed points and had their pay cut for going to the doctor or missing time due to work-related injuries.<sup>68</sup>

**Safety incentive programs and games:** Safety incentive programs and games that provide monetary prizes or days off when a work crew succeeds in going “accident free” for a certain time period are marketed as a way to improve worker safety and health by giving workers an incentive to work safely. As described below, however, depending on how an incentive program is structured, reluctance to lose the bonus or peer pressure from other crew members whose prizes are also threatened reduces the *reporting* of injuries and illnesses on the job, rather than reducing the actual number of workplace injuries and illnesses.

---

<sup>66</sup> Garrett D. Brown & Jordan Barab, “Cooking the Books”—*Behavior-Based Safety at the San Francisco Bay Bridge*, 17 NEW SOLUTIONS 4 (2007).

<sup>67</sup> Alexander Ames, *Doctors Feel Push to Downplay Injuries*, CHARLOTTE OBSERVER (April 9, 2008), at <http://www.charlotte.com/217/story/587539.html>.

<sup>68</sup> Staff Interviews with former Bashas’ Supermarkets Workers, Washington, D.C. (June 10, 2008).

“The incentive plan works against reporting injuries. Everybody trying to keep their jobs—don’t make waves. When you reported injuries, they treated you as a criminal... KFM created an atmosphere where you didn’t want to report.”

— David Roundtree, a welder on the KFM San Francisco Bay Bridge Project

“Traditional” incentive programs – those that offer prizes if no injuries are reported – have also been criticized by OSHA and other accident analysis experts. A 1998 OSHA study concluded that these programs may have a “chilling effect”<sup>69</sup> on the workplace – creating a hostile working environment. According to Richard Fairfax, director of compliance programs for OSHA, “the fact that some employers use these programs in lieu of formal safety and health programs is of very real concern to us.... There have been cases where injured employees were pressured not only by fellow employees, but by their supervisors, to not report injuries in order to maintain eligibility for safety incentives.”<sup>70</sup>

- Throughout the reconstruction of the eastern span of the San Francisco Bay Bridge in California, Kiewit-Pacific/FCI Constructors/Manson Construction – A Joint Venture (KFM) reported an injury rate 55 to 72 percent below the rates experienced by other major bridge construction projects in the bay. But KFM’s record turned out to be too good to be true. In June 2006, Cal/OSHA issued “Willful” citations against KFM for failing to record at least 13 worker injuries at the bridge, to investigate reported accidents, and to record injuries within the time period required by law.<sup>71</sup>

KFM offered monetary incentives to all employees for meeting quality and completion goals, but only if no Log 300 recordable injuries were reported. The program allowed employees to receive substantial bonuses—upwards of \$1,500 in some cases. The career advancement of managers, foreman, and supervisors was also dependent on achieving a clean safety record. If a single worker reported an injury, the entire crew would lose its bonus.<sup>72</sup>

Pile excavation crew foreman Arne Paulson stated: “It was known by everyone *not* to report any injuries because that would mean no BBQ, no tool prizes, no tool box prizes. Everyone would want to know who ‘lost’ the prizes for the crew, so everyone was terrified to report anything.”<sup>73</sup> Welder Mario Armani said the cash “bonus program keeps guys away from reporting accidents, many injuries

<sup>69</sup> Dennison Associates, *An Analysis of Safety Incentive Programs* (June 1998), (report for the Occupational and Health Administration).

<sup>70</sup> William Atkinson, *Good Safety Incentives Gone Bad*, MC MAGAZINE (Spring 2002), [http://www.precast.org/publications/mc/SafetyArticles/02\\_Spring\\_IncentivesGoneBad.htm](http://www.precast.org/publications/mc/SafetyArticles/02_Spring_IncentivesGoneBad.htm).

<sup>71</sup> Brown & Barab, *supra* note 66, at 312.

<sup>72</sup> *Id.*, at 314.

<sup>73</sup> *Id.*, at 315.

are not reported, many employees would clean out their own eyes [metal shivers from grinding] or have their co-workers do it.”<sup>74</sup>

- In 2004, the discovery of unreported injuries and illnesses at Southern California Edison caused the company to give back \$35 million in taxpayer funded safety incentive funds received from the state of California over the course of 7 years. The company’s own investigation found that their safety incentive program “may have discouraged the reporting of some incidents” and created pressure not to report injuries.<sup>75</sup>
- A 1998 report by Denison Associates, commissioned by OSHA, found that “there is no evidence that safety incentive programs, standing alone, improve safety. To the contrary, some safety incentive programs adversely affect safety.” The study noted that reports of the success of these programs are based on anecdotes and do not distinguish between reported injury reductions that are due to safer working conditions and those attributable to reporting practices.<sup>76</sup>

Not all safety incentive programs are bad. For example, “non-traditional” programs that provide rewards to workers for attending training classes and safety meetings and identifying and reporting unsafe conditions, close calls and minor injuries can promote safety without discouraging reporting of injuries or unsafe conditions. These programs also require trust between managers and workers so that workers do not fear discipline or accusations that they have hurt productivity when problems are reported.<sup>77</sup>

**Manager incentives and bonuses:** General foreman, superintendents, craft superintendents, job superintendents and project managers on the California Bay Bridge project received significant monetary awards and “merit cards” essential for salary increases and individual career advancement. But the awards were dependent on no injuries or illnesses being reported. Foremen, fearful of losing their bonuses, would pressure workers not to report, and workers, afraid of angering their foremen, would comply.<sup>78</sup>

**Drug testing after every accident or injury:** To intimidate workers, employers may require that workers are tested for drugs or alcohol before receiving treatment, irrespective of any potential role of drug intoxication in the incident.

- Smurfit-Stone employee Jesse Vasquez alleges that he was subjected to a drug test at the request of his manager before he could receive treatment for a back injury. His manager is currently facing allegations of workers’ compensation fraud.<sup>79</sup>

---

<sup>74</sup> *Id.*, at 315.

<sup>75</sup> Elizabeth Douglass, *Edison Says Safety Data Were Rigged*, L.A. TIMES, October 22, 2004, at A1.

<sup>76</sup> Dennison Associates, *supra* note 69.

<sup>77</sup> James L. Nash, *Rewarding the Safety Process: “Nontraditional” Incentive Programs Can Improve Safety – Without Making OSHA Nervous*, OCCUPATIONAL HAZARDS, Mar. 1, 2000.

<sup>78</sup> Brown & Barab, *supra* note 66, 314.

<sup>79</sup> Johnson, *supra* note 64.

- A study of Las Vegas hotel workers found that 32 percent of workers who reported musculoskeletal injuries said they were forced to take a drug test after reporting their injury to workers' compensation,<sup>80</sup> even though studies show that these injuries are caused by physical workload, the increase in the workload and ergonomic problems – not drugs.<sup>81</sup>

**Contractors and contracting out dangerous work:** When outside contractors injured or killed, their injuries or deaths are not listed on the main employer's OSHA log, nor do they register in the primary employer's industrial classification.

Almost half of the workers on the BP Texas City refinery site were contractors on the day in 2005 when a massive explosion killed 15 workers. All of the workers killed that day were contractors. None of the fatalities or the injured contractors was listed on BP's OSHA 300 Log, nor did they register in the industrial classification for refineries.<sup>82</sup>

The lack of site logs is a major problem impacting the effectiveness of OSHA's SST program in petrochemical, chemical and other industries. The SST targets companies in industry classifications that show high injury and illness numbers for priority inspections. But contractor injuries, illnesses and deaths will show in the industry classification of the contractor, not in the industry classification of the site owner, meaning that where contractors suffer a large number of injuries or fatalities, the industry may seem much safer than it actually is.<sup>83</sup>

The use of outside contractors is growing throughout American industry and has major implications on workplace safety, especially in large complex operations such as the petrochemical and chemical industries. This problem was first noted in the 1991 John Gray Institute report following the catastrophic 1989 explosion at Philips 66 in Pasadena, Texas that killed 23 workers and injured 232 others.<sup>84</sup>

According to the John Gray report, because most facilities did not keep track of the injury and illness records of their contractors, valuable information was unavailable to plant managers "for the purpose of selecting, monitoring and controlling safety outcomes for contract labor." The report noted that the current system does "not provide an accurate reflection of the composition of the experiences of workers in the petrochemical industry." In addition, OSHA did not require the primary employer to keep a site log (an injury and illness log that includes all workers on a site, regardless of employer), making

---

<sup>80</sup> Scherzer, Rugulies, & Krause, *supra* note 29.

<sup>81</sup> Niklas Krause, Theresa Scherzer & Reiner Rugulies, *Physical Workload, Work Intensification, and Prevalence of Pain in Low Wage Workers: Results From a Participatory Research Project With Hotel Room Cleaners in Las Vegas*, 48 AM. J. INDUS. MED. 326, (2005).

<sup>82</sup> U.S. Chemical Safety and Hazard Investigation Board, *Investigation Report: Refinery Explosion and Fire*, Report No. 2005-04-I-Tx (March 2007), at [http://www.csb.gov/completed\\_investigations/docs/CSBFinalReportBP.pdf](http://www.csb.gov/completed_investigations/docs/CSBFinalReportBP.pdf).

<sup>83</sup> Lise Olsen, *Murky Stats Mask Plant Deaths*, HOUSTON CHRONICLE (May 16, 2005), <http://www.chron.com/disp/story.mpl/business/3183356.html>

<sup>84</sup> John Calhoun Wells, Thomas A. Kochan & Michal Smith, *Managing Workplace Safety and Health: The Case of Contract Labor in the U.S. Petrochemical Industry* (July 1991) (report for the Occupational Safety and Health Administration).

this information unavailable to OSHA.

Similarly, construction projects also employ a large number of sub-contractors who keep their own separate injury and illness logs, making it difficult for OSHA to determine the safety performance of large sites or of general contractors. Again, no site log is required by OSHA.<sup>85</sup>

In order to address this problem, the 1989 Keystone Report recommended that “a ‘contractor site log’ (i.e., copies of the subcontractor logs) be maintained for major construction sites and major construction rehabilitation activities.”<sup>86</sup> Similarly for the petrochemical industry, the John Gray report recommended that “OSHA require plants to collect and record site specific injuries and illness data for all workers on site.”<sup>87</sup>

OSHA does not require construction contractors to maintain a site log, although OSHA’s Process Safety Management Standard does require employers covered by standard to maintain an internal site log, although these are not collected by OSHA as part of its Specific Targeting program (SST), nor by BLS in compiling the SOII or its census of occupational fatalities.<sup>88</sup>

The problem does not only exist in the petrochemical industry. A 2003 *Omaha World-Herald* report portrays the health and safety risks faced by the workers who perform the highly hazardous job of cleaning meatpacking plants each night. Their injuries escaped the notice of the OSHA targeting program because they worked for a cleaning company contracted by the plant owners. Any recordable injury that they suffered was classified not with meatpacking industry statistics, but rather in an industry category that included the professions of housekeepers and office cleaners – a lower-risk category that was not included in OSHA’s inspection targeting list.<sup>89</sup>

**Misclassification of workers:** When workers are misclassified as “independent contractors” instead of regular employees, the employer can avoid workers’ compensation payments and recording injuries on the OSHA 300 log since self-employed individuals are not covered by these systems. As mentioned above, when employers contract jobs to outside contract employers, injuries among the contract workers do not have to be recorded on the contracting employer’s OSHA log even if they occur at the employer’s site.<sup>90</sup>

According to a 2000 U.S. Department of Labor study, audits of employers in nine states found that between 10 and 30 percent of firms misclassify their employees as

---

<sup>85</sup> The Keystone Center, *supra* note 10.

<sup>86</sup> The Keystone Center, *supra* note 10.

<sup>87</sup> John Calhoun Wells, Thomas A. Kochan & Michal Smith, *Managing Workplace Safety and Health: The Case of Contract Labor in the U.S. Petrochemical Industry* (July 1991) (report for the Occupational Safety and Health Administration).

<sup>88</sup> Occupational Safety and Health Administration Process Safety Management Standard, 29 CFR § 1910.119 (1992).

<sup>89</sup> Jeremy Olson, and Steve Jordan, *On the Job of Last Resort: Meat Plant Risks Extend to Nightly Clean-up Work*, *The Omaha World-Herald*, October 12, 2003, at 1A.

<sup>90</sup> Lise Olsen, *supra* note 83

independent contractors.<sup>91</sup> Employers have a strong economic incentive to misclassify employees as independent contractors. In addition to not paying the employer share of Social Security, Medicare, or unemployment taxes, employers also do not have to provide contractors with workers' compensation insurance.<sup>92</sup> As a result, injuries suffered by independent contractors – including those who are misclassified – do not go on the employers' logs and do not increase the workers' compensation premiums or the likelihood that they will be inspected by OSHA.

At a March 2007 hearing before the U.S. House of Representatives Committee on Education and Labor, Subcommittee on Workforce Protections, Cliff A. Horn of the Mason Contractors Association of America and John J. Flynn of the International Union of Bricklayers and Allied Craftworkers testified that employee misclassification is widespread in their industries. Flynn pointed out that when employers neglect their responsibility to pay workers' compensation, then the U.S. health care system often absorbs the cost of their care.<sup>93</sup>

## Underreporting Problems in the Railroad Industry

In 2007, the U.S. House of Representatives Committee on Transportation and Infrastructure conducted an in-depth review of railroad employee injury reporting practices in response to evidence of a long history of underreporting and complaints of harassment of employees who report injuries. Committee staff compiled more than 200 individual cases of alleged management harassment following injury reports.<sup>94</sup>

Some of the techniques used by railroad management include:

- **"Risky" employee assessments:** Employees are placed in disciplinary jeopardy by being assigned points for safety incidents, rule infractions, and injuries regardless of the cause, often before an investigation is done.
- **Targeting employees for increased monitoring and testing:** Injured employees are "targeted" for close supervisor scrutiny, where minor rule infractions result in employee termination following injuries.
- **Supervisors discouraging employees from filing accident reports:** Front-line supervisors often try to subtly prevent employees from filing injury reports and/or lost workday reports in an attempt to understate or minimize on-the-job injury statistics

---

<sup>91</sup> Planmatics, Inc., *Independent Contractors: Prevalence and Implications for Unemployment Insurance Programs* (prepared for U.S. Dep't of Labor) (2000), at <http://wdr.doleta.gov/owsdrr/00-5/00-5.pdf>

<sup>92</sup> Government Accountability Office, *Employer Arrangements: Improved Outreach Could Help Ensure Proper Worker Classification*, GAO-06-656 (July 2006).

<sup>93</sup> *Providing Fairness to Workers Who Have Been Misclassified as Independent Contractors Hearing Before the House Comm. on Education and Labor, Subcomm. on Workforce Protections*, 110<sup>th</sup> Cong. (2007) (written testimony of Cliff A. Horn of the Mason Contractors Association of America).

<sup>94</sup> *The Impact of Railroad Injury, Accident, and Discipline Policies on the Safety of America's Railroads Hearing Before the House Comm. on Transportation and Infrastructure*, 110<sup>th</sup> Cong., (2007).

- **Supervisors attempting to influence employee medical care:** Railroad supervisors are often accused of trying to accompany injured employees to their medical appointments to try to influence the type of treatment they receive. In addition, they try to send employees to company physicians instead of allowing them to choose their own treatment providers.
- **Light duty work programs v. injury leave:** Injured employees are required to come to work, often doing nothing but sitting in an empty room and allowing carriers to minimize the required reporting of lost work days.
- **Availability policies:** These policies require employees to work a certain number of days per year. If the employee cannot work the required number of days, he or she is no longer a full-time employee.
- **Supervisor compensation:** Some companies base management compensation upon performance bonuses, which can be based in part upon recordable injury statistics within their supervisory area.

The report concluded:

Today's railroad regulatory environment is more oriented toward assigning blame to a single individual, without a thorough examination of the underlying causes that led that single individual to commit an error. This approach is apparent in both railroad internal investigations of injury accidents, as well as FRA regulatory reports.<sup>95</sup>

## **Behavioral Safety: Bad for Safety, Bad for Recordkeeping Accuracy**

The theoretical underpinning of many safety programs that rely on discipline or rewards is the belief that most workplace accidents are caused by the unsafe behavior of workers. Rewarding good behavior or punishing bad behavior, according to this philosophy, can prevent accidents.

But experts in analyzing accident causation note that, since workers are human and inevitably make errors, the consequence of rewards or punishment is often a failure to report incidents, rather than a reduction of injuries and illnesses. Most have rejected the theory of the “careless worker” and the behaviorist theory for the following reasons:

- In order for an accident to happen, an unsafe condition must be present. These may range from conditions like slippery floors or objects that are too heavy for workers to lift safely, to management system errors such as allowing or encouraging frequent deviation from safe procedures, not providing training to

---

<sup>95</sup> *Id.*

workers, ignoring past warnings and close calls and lack of oversight by supervisors or enforcement agencies.

One of those conditions is pressure for more production. Andrew Hopkins, a sociologist and safety analyst, explains:

Production pressures routinely lie behind unsafe actions by workers in this way. Despite all the company rhetoric about putting safety first, the experience of many workers, not all, is that production takes precedence over safety....Such pressures are particularly intense when pay systems are tied to production, so that lost time is lost pay, or where there are quotas, with penalties for not achieving the quota.<sup>96</sup>

Where such conditions exist, punishing the worker will not prevent future accidents. The most effective solution is to identify and address the root cause of the problem, which in this case is too much emphasis on increased production at the expense of safety.

- While there is almost always a human element involved in accidents, most incidents (major and minor) have many complex causes and human error is almost never one of the *root* causes. Worker errors are generally the *consequences* – or last link in a causal chain, not the *causes* themselves.<sup>97-98</sup>

Following the catastrophic 2005 explosion at BP’s Texas City refinery that killed 15 workers, BP immediately fired several workers and managers. The initial results of the BP’s internal investigation blamed the accident on the “surprising and deeply disturbing” actions of these employees.<sup>99</sup> The 2007 Chemical Safety Board investigation report, however, found a multiplicity of causes for the explosion, including cost-cutting at the top of the corporation that affected safety conditions, outdated equipment, malfunctioning valves and indicators, worker fatigue, poor training, locating trailers too close to hazardous areas and ignoring numerous warnings and “near misses.”<sup>100</sup>

Similarly, the commission that was assembled to investigate the 2003 Columbia space shuttle disaster criticized managers’ tendency to blame the actions of individual workers (or even single causes) when investigating accidents:

Many accident investigations do not go far enough. They identify the technical cause of the accident, and then connect it to a variant of “operator error” – the line worker who forgot to insert the bolt, the

---

<sup>96</sup> Andrew Hopkins, *What Are We To Make Of Safe Behaviour Programs?*, 44 SAFETY SCIENCE 583, (2006).

<sup>97</sup> *Id.*

<sup>98</sup> *Improving Workplace Safety: Strengthening OSHA Enforcement of Multi-Site Employers Hearing Before the House Comm. On Education and Labor, Subcomm. on Workforce Protections*, 110<sup>th</sup> Cong. (2007) (written testimony of Frank A. White, Senior Vice President, ORC Worldwide).

<sup>99</sup> T.J. Aulds, *BP Blames Employees for Fatal Blasts*, THE GALVESTON COUNTY DAILY NEWS, May 18, 2005.

<sup>100</sup> U.S. Chemical Safety and Hazard Investigation Board, *supra* note 88.

engineer who miscalculated the stress, or the manager who made the wrong decision. But this is seldom the entire issue. When the determinations of the causal chain are limited to the technical flaw and individual failure, typically the actions taken to prevent a similar event in the future are also limited: fix the technical problem and replace or retrain the individual responsible. Putting these corrections in place leads to another mistake – the belief that the problem is solved.<sup>101</sup>

- Blaming workers for accidents can make safety problems worse.

Programs that have the result of discouraging workers from reporting incidents that may be predictive of future or more serious accidents can have a detrimental effect on worker safety. The Chemical Safety Board, in its report on the 2005 BP Texas City explosion that killed 15 workers, noted that one thing missing at BP was a “reporting culture where personnel are willing to inform managers about errors, incidents, near-misses, and other safety concerns.” When workers were not encouraged to report, managers did not investigate incidents or take appropriate corrective action.<sup>102</sup>

Instead of punishing pilots or other workers for the “errors” that they make, the Federal Aviation Authority has taken a completely different approach to addressing the problem of preventing accidents, according to a recent report by the U.S. House Transportation Committee:

Recognizing these human factors and complex accident causation principles, the FAA began to promote and establish voluntary reporting programs such as NASA's Aviation Safety Reporting System ("ASRS"), where anyone in the aviation system could report a mistake or a violation and receive immunity from the finding of a civil penalty violation. In addition, the FAA has established a 'Voluntary Self Disclosure' program where both organizations and individuals can disclose a violation, cease and desist from the unsafe practice, develop a corrective action plan, and be immune from civil penalty action. The dramatic improvement in U.S. air safety over the last two or more decades has been directly linked to the implementation of these "non-punitive" principles in the regulatory environment.<sup>103</sup>

Not all incentive programs are detrimental, as mentioned above, nor is all safety-related discipline a problem if it is actually justified. There are situations where despite repeated training, frequent warnings and consistent enforcement of safety policies, there is clear, willful disregard of an established rule by workers or managers and some disciplinary action from the employer may be necessary. In rare cases OSHA has chosen not to cite an

---

<sup>101</sup> Columbia Accident Investigation Board, *Columbia Accident Investigation Board Report Volume I*, 97, (2003), at [http://caib.nasa.gov/news/report/pdf/vol1/full/caib\\_report\\_volume1.pdf](http://caib.nasa.gov/news/report/pdf/vol1/full/caib_report_volume1.pdf)

<sup>102</sup> U.S. Chemical Safety And Hazard Investigation Board Investigation Report, *supra* note 88.

<sup>103</sup> *The Impact of Railroad Injury, Accident, and Discipline Policies on the Safety of America's Railroads Hearing Before the House Comm. on Transportation and Infrastructure*, 110<sup>th</sup> Cong., (2007).

employer, based on “unavoidable employee misconduct,” recognizing that the employer had no control over an employee’s actions and had done everything in its power to ensure safe working conditions.

Some employers, however, try to blame workers for the incident, even though the employer has legal responsibility for safety in the workplace and other factors are almost always to blame. For example, according to a former supervisor, Cintas, a large industrial laundry company, has a company policy to write up a disciplinary action immediately after every accident – before any investigation is done.<sup>104</sup>

After an employee is hurt or killed, the employer often blames the worker for not following proper procedures, although further investigation generally finds that procedures are rarely followed (with full knowledge of supervisors), or workers have not been trained in the procedures, or the procedures are so old that they do not match the actual working conditions.<sup>105</sup>

Other organizational factors such as fatigue or work overload can also explain a worker’s failure to follow proper procedures. Many workers report, for example, that while the *written* procedures may say to shut off a machine and wait for maintenance to come and repair it, the *unwritten* rule is to do anything necessary to make the production quota by the end of the day or face disciplinary action.

- After Eleazar Torres Gomez was pulled into a 300 degree oven and killed while attempting to unjam an industrial laundry conveyor at a Cintas industrial laundry in Tulsa Oklahoma in 2007, the company immediately blamed him for his own death. According to a Cintas press release,

Although the investigation is still ongoing, it is clear that our partner did not follow established safety rules which would have prevented this tragic accident. Unfortunately, the partner climbed on top of a moving conveyor to dislodge a jam, contrary to all safety training and procedures, and fell into a dryer.<sup>106</sup>

OSHA later issued a \$2.8 million citation against Cintas, finding that “management at the Cintas Tulsa laundry facility ignored safety rules that could have prevented the death of this employee.”<sup>107</sup> According to press reports, the OSHA investigation found that because workers were under a lot of pressure to keep the lines moving, they routinely tried to unjam the machines while they were still running, with management’s full knowledge.<sup>108</sup>

---

<sup>104</sup> Phone Interview by Committee staff with former Cintas Supervisor, Washington, D.C. (May 17, 2008).

<sup>105</sup> Hopkins, *supra* note 96.

<sup>106</sup> Cintas, *Media Statement Regarding: March 6 Incident in Tulsa, OK* (March 22, 2007), at [http://www.cintas.com/Company/News\\_Media/press\\_releases/Tulsa\\_OK.aspx](http://www.cintas.com/Company/News_Media/press_releases/Tulsa_OK.aspx)

<sup>107</sup> Occupational Safety and Health Administration, *U.S. Department of Labor's OSHA Proposes \$2.78 Million Fine Against Cintas Corp. Following Tulsa, Okla., Employee Death in Industrial Dryer* (August 16, 2007), at [http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=NEWS\\_RELEASES&p\\_id=14397](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=NEWS_RELEASES&p_id=14397).

<sup>108</sup> James Bandler and Kris Maher, *House Panel to Examine Cintas Plants' Safety Record*, WALL ST. J., Apr. 23, 2008, at B1.

- When a Caterpillar worker at the company's Peoria plant was injured after being shocked while repairing a machine, he and his co-workers were disciplined for not following proper "lockout-tagout" procedures, even though the machine had been miswired during a previous modification and there was no written procedure that applied.<sup>109</sup>
- Brent Churchill, a lineman for Central Maine Power, was electrocuted in 2000 after failing to put his insulating gloves on before reaching for a 7,200 volt cable. Because of mandatory overtime, Churchill had slept a total of five hours over the previous two and a half days. His death lent momentum to the passage of the passage in Maine of the country's first law limiting the number of hours an employee can be required to work.<sup>110</sup>

## OSHA's Role in Ensuring Accurate Reporting

**OSHA audits.** OSHA conducts recordkeeping audits which, according to the agency, indicate that injury and illness logs are a reasonably accurate reflection of those injuries and illnesses actually reported by employees at work. Under the program, OSHA inspectors interview a "sample of employees" about reporting procedures and look for mistakes and inconsistencies by reviewing medical records, workers' compensation records, insurance records and, "if available," payroll absentee records, company safety incident reports and company first aid logs.<sup>111</sup>

But OSHA's auditing method may miss those workers who are afraid to report or choose not to report an injury or illnesses to the employer, to workers' compensation or to insurance. Unless OSHA's "sample of employees" identifies workers who have suffered unreported injuries or illnesses *and* who are not afraid to talk to the OSHA compliance officer, OSHA audits will not identify those missing injuries or illnesses, nor the reasons that they have not been reported.

The California Bay Bridge Auditors' Report identified the same problem when it questioned whether employer injury reports are accurate, noting that CalOSHA "does not have a process to verify the reasonable accuracy of the annual injury reports employers are required to maintain", that CalOSHA "has no legal requirement to collect these reports" nor a "systematic process to detect injuries that go unrecorded."<sup>112</sup>

Finally, as noted above, by making ergonomic inspections dependent on recorded MSDs, OSHA's Ergonomics Enforcement Program actually rewards employers for underreporting their ergonomic injuries.

<sup>109</sup> Interview by Committee Staff with Caterpillar Employee, Washington, D.C. (June 3, 2008).

<sup>110</sup> Mary Williams Walsh, *As Hot Economy Pushes Up Overtime, Fatigue Becomes a Labor Issue*, N.Y. TIMES, Sept. 17, 2000, at 32.

<sup>111</sup> Occupational Safety and Health Administration, *Audit and Verification Program of Occupational Injury and Illness Records*, CPL-02-00-138 (January 12, 2006), at

[http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=DIRECTIVES&p\\_id=3329](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=DIRECTIVES&p_id=3329).

<sup>112</sup> California State Auditor, *supra* note 52.

**Other OSHA procedures.** Paragraph 11(c) of the Occupational Safety and Health Act makes it a violation of the Act to “discharge or in any manner discriminate against any employee because such employee has filed any complaint or instituted or caused to be instituted any proceeding under or related to” the Act.<sup>113</sup>

There is, however, no specific mention of employer actions that would discourage reporting. This section of the OSH Act is rarely used against such actions, although Paragraph 1904.36 of OSHA’s recordkeeping regulation notes that Paragraph 11(c) also applies to discrimination against an employee for reporting a work-related fatality, injury or illness. The recordkeeping regulation itself, however, does not explicitly prohibit discouragement of reporting, forcing workers to go through the ineffective and time consuming 11(c) process.<sup>114</sup>

---

<sup>113</sup> Occupational Safety and Health Act, 29 U.S.C. § 660.

<sup>114</sup> Occupational Safety and Health Administration, Recording and Reporting Occupational Injuries and Illnesses, 29 C.F.R. § 1904 (Jan. 19, 2001).

## Other Measures Can Be Used To Target Unsafe Workplaces

Injury, illness, and fatality rates are not the only way – or even the best way in many cases – to assess and ensure workplace safety. In petroleum refineries, chemical plants, and other complex operations dependent on process safety, records of process upsets, “near miss” reports, audit results, equipment inspections and reports of small chemical releases are much better indicators of potential hazards than counts of slips, trips and falls that comprise most injury reporting.<sup>115</sup>

These “leading indicators” – observations that can help predict safety problems – can be just as important and more useful than “lagging indicators” – looking at the injuries that have already occurred in preventing future incidents. But these leading indicator measures are not usually recorded by employers and if recorded, are not monitored by OSHA or BLS.<sup>116-117</sup>

At a U.S. House of Representatives Committee on Education and Labor hearing last year on the catastrophic explosion at BP’s Texas City refinery, it was revealed that both the company and OSHA were using only injury statistics to assess the safety of refineries. Yet many experts agree that these statistics are meaningless when attempting to determine how likely it is that a refinery may experience a catastrophic explosion. Much better are “process safety” indicators: how well the company follows up on near misses; how well the company maintains its equipment and how willing the company is to shut down a process when there are problems.<sup>118</sup>

In addition, workplace illnesses are especially difficult to count. Many work-related illnesses mimic the flu or other common household maladies. Others may cause serious disease like cancer or heart disease many years or decades after workers were exposed. The injury and illness statistics that OSHA currently collects are therefore almost useless in targeting inspections at workplaces where employers are exposed to workplace health hazards.<sup>119</sup>

## Conclusion

---

<sup>115</sup> John Calhoun Wells, Thomas A. Kochan & Michal Smith, *Managing Workplace Safety and Health: The Case of Contract Labor in the U.S. Petrochemical Industry* (July 1991) (report for the Occupational Safety and Health Administration).

<sup>116</sup> *Improving Workplace Safety: Strengthening OSHA Enforcement of Multi-Site Employers Hearing Before the House Comm. On Education and Labor, Subcomm. on Workforce Protections*, 110<sup>th</sup> Cong. (2007) (written testimony of Frank A. White, Senior Vice President, ORC Worldwide).

<sup>117</sup> U.S. Chemical Safety and Hazard Investigation Board Investigation Report, *supra* note 88.

<sup>118</sup> *The BP-Texas City Disaster and Worker Safety Hearing Before the House Comm. on Education And Labor*, 110<sup>th</sup> Cong. (2007).

<sup>119</sup> NATIONAL ACADEMY OF SCIENCES, *supra* note 9.

Although the Occupational Safety and Health Act of 1970 requires the Department of Labor to collect and compile statistics on the extent of occupational injuries, illnesses and fatalities in the United States, and requires employers to keep accurate records of workplace injuries, illnesses and deaths, strong evidence from academic studies, media reports and worker testimony cast serious doubt on the accuracy of these numbers.

This report has reviewed the importance of accurate recordkeeping, evidence that injuries and illnesses are significantly underreported, the reasons why injury and illness statistics are underreported, methods that some employers use to discourage reporting, and OSHA's failure to address these problems.

If policy makers are going to be able to assess the success or failure of this country's efforts to address the problem of workplace death and injury, accurate statistics are essential. And if workers are to have faith in the system, they must also have faith that OSHA and policy makers are aware of the hazards that workers face and the injuries and illnesses they suffer.

It is incumbent on the Occupational Safety and Health Administration and Bureau of Labor Statistics, working with other agencies and experts, to assess the full extent of this problem and develop solutions.

## **Appendix 1: House Hearings on Worker Health and Safety, 110th Congress**

*"The BP-Texas City Disaster and Worker Safety"*

Full Committee

Thursday, March 22, 2007

*"Protecting the Health and Safety of America's Mine Workers"*

Full Committee

Wednesday, March 28, 2007

*"Have OSHA Standards Kept up with Workplace Hazards?"*

Subcommittee on Workforce Protections

Tuesday, April 24, 2007

*"Evaluating the Effectiveness of MSHA's Mine Safety and Health Programs"*

Full Committee

Wednesday, May 16, 2007

*"Workplace Safety: Why do Millions of Workers Remain without OSHA Coverage?"*

Subcommittee on Workforce Protections

Tuesday, May 24, 2007

*"The S-MINER Act (H.R. 2768) and the Miner Health Enhancement Act of 2007 (H.R. 2769)"*

Subcommittee on Workforce Protections

Thursday, July 26, 2007

*"Why Weren't 9/11 Recovery Workers Protected at the World Trade Center?"*

Full Committee

Wednesday, September 12, 2007

*"Workplace Tragedies: Examining Problems and Solutions"*

Subcommittee on Workforce Protections

Monday, January 14, 2008

*"H.R. 5522, The Combustible Dust Explosion and Fire Prevention Act of 2008"*

Full Committee

Wednesday, March 12, 2008

*"Improving Workplace Safety: Strengthening OSHA Enforcement of Multi-Site Employers"*

Subcommittee on Workforce Protections

Wednesday, April 23, 2008

## **Appendix 2: Glossary**

ACOEM – American College of Occupational and Environmental Medicine  
ASRS – Aviation Safety Reporting System  
BLS – Bureau of Labor Statistics  
CalOSHA – California OSHA  
CFOI – Census of Fatal Occupational Injuries  
CPS – Current Population Survey  
DOL – Department of Labor  
ED – Emergency Department  
FAA – Federal Aviation Administration  
FRA – Federal Railroad Administration  
GAO – Government Accountability Office  
IRS – Internal Revenue Service  
ITR – Illinois Trauma Registry  
MSDs – musculoskeletal disorders  
NEISS – National Electronic Injury Surveillance System  
NHIS – National Health Interview Survey  
NIOSH – National Institute for Safety and Health  
ODI – OSHA Data Initiative  
OSHA – Occupational Safety and Health Administration  
SOII – Survey of Occupation Injuries and Illnesses  
SST – OSHA’s Site-Specific Targeting program

## **Appendix 3: Academic Study Tables**

### Appendix 3: Academic Study Table

Author(s)		Title/Journal	Data Used	Methods	Results
Leslie I. Boden and Al Ozonoff	2008	Capture-recapture Estimates of Nonfatal Workplace Injuries and Illnesses, <i>Annals of Epidemiology</i> (Vol. 18, pg. 500)	Bureau of Labor Statistics Survey of Occupational Injuries and Illnesses (SOII) and workers' compensation records, 1998- 2002	The researchers linked individual case records for establishments reporting to the BLS and individual case records from workers' compensation data for 1998 to 2002 from six states: Minnesota, Wisconsin, New Mexico, Oregon, Washington and West Virginia. They employed capture-recapture analysis, a statistical technique often used in epidemiological studies involving several overlapping, but incomplete data sources, to estimate the proportion of injuries reported.	SOII missed almost 340,000 lost-time injuries in the sampled industries from 1998 to 2002. At most, the BLS survey reported 76 percent of all injuries in the six states in the sampled industries.
Lee S. Friedman and Linda Forst	2007	Occupational Injury Surveillance of Traumatic Injuries in Illinois, Using the Illinois Trauma Registry: 1995-2003, <i>Journal of Occupational and Environmental Medicine</i> (Vol. 49, pg. 401)	Illinois Trauma Registry (ITR)	The researchers used the ITR, which provides detailed, complete data on severe occupational injuries, to estimate the number of Illinois workers who suffered work-related nonfatal traumatic injuries from 1995 to 2003. Since the ITR is a population-based registry and does not depend on employer reporting, it likely reflects a more accurate picture of the trends in occupational injuries than the SOII.	The rate of traumatic workplace injuries in Illinois from 1995 to 2003 was fairly constant. This contradicts the BLS figures, which show a consistent 37.4 percent decline in workplace injuries in the state over the same period.

<p>Lee S. Friedman and Linda Forst</p>	<p>2007</p>	<p>The Impact of OSHA Recordkeeping Regulation Changes on Occupational Injury and Illness Trends in the US: a Time-series Analysis, <i>Occupational Environmental Medicine</i> (Vol. 64, pg. 454)</p>	<p>BLS Survey of Occupational Injuries and Illnesses, 1992-2003</p>	<p>Two changes in OSHA recordkeeping have impacted the agency's data collection. An OSHA recordkeeping rule, first applied in 1995, limited OSHA's access to employer documentation by requiring that all injury and illness data collection occur through mail or electronic transmissions. In 2002, OSHA introduced a new injury and illness reporting form that eliminated the specific category on the reporting form for musculoskeletal disorders. The researchers employed a joint-point regression analysis using SOII time series data to estimate the impact of these recordkeeping changes on the trends in injury and illnesses.</p>	<p>83 percent of the decline in occupational injuries and illnesses reported from 1993 to 2002 can be attributed to the changes in OSHA's recordkeeping.</p>
<p>Kenneth D. Rosenman, Alice Kalush, Mary Jo Reilly et al.</p>	<p>2006</p>	<p>How Much Work-Related Injury and Illness is Missed by the Current System?, <i>Journal of Occupational and Environmental Medicine</i> (Vol. 48, pg. 357)</p>	<p>Bureau of Labor Statistics Survey of Occupational Injuries and Illnesses (SOII), workers' compensation records, OSHA Annual Survey, OSHA Integrated Management Information System, Occupational Disease Report for Michigan, 1999-2001</p>	<p>The researchers matched company and individual records from the SOII to company and individual records in four other Michigan databases: worker's compensation, OSHA Annual Survey, OSHA Integrated Management Information System, and the Occupational Disease Report. They used capture-recapture analysis, a statistical technique often used in epidemiological studies involving several overlapping but incomplete data sources, to estimate the proportion of injuries and illnesses reported</p>	<p>The SOII missed up to 68 percent of work-related injuries and illnesses occurring annually in Michigan from 1999 to 2001. The researchers estimated that the BLS captured only around 31 percent of illnesses and 33 percent of injuries.</p>

<p>Tim Morse, C. Dillon, E. Kenta-Bibi et al.</p>	<p>2005</p>	<p>Trends in Work-related Musculoskeletal Disorder Reports by Year, Type, and Industrial Sector: A Capture-recapture Analysis, <i>American Journal of Industrial Medicine</i> (Vol. 48, pg. 40)</p>	<p>Workers' compensation and physician reporting data for Connecticut, 1995-2001</p>	<p>Using worker's compensation and physician reporting data from Connecticut, the researchers estimated the number of work-related upper-extremity musculoskeletal disorders (MSDs) in Connecticut from 1995 to 2001.</p>	<p>The actual number of upper extremity MSDs was as much as six times higher than reported in the SOII. The researchers conclude that there is no evidence to support the overall declines in musculoskeletal disorders indicated by the BLS survey.</p>
<p>Sara A. Quandt, Joseph G. Grzywacz, Bless Burke et al.</p>	<p>2006</p>	<p>Occupational Illnesses and Injuries among Latino Poultry Workers in Western North Carolina, <i>American Journal of Industrial Medicine</i> (Vol. 49, pg. 343)</p>	<p>Survey data on 200 Latino poultry workers in six counties in western North Carolina</p>	<p>The researchers conducted face-to-face interviews with a representative sample of Latino poultry workers in six western North Carolina counties, collecting data on occupational and psychological health, safety training, and the safety climate inside the processing plant.</p>	<p>Injury and illnesses rates for the Latino poultry workers exceeded rates reported by plants to OSHA. 47 percent of those interviewed reported "poor" or "fair" health. The researchers suggest that many factors could contribute to the lack of injury and illness reporting by immigrants, including language barriers, fear of losing their job, incentive programs that reward low rates of absenteeism, and lack of access to health care.</p>

Theresa Scherzer, Reiner Rugulies, and Niklas Krause	2005	Work-related Pain and Injury and Barriers to Workers' Compensation Among Las Vegas Hotel Room Cleaners. <i>American Journal of Public Health</i> (Vol. 95, pg. 483)	Researcher –collected survey data on unionized hotel room cleaners	The researchers surveyed 941 unionized hotel room cleaners in Las Vegas, NV about work-related pain, injury, disability, and reporting.	Even with unionization, immigrant workers may hesitate to report injuries and illnesses. 75 percent of the workers reported work-related pain, but only 31 percent of reported the pain to management. Only 20 percent filed workers' compensation claims. A fear of getting "in trouble" or being fired was among the primary concerns for workers who did not report their injuries.
Gordon Smith, Helen Wellman, Gary Sorock et al.	2005	Injuries at Work in the US Adult Population: Contributions to the Total Injury Burden. <i>American Journal of Public Health</i> (Vol. 95, pg. 1213)	National Health Interview Survey (NHIS), 1997-1999	Used the NHIS, which includes information on the work-relatedness of injuries, to develop an estimate of the annual at-work injury rate in the U.S. The researchers compared their results to the BLS statistics.	For 1998, the actual number of workplace injuries and illnesses for private industries, currently included in the BLS survey, was 1.4 times higher than the SOI estimate. If government employees and the self-employed are included, then the occupational injury and illness estimate for 1998 rises to 1.8 times the BLS estimate.

<p>S.M. Marsh, S.J. Derk, and L.L. Jackson</p>	<p>2004</p>	<p>Nonfatal Occupational Injuries and Illnesses Among Workers Treated in Hospital Emergency Departments—United States, <i>Morbidity and Mortality Weekly Report</i> (Vol. 55, pg. 449)</p>	<p>National Electronic Injury Surveillance System (NEISS), Bureau of Labor Statistics Survey of Occupational Injuries and Illnesses (SOII) and Current Population Survey</p>	<p>The researchers employed NEISS and CPS to estimate the rate of emergency department (ED)-treated workplace injuries from 1996 to 2004. They compared their findings to the SOII numbers.</p>	<p>There was no substantial reduction in the overall number and rate of ED-treated occupational injuries/illnesses from 1996 to 2004. This finding stands in contrast to the BLS survey, which illustrates a decline in injuries and illnesses for those years. The study reports a rate of work injuries of 2.5 for every 100 workers in 2003. In 2003, the reported BLS rate was 5.0 for every 100 workers. These numbers suggest that 50 percent of workplace injuries resulted in hospitalization - which clearly is not the case. In addition, the study reports a total of 3.4 million injuries and illnesses in 2003 that resulted in hospitalizations, while the BLS total of all injuries and illnesses for 2003 was 4.4 million. That would mean that only 1 million out of 4.3 million injuries did not need hospitalization, also clearly not the case.</p>
--	-------------	--	--	---	---

<p>J. Paul Leigh, James P. Marcin, and Ted R. Miller</p>	<p>2004</p>	<p>An Estimate of the U.S. Government's Undercount of Nonfatal Occupational Injuries, <i>Journal of Occupational and Environmental Medicine</i> (Vol. 46, pg. 10)</p>	<p>Bureau of Labor Statistics Survey of Occupational Injuries and Illnesses (SOII)</p>	<p>To estimate underreporting, the researchers employed separate models for six broad categories of workers: workers included in the SOII, federal government employees, agricultural workers, state and local government employees, non-agricultural self-employed workers, and "other" individuals not covered by the SOII. In developing the models, the researchers made assumptions about the risk of injury in each job category and the likely degree of underreporting given previous studies' findings. This produced varying estimates for each of the six models.</p>	<p>SOII missed between 33 and 69 percent of all work-related injuries and illnesses, when categories of workers currently excluded from the SOII, like government workers, are included in the count.</p>
--	-------------	---	--	--	---

<p>Lenore Azaroff, Charles Levenstein, and David H. Wegman</p>	<p>2002</p>	<p>Occupational Injury and Illness Surveillance: Conceptual Filters Explain Underreporting, <i>American Journal of Public Health</i> (Vol. 92, pg. 1421)</p>	<p>Previous research and reporting on workplace injuries and illnesses</p>	<p>The researchers modify a “filter model” developed for Australia to explain the documentation of work-related injuries and illnesses in the United States.</p>	<p>The model, which relies on previous research, yields significant insight into the sequence of events in injury and illness reporting and the factors that could lead to a failure to report injuries and illnesses at each stage. For example, many factors could prevent the worker from reporting an injury to their supervisor, including the fear of disciplinary action. An injury may not be recorded as a “lost time” incident because a worker, unaware of workers’ compensation benefits, relied on sick leave to recover from an accident.</p>
<p>Marianne P. Brown, Alejandra Domenzain, and Nelliana Villorria-Siebert</p>	<p>2002</p>	<p>Voices From the Margins: Immigrant Worker’s Perceptions of Health and Safety in the Workplace, UCLA Labor Occupational Safety and Health Program, at <a href="http://www.losh.ucla.edu/publications/voicesreport.pdf">http://www.losh.ucla.edu/publications/voicesreport.pdf</a></p>	<p>Researcher-collected survey data on immigrant workers</p>	<p>The researchers surveyed 75 immigrants in the Los Angeles area working in low-wage, low skill jobs in several industries, including the hotel, restaurant, and garment industries. They asked the workers about their opinions, perceptions, and experiences around workplace health and safety.</p>	<p>Only 63 percent of the workers who experienced an injury reported it, and many of the workers knew others who did not report injuries that they suffered. Nearly all of the workers had concerns about their risk of on-the-job injury.</p>
<p>Judith E. Glazner, Joleen Borgerding, Jan T. Lowery et al.</p>	<p>1998</p>	<p>Construction Industry Rates May Exceed National Estimates: Evidence from the Construction of the Denver International Airport, <i>American Journal of Industrial Medicine</i> (Vol. 34, pg. 105)</p>	<p>Bureau of Labor Statistics Survey of Occupational Injuries and Illnesses (SOII), payroll records, workers’ compensation</p>	<p>Used workers’ compensation and payroll data to estimate the total number of lost work-time injuries during the Denver International Airport (DIA) construction project.</p>	<p>The overall injury rate for the DIA project was more than twice the rate reported for the construction industry by the SOII during the project years.</p>



# Central Worker Data Tracking

CONSTRUCTION  
SECTOR COUNCIL



CONSEIL SECTORIEL  
DE LA CONSTRUCTION

A "HOW-TO" GUIDE ON SMART CARD TECHNOLOGY



## The Smart Way to Hire



A card that digitally stores job-related qualifications  
can save hours of processing time and ensure  
that qualified workers are on the job site.

It's called the smart card. And it's been tested and  
fully endorsed by the Construction Sector Council.

This guide explains how the technology works.



# A new approach to tracking worker skills

An important issue for buyers of construction services, employers, and labour groups within construction is how the skills, training and certifications of its workforce are tracked and monitored. The construction industry recognized early on that technology could play a key role in this process, making it easier for employers to keep up with individual skills and training, and for workers to move from one job to another. By commissioning a feasibility study designed to pinpoint the best technology to use, the industry paved the way for the development of a whole new approach to tracking worker skills. Smart card technology was the clear winner, possessing all the right characteristics to make it an effective human resource tool for the construction industry.

With the backing of industry and the findings of the study, the Construction Sector Council (CSC) decided to take the process one step further and test the technology in a real work setting.



**A CSC smart card technology pilot was carried out to:**

- **test the system;**
- **assess how well workers and employers accepted the system;**
- **determine the impact on the organization;**
- **assess the cost of implementing such a system; and**
- **determine if the system met privacy requirements.**

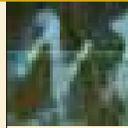
Smart card technology made the grade, and is fully endorsed by the CSC. The purpose of this guide is to explain the results of the pilot, the technology, and assist those who would like to use smart cards in their organization.

## What exactly is a smart card?

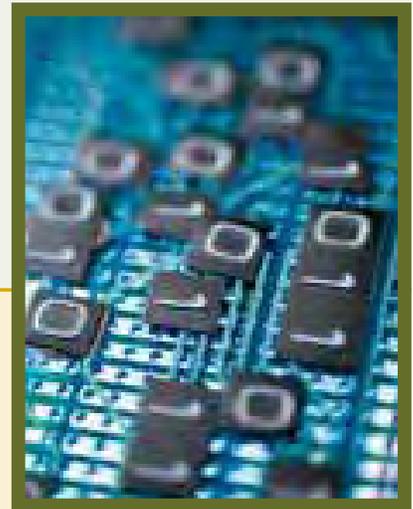


Smart cards contain “key” information as well as actual data, so in effect they are a portable database. A smart card looks like any other plastic card but contains an embedded microcomputer chip. All smart cards must meet International Standards Organization criteria to store information on the chip.

## What’s so great about smart cards?



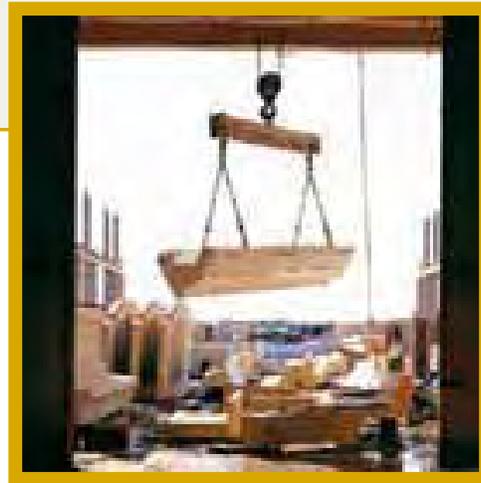
Smart card technology is ideal for tracking the skills, training, and certification of the construction labour force and expediting the hiring of workers onto the job site.



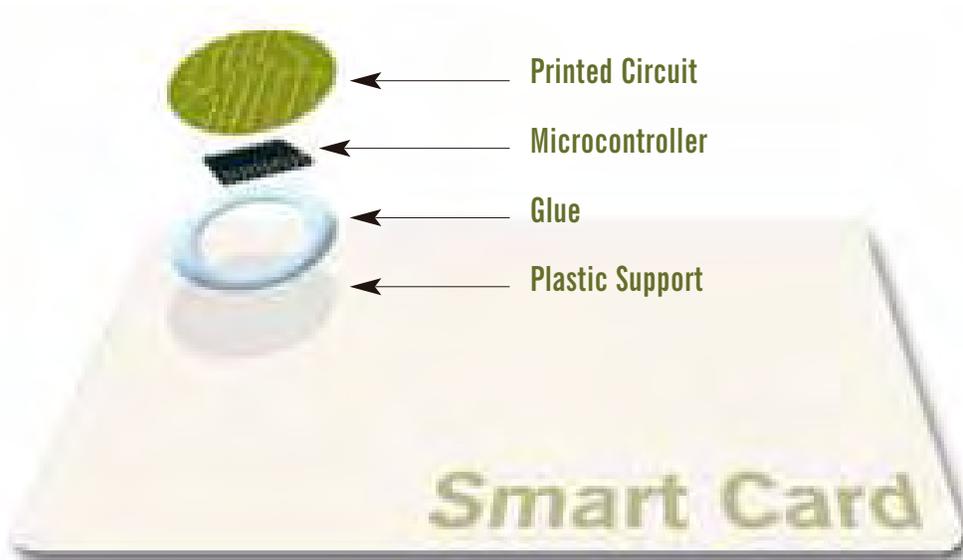
It provides:

- data portability
- universal access
- accuracy and reliability
- ease of updating information
- multi-functions
- ability to overcome fraud
- card durability
- privacy protection
- mutual authentication
- secure writing
- certification or signature
- encryption

Smart cards can carry and process data for all kinds of applications. They are extremely flexible in terms of the type and quantity of information that they can store, and the built-in microprocessor means that data can be captured and updated easily at the work site.



One of the most attractive features of smart cards is that they are extremely safe from unauthorized access. In fact, the smart card is seen as one of the foremost technologies available to handle confidential data, both in terms of privacy and deterring fraud. What protects smart card data is a sophisticated data encryption process, available through both software and hardware.



## Why the construction industry?



Smart card technology and industry experts have discussed numerous applications of smart card technology within the construction industry, but the most striking was the tracking of worker skills, training and certification. The nature of construction work makes a technological solution ideal, and this is why:

**Demand for a highly skilled workforce** – The breadth and scope of construction work is continuously changing and expanding, making it critical for workers to maintain the currency of their skills. This increased emphasis on skills upgrading creates a need for a more sophisticated mechanism to recognize and track training.

ONE PILOT PARTICIPANT SAID,  
“I WOULDN’T HAVE TO CARRY  
TICKETS TO EVERY JOB.”

**Worker mobility** – The construction industry is dependent on the mobility of its workforce. Each time a tradesperson arrives at a new job, he or she must be documented for payroll, taxation, safety and skill qualifications. This process is repeated many times over as workers move from job site to job site, making it both costly and inefficient.



Workers move not only from company to company but from one province/territory to another. There has to be a reliable system for ensuring that the workers who are hired have the required skills and certification for the job.

**ACCORDING TO ANOTHER PILOT PARTICIPANT, “IT WOULD SAVE A LOT OF TIME AT ORIENTATION IF YOU COULD USE THE SYSTEM.”**

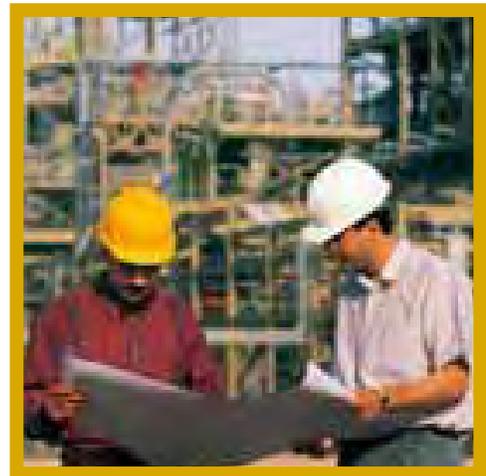
**Worker and public safety** – The contractor and the client company are required by law to ensure that all tradespeople are properly trained to meet the safety requirements of the job site. Having an up-to-date

and reliable training and certification history for each worker avoids duplication of training for qualified workers and ensures that safety training is provided to those who don't meet the requirements.

**Time keeping** – Smart card technology can also be used to track worker time on the job site.

**Employment record keeping** – A smart card offers many benefits to the worker as well as the employer. It can keep track of an individual's employment history, certifications, and training. Workers only have to carry one card, and time-consuming processes like security clearances can be sped up.

Individuals may also want to have some of their medical information carried on the card, so that in the event of an emergency on the job site, life-saving medication or treatment could be dispatched faster.



# What to look for in a card identification system



**C**hoosing the right technology can be tricky, but we've put together a master list of the kinds of functions and features your system should have:

- Security of information, with multiple layers of access;
- Control of the information/database by labour groups or direct-hire employers;
- A governance framework;
- A strategy to address organizational change;
- The capacity to accommodate multiple uses;
- Expansion capabilities;
- Flexible design to accommodate needs of a broad range of industry users;
- Compatibility with existing employer and labour group systems;
- Compatibility with other card systems (one card works across the industry);
- Mechanisms to ensure the accuracy and integrity of the database;
- Frequent and regular updating of all information;
- Cost effectiveness;
- Faster processing time at the job site;
- Use of a proven technology;
- Industry recognition;
- Owner/client (buyers of construction services) acceptance;
- Worker acceptance;
- Control of access through a "PIN" number;
- User-friendly;
- Ability to access information at any location; and
- Durable system to be used in all types of environments.



ANOTHER WORKER WHO PARTICIPATED IN THE  
PILOT SAID: “IT WOULD REDUCE THE TIME I SPEND  
PROVING MY CREDENTIALS.”

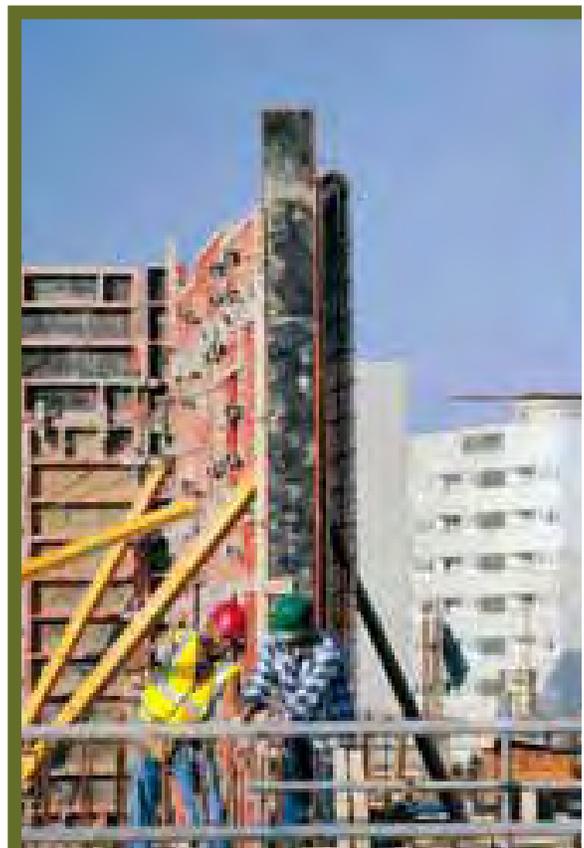
## Cost savings

The CSC believes that a smart card system can save costs by:

- Increasing the accuracy of available information;
- Eliminating the duplication of safety training;
- Incorporating all necessary information on one card; and
- Saving time and resources validating information, as well as hundreds of hours documenting, filing, inputting, and tracking missing information.

The potential for significant cost savings would likely be achieved over time, depending on the scope and volume of use, and they include:

- Cost of wages while processing/ documenting workers onto a job site;
- Reduced person-hours for data entry, verification, filing, follow-up;
- Reductions in duplication of work by connecting into existing company systems such as payroll and time keeping;
- Eliminating repeat orientation and training sessions;
- Ability to know who is on the job site and to access individuals in case of emergency;
- Reduced costs associated with due diligence (e.g. possible fines, etc.).



# Protecting privacy



Any smart card system that collects, retains and utilizes personal information about individuals must comply with the federal government's Personal Information Protection and Electronic Documents Act (PIPEDA). This legislation, which took effect in January 2004, sets out the rules for collecting, using and disclosing personal information so that an individual's right to privacy is protected. The following are ten principles extracted from PIPEDA, and can be used by organizations as a privacy protection assessment checklist.

## **Accountability**

An organization is responsible for personal information under its control and shall designate an individual or individuals to be accountable for the organization's compliance with the following principles.

## **Identifying Purposes**

The purposes for which the personal information is collected shall be identified by the organization at or before the time the information is collected.

## **Consent**

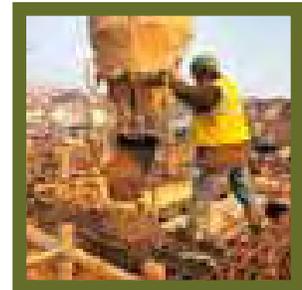
The knowledge and consent of the individual are required for the collection, use or disclosure of personal information, except when inappropriate.

## **Limiting Collection**

The collection of personal information shall be limited to that which is necessary for the purposes identified by the organization. Information shall be collected by fair and lawful means.

## **Limiting Use, Disclosure and Retention**

Personal information shall not be used or disclosed for purposes other than those for which it was collected, except with the consent of the individual or as required by the law. Personal information shall be retained only as long as necessary for the fulfillment of those purposes.



### **Accuracy**

Personal information shall be as accurate, complete and up-to-date as is necessary for the purposes for which it is to be used.

### **Safeguards**

Personal information shall be protected by safeguards appropriate to the sensitivity of the information.

### **Openness**

An organization shall make readily available to individuals specific information about its policies and practices relating to the management of personal information.

### **Individual Access**

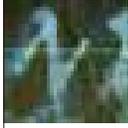
Upon request, an individual shall be informed of the existence, use and disclosure of his or her personal information and shall be given access to that information. An individual shall be able to challenge the accuracy and completeness of the information and have it amended as appropriate.

### **Challenging Compliance**

An individual shall be able to address a challenge concerning compliance with the above principles to the designated individual or individuals for the organization's compliance.



# Putting the technology into practice



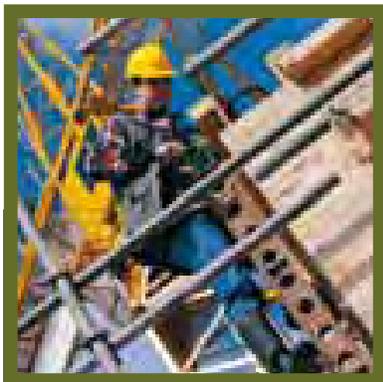
**B**efore setting up any kind of smart card system, organizations must be prepared to invest time and resources, both for putting the system into practice, and maintaining it. Organizations will need to invest in training personnel on the system. One of their first tasks will be to create an accurate data base, which will serve as the backbone of the system. Personnel will be required not only to get the right data in the first place, but to watch for inaccuracies, track them down, and correct them. Modifying data is an ongoing and essential requirement.

## A step by step approach

It is very important to take a step-by-step approach when implementing the smart card system. Employers and employees must fully understand and buy into the system for it to work effectively. Experience with the pilot project suggests the following steps to ensure success:

### 1. Buy-in

Any marketing strategies must take into account the needs and issues of buyers of construction, employers, labour groups, as well as the workers. This support is critical, and should be secured at the beginning of the process. Workers need to be informed about the smart card technology and consulted on the process. Involving workers with greater “voice” or influence in the process improves the likelihood of buy-in. Issues such as privacy of information and security need to be discussed openly, and workers must be able to see the benefits to them. Equally important is the support from buyers of construction and employers, who must be able to see the direct benefit of smart cards.



Buy-in also results from a clear understanding of the organizational change, or the impact on the operations, that will result from smart card technology. These changes must be identified and addressed early on in the process, and may include issues such as the ability of the technology to integrate into the existing operations of the organization.

## 2. Governance

Advice and direction from individuals who are going to be involved with the technology, as well as the experts who are implementing it, are equally important.

Any arrangements with agencies that may be supplying or accessing information, such as health and safety organizations, should be worked out at the beginning and clearly articulated in writing.



Smart card technology should also be guided and directed by all those involved in the management and use of the technology. The following are suggested committee structures to ensure that everyone is represented.

### **Industry (Buyers of Construction, Labour, and Employers) Advisory Committee**

An Industry Advisory Committee should be established to review smart card technology on an annual basis, and recommend operational action and policies, or privacy and security policy changes, based on the changing needs of a construction project. This committee should include the key stakeholders involved in a construction project, which typically includes the buyers of construction services, labour, and employers.



### **Administrative Smart Card Technology Committee**

The Administrative Smart Card Technology Committee would provide direction on administrative issues related to the day-to-day functioning of smart card technology. This would include the coordination and communication between the operations of the organization and the smart card system.

### **Smart Card Committee**

The Smart Card Committee would work to resolve issues and problems that may arise with the technology of the system, as well as considering ways to improve its functionality. This committee would be comprised of technical experts.

## **3. Vendor selection**

There are several vendors capable of designing and developing this type of application, and selecting the most suitable company is important to the process. The Association of Card Technology may be useful in finding firms that specialize in smart card technology ([www.actcda.com](http://www.actcda.com)), as well as others.

Organizations should use a formal bidding process in selecting the best firm, and may wish to consider the following criteria:

- proven track record on projects of similar size and scope;
- understanding and direct experience with smart card technology;
- ability to design a system that is compatible with other systems; and
- ability to provide a system to support multiple organizations.

## **4. Functional requirements**

It is important to develop a detailed set of functional requirements, including infrastructure requirements, for the smart card system. This can be used as the basis for all system development.

## 5. Security standards

Early on in the process it is very important to get agreement on the minimum security standards, including:

- who has access to what information; and
- how access will be secured (e.g. passwords).

## 6. Data consistency

It is recognized that there are several vendors who can provide smart card technology to the industry. It is desirable to have a consistent information base to facilitate the movement of workers from project to project. The following common information base is a starting point that should be considered when designing a system:

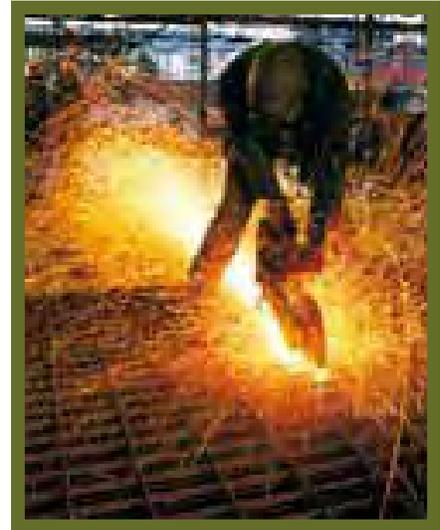
- **First and Last Name**
- **Gender**
- **Address**
- **Day Phone**
- **Evening Phone**
- **Emergency Contact Information**
- **Labour Group Status**
- **Trade (or Occupation)**
- **Status (Apprentice, Journeyperson)**
- **Trade Certifications**
  - **Date Issued**
  - **Date Expires**
- **Interprovincial/Red Seal**
- **Health and Safety Certifications**
  - **Date Issued**
  - **Date Expires**





## 7. Data management

Determine who will manage the data. This is a controversial aspect and worth careful consideration. There are two options: management by the organization (e.g. employer, labour group); or third party management. Experience in the construction industry suggests that management by the organization is the best approach, usually through a committee of key stakeholders. Security and access to the data must be closely managed, for example, through frequent and regular reports on who is accessing what information and when.



## 8. Costing

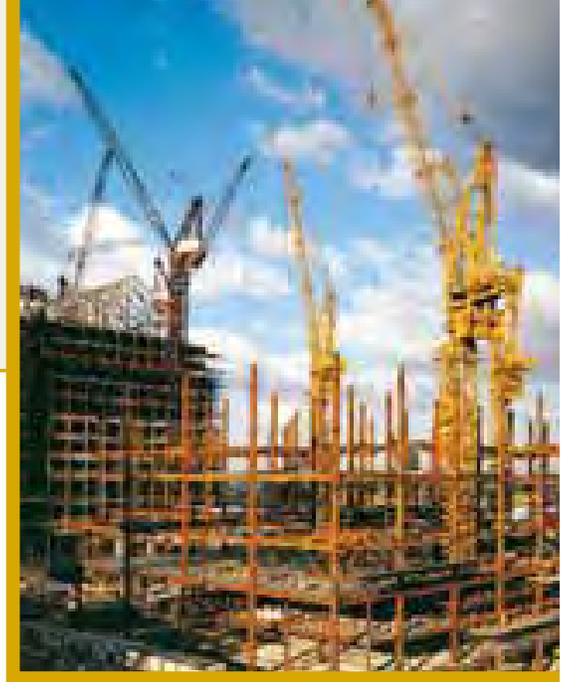
Obtain a clear delineation of all costs as early on in the process as possible and test out the cost breakdowns in a pilot. Costing can be difficult to estimate because volume has a critical impact on the cost. However, organizations should try to estimate short-term and long-term volumes in an attempt to understand both short and long-term costs and savings.

## 9. Pilot test

A comprehensive pilot test of the system is essential. The test process should include the following:

- designing, documenting and communicating the pilot to all participants prior to going ahead;

- building information about the smart card and its uses into employee orientation programs;
- making key stakeholders aware of the required commitment and expectations;
- developing a pilot test project plan, including the required tasks and resources required prior to the test, during the test, and in the follow-up; and
- identifying milestone review points to ensure work does not progress until all parties have met their requirements.



## **10. Information privacy handbook**

Develop an Information Privacy handbook to guide organizations participating in a pilot project or in implementing the smart card system. This handbook should detail their responsibilities, the required procedures that must be implemented, and proposed channels for communications and announcements. This handbook must set out the ground rules for how the organization collects, uses or discloses an individual's personal information, based on the federal (and where in force provincial) government's Personal Information Protection and Electronic Documents Act.

## **11. Reporting and audit**

Put reporting and audit systems in place to monitor and produce reports on data usage, costs, benefits, and issues on a regular basis. In this way, problems can be identified and addressed early on and the system can remain current with stakeholder needs.

## Next steps? Contact the CSC for a free demonstration

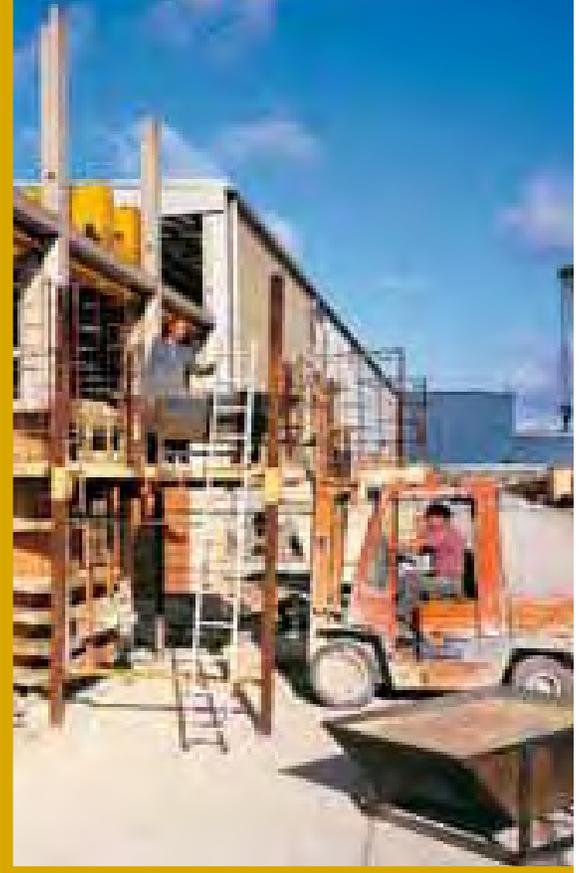


The construction industry has a unique opportunity to adopt smart card technology and to benefit from the work done so far. During the original study and subsequent pilot projects, many stakeholders in the construction industry expressed interest in smart card technology. It isn't surprising, given the many uses that have been envisioned for smart cards, including documenting worker skills, training, and certifications, time keeping, medical alerts, and much more. The pilots have demonstrated that smart card technology can meet the needs of the industry. What remains is for buyers of construction services, employers, and labour groups to adopt smart card technology in real work situations. Of course the successful adoption of the technology must be driven by the industry, and in response to an identified need. As the demand for higher skill levels and safety standards grows, smart cards may be just the tool the industry needs.

The CSC believes that smart card technology provides an excellent way to document the skills, training, and certification of construction workers, although we acknowledge that it may not be a viable solution for all segments of construction. We also believe that smart card technology has many more applications within the construction industry, and we hope that interested organizations will pursue this further and keep us informed.

For those organizations interested in looking into smart card technology, the CSC houses the hardware and software used in the pilot projects and we would be happy to demonstrate the system's potential.

**THE CONSTRUCTION SECTOR COUNCIL** is a national partnership organization comprised of labour and management leaders whose mandate is to address the current and future human resource needs of the construction industry. The CSC is one of more than 25 such sector councils in Canada.



The CSC works with all segments of the industry; including new home building and renovation, institutional/ commercial/ industrial, and civil engineering. The work of the CSC is carried out through partnerships with specific trades or segments of construction. Through these partnerships, the CSC tackles a number of complex challenges facing the industry, including skill and labour shortages, the issues of labour supply and demand, interprovincial mobility, and the impact of information technologies on the industry.

The smart card can save you time  
and money, while ensuring that qualified  
workers are on the job site.

Contact the Construction Sector Council today for a free demonstration  
of how smart card technology can work for you.

Construction Sector Council  
220 Laurier Ave. W., Suite 1150  
Ottawa, ON K1P 5Z9  
Tel: (613) 569-5552  
Fax: (613) 569-1220  
[info@csc-ca.org](mailto:info@csc-ca.org)  
[www.csc-ca.org](http://www.csc-ca.org)

*Funding for this project was provided by  
the Government of Canada's Sector Council Program.*

Canada



## Washington State Responder Credentialing System

This section provides background information and research results on issues related to emergency responder credentialing in Washington State and to offer recommendations to the Committee on Homeland Security for future credentialing efforts, as well as potential criteria for a credentialing system. Smart cards, as well as other potential credentialing system components are discussed in Appendix 3.

### **Credentialing Process**

What do we mean when we say “credential”? Law enforcement personnel call their badge a “credential.” Hospitals refer to the process of allowing doctors to practice in their facilities as “credentialing.” For the purposes of this discussion, we will be exploring both types of credentials:

- ▶ A factor entitling one to confidence, credit, or authority
- ▶ Physical evidence attesting to one’s credit, confidence, or authority

Credentialing criteria refer to the qualifications and experiences of individuals to perform in a specific profession. The concept of credentialing is being promoted by federal agencies, such as the Office for Domestic Preparedness (ODP), but the lack of generalized standards limits their usefulness on a national basis at this point. A physical credential would likely take the form of an identification card which holds information on the responder who carries it.

Who needs to be credentialed? The Department of Homeland Security (DHS) recognizes a dozen first responder disciplines, as well as volunteers, likely to be involved in the response to any widespread terrorist attack or natural disaster. Many of these paid personnel and volunteers already carry something they would identify as a credential or identification card issued by their jurisdiction or discipline. The challenge is to develop a common or standard credential which would be recognized throughout the region (or, potentially, the entire nation).

The National Incident Management System (NIMS) defines credentialing as “providing documentation that can authenticate and verify the certification and identity of designated incident managers and emergency responders. This system helps ensure that personnel representing various jurisdictional levels and functional disciplines possess a minimum common level of training, currency, experience, physical and mental fitness, and capability for the incident management or emergency responder position they are tasked to fill.”

Accurate and rapid tracking of units and individual personnel at a large-scale disaster site is crucial. On-scene commanders need a good handle on WHO is on the scene, with WHAT certifications, training and capabilities they bring with them, WHEN did they arrive and depart, and WHERE are they located or

assigned. Initially, credentialing efforts in the United States have centered on serving as a reflection of certifications and standards achieved by individuals. However, two additional motivations are now cited: Perimeter and scene control, and responder health and safety.

HSI staff had the opportunity to discuss credentialing issues with supervisory personnel who worked the scene in Manhattan and at the Pentagon on 9/11. We have also been able to query federal, state, and local officials who were involved in the response to the Oklahoma City attack in 1995. In Oklahoma, over 28,000 first responders poured into the area in the week following the explosion. Even in this relatively benign environment (no radiation, chemicals, or biohazard), it took emergency managers nearly two weeks to set up an ad hoc credentialing system which would allow them to deploy assets in a systematic and secure fashion. In the face of a WMD incident, or a natural disaster (such as a pandemic flu) where the threat agent both lingers and spreads, the need to control access, deploy self-responders in an effective manner, and manage a wide-area response effort will be much more difficult. Given this threat, an investment in a pre-incident credentialing system may be a wise investment.

As part of HSI's recent Emergency Responder Training Interviews, subjects were asked whether "Standardized training could be used as a basis for credentialing emergency responders. Do you think that credentialing is needed or beneficial? Why?" The great preponderance of respondents believe that credentialing should be a natural outgrowth of setting standards. Interviewees feel a standard, statewide system will enable the assembly of more coherent response teams on a much shorter notice. A few individuals noted that the provision of a physical credential will also prompt many more personnel to complete the requirements within a standard. Beyond its utility in crisis response, a credential is seen as beneficial to individuals seeking portability of certified skills beyond their local jurisdiction, particularly in the case of those looking for new jobs.

## **Federal Efforts**

The NIC is charged with developing systems which:

- ◆ Provide uniform certification programs that allow responders to provide mutual aid nationwide
- ◆ Ensure the proper identification of emergency responders
- ◆ Work in tandem with existing discipline credentialing bodies and states

The federal government has contracted with the Titan Corporation to pursue its credentialing goals. The initial aim is to create a National Emergency Responder Credentialing System which will be used to "routinely identify and dispatch emergency responders." A follow-on aspiration is to document credentialing "through a nationally accepted form of identification and/or through a record-keeping system, as required by NIMS."

The federal government believes a national credentialing system is necessary to:

- ◆ Help governments at all levels identify, request, and dispatch qualified emergency responders from other jurisdictions when needed.
- ◆ Serve to prevent unauthorized access to an incident site.

The NIC has put together working groups to classify positions which could be credentialed. These groups are tasked with identifying minimum qualifications, certification, licensing, education and training for each job title. Working groups currently active include Emergency Medical Services, Incident Management, Public Works, Fire/HAZMAT, and Search and Rescue.

HSI staff had a dialogue with Ivan Parkinson, Titan Corporation's credentialing project manager. He stated three individuals from Washington State are participating. All of them are a part of the Incident Management Working Group:

- ◆ Brian Calvert, Benton County Emergency Management; (509) 628-8471
- ◆ Jim Kadrmas, Emergency Management Division (EMD); (253) 512-7027
- ◆ Jim Mullen, Director (EMD); (253) 512-7001

Mr. Kadrmas told HSI that the Incident Management group had teleconferenced three times, and met once (Atlanta, 11/05). Thus far, the group has produced a problem statement and identified positions within both Incident Command and Emergency Management, which may need to be credentialed. This effort is in a formative stage. The NIC wants to involve state and local stakeholders in an effort to build the national consensus it feels will be required to include credentialing as an element of the National Mutual Aid and Resource Management Initiative.

Mr. Parkinson related that there is no compendium of state efforts regarding credentialing. He stated the lack of knowledge regarding state and local credentialing projects has presented a challenge for the federal work in this area. HSI staff committed to providing a summary of our research efforts, and the NIC will be provided a copy of this report.

The DHS First Responder Program "plans" to issue credentials to first responders so that the identity card they use in their daily routine can become their crisis identity card when needed. Craig Wilson, (speaking at the Smart Card Alliance Fall 2005 conference) on behalf of the program, stated the ID credentials will be consistent with the new federal government standards that call for smart card technology. The common trusted identity smart card, currently being slowly

implemented across the U.S. federal government, directly addresses this issue. During his address, Wilson gave some real life examples of emergency response scenarios where trained personnel were hindered due to a lack of a trusted common identity between federal, state, and local authorities.

The NIC, however, does not plan to actually issue credentials. The federal goal is to construct a framework which state and local jurisdictions can use in their credentialing efforts. While the NIC's goal is to set protocols and standards, it views the issuance of credentials as primarily a state responsibility.

## **Other States' Efforts**

As part of HSI's research effort we studied recent attempts by other states and local jurisdictions to construct credentialing systems. Many jurisdictions are struggling with relevant and pragmatic criteria. DHS has begun its own research efforts, but has yet to offer any guidelines to states.

The most relevant projects which are planned or ongoing include:

### Washington DC

Starting in January 2006, about 200,000 first responders in the Washington metropolitan area will receive biometric smart card IDs that will allow secure cooperation at sites where federal as well as state and local first responders are called in. The First Responder Partnership Initiative includes emergency personnel from the City of Washington, Montgomery and Prince George's counties in Maryland, and Arlington, Fairfax and Prince William counties in Virginia. Officials supporting the initiative said they want the program to serve as a model for other regions to enhance cooperation and efficiency between state and local first responders and their federal counterparts. The card will identify first responders and their qualifications at the scene of an incident, allowing them to move into and out of secured areas. It can also serve as a platform for physical access to buildings, access to networks, human resource asset accountability, incident command and control, property/firearms accountability and National Incident Management System integration. The partnership is greatly aided by the high concentration of federal and military personnel in the Washington DC area. The federal government has made tremendous headway, particularly within the military, towards uniform issuance of standardized smart cards.

### Maine

HSI staff had a dialogue with members of Maine's Emergency Management Agency (EMA) who have begun some basic credentialing work. EMA has been issuing ID's for several years, beginning with HAZMAT personnel, and now expanding to include other emergency response personnel. Their format is a simple one. On the front of the card is the EMA symbol, along with a picture of

the individual, name, title, and agency they work for. NIMS/ICS and HAZMAT-related training is denoted on the front with colored-coded stripes and inset writing describing levels. The back of the card includes information on medical/first aid and fire-fighting training, along with an issue date and an expiration date. There is a signature block for designated chiefs within regional jurisdictions. In support of the card, responders are asked to complete a qualification form which identifies training completed, together with personal information. As opposed to the “smart” cards described in the First Responder Partnership Initiative (above), Maine’s system relies on simplicity.

## New Jersey

New Jersey, which has identified nearly 145,000 first responders in-state, recently launched a training and tracking program which relates directly to credentialing efforts. A three-year, \$2.5 million contract with GeoLearning Corporation is to provide assessments of individual competencies in security-related skills as well as compilations of detailed student training records on each participant. It also tracks attendance and performance records for a database used by emergency management teams when planning for and responding to disasters. While the project does not call for the provision of a physical credential, it is intended to be employed by emergency managers when responding to disasters. In theory, the system will allow planners to identify and contact responders with needed skills in the geographic proximity of an incident. At the time of this report, New Jersey officials were undecided on pursuing a smart card credential derived from GeoLearning project records.

## Illinois

The State of Illinois had ambitious plans in the credentialing arena. The Illinois Terrorism Task Force (ITTF) Annual Report (2003) called for the “development and implementation of a secure credentialing and identification system, beginning with the state and local response teams.” Illinois intends to eventually pre-issue smart card credentials to up to 100,000 emergency responders. The credentials will be printed with photo ID. The embedded chip will include fingerprint biometrics, an identity certificate issued by the state, and signed certifications of completed training. The system’s components will include a secure web portal which will allow cleared individuals to enroll team members and manage certifications, as well as activate credentials and update data. A card management system will provide for the production and issuance of the smart cards. The field application includes a rugged laptop with a smartcard and fingerprint reader, which will verify identity with a single scan, confirm certifications, and site arrivals and departures. The pilot project calls for the issuing of 5,000 credentials.

## New York

Marian Marrocolo, a planner with New York City’s Office of Emergency Management (OEM), informed HSI staff that NYC has no **pre**-credentialing

system planned or in place. NYC does have a strong **post**-incident system which supports perimeter security and access control. In the wake of the 9/11 attack on the World Trade Center, NYC OEM found the production, distribution, and validation of credentials was a massive, but critical, undertaking. OEM had to quickly develop a system that would produce credentials which are hard to counterfeit and allow those with different clearance levels into appropriate areas. The credential they developed was used in conjunction with an entity-issued identification. NYC was also very supportive of Corporate Emergency Access System (CEAS), a credentialing program developed by the Business Network of Emergency Resources (BNet) (see below). For NYC, a common, cross-discipline credential does not make sense, as most emergency responders are city employees; within the immediate urban area there are a limited number of discipline-specific credentials being utilized.

## Missouri

The St Louis Area Regional Response System (STARRS), an interdisciplinary partnership of eight counties, included the implementation of a “universal ID credential for first responders and healthcare workers”, utilizing UASI funds, as part of its 2004 strategy. HSI staff interviewed Margaret Hale, STARRS Deputy Director. Ms Hale informed us that, following several program delays, STARRS will be entering the implementation phase of its credentialing program in January, 2006. The “Universal ID Project” will begin by issuing cards to fire, police and EMS personnel. They hope to extend UASI funding to offer the cards to other emergency response disciplines eventually. Ms Hale referred us to the primary contractor for the project, the Regional Justice Information Service Commission (REJIS). HSI contacted Mr. Paul Newhouse, REJIS General Manager, who shared a great deal of information on the project. He stated that they had conducted a long development phase, in conjunction with user groups, to establish requirements. REJIS then sought out and compared suppliers for project components. The programming phase has now been completed and full production status is expected in February 2006. The card will eventually supplant, not supplement, existing first responder IDs. The card includes a photograph, bar code, and a small section for local jurisdictions to place their own seal or logo. The bar code contains personal demographic data, but most of the data, including certified course completions and skill sets, i.e. languages spoken, is held on the central project server located at REJIS. Information is entered by local jurisdictions. This was done so that the system is not seen as autocratic. An individual’s organization makes a decision as to what information is to be shared within the system. It is agreed that whatever data is entered can be shared among first response organizations in the eight-county area. There is still an ongoing discussion as to how long the cards will be valid. This is being driven by security concerns versus costs. Those costs are expected to be “as little as several dollars per card once the system is fully realized” according to Newhouse. There is also continuing discussion about future inclusion of medical

information within the system. REJIS has also been asked to study the possibility of leveraging the Universal ID Project to provide temporary IDs to volunteers, and to consider merging data with B-Team software currently being implemented at all eight EOCs in the STARRS area. Mr. Newhouse stated that REJIS would be willing to share lessons learned as they begin to implement the project in 2006.

## **Responder Health and Safety**

In addition to the initial motivations for credentialing efforts, some efforts are now being made to respond to worker health and safety concerns.

Several organizations, including the Center to Protect Workers Rights and the Operating Engineers National HAZMAT Program are piloting “smart” cards containing small chips capable of holding enormous amounts of information about the worker, including all of the training that is current, respirator fit, medical testing information, and security clearance. These credentialing efforts center on worker safety issues.

The report, Protecting Emergency Responders, Volume 3: Safety Management in Disaster and Terrorism Response, from the federal Department of Health and Human Services states that:

“The emergency response community should put in place structures and preparedness efforts that will formalize an integrated, incident-wide approach to safety management at major disaster response operations. Just as a key goal of the ICS is to facilitate integration of many operational assets as the demands of a response operation increase, mechanisms must be available to allow safety management efforts to scale up as well. Effective safety management requires mechanisms to provide for the safety needs of all responders, including any volunteers. Safety management depends on knowing who is operating at the disaster scene and in what capacities. Personnel accountability systems are a source of this information.”

Study discussions with responders suggest that there is broad agreement on the importance of scene control as a safety enforcement strategy. If a hard perimeter can be put in place around a scene and the entry points controlled, crossing the perimeter becomes an opportunity to make certain that all responders entering the scene are informed, trained, and equipped in accordance with the response safety procedures. Responders who are not in compliance can be identified and denied access to the scene.

## **Credentialing Recommendations**

In order to achieve any meaningful advance beyond current, jurisdiction/organization-based ID systems, any Washington State credential

which is developed should be based on shared, perhaps mandated, cross-discipline standards. HSI believes that the place to begin a statewide conversation on credentialing is with the more difficult discussion of barriers to the creation of training standards.

**If** we are able to agree on specific standards, a common credential could then follow. Our challenge is to develop a scalable system which has hardened components and which can operate under difficult conditions. In order to be cost-effective and sustainable, system components must also serve a day-to-day purpose for emergency responders at all levels. The State-issued credential would have to supplant or be incorporated into local ID's, otherwise individuals would need to carry multiple cards, and, inevitably the State credential would be left at home on the one day it is needed.

There is no lack of private providers willing to supply systems and components to meet this perceived requirement. If HSI were asked to make a specific recommendation on an existing provider, we would recommend an examination of systems currently being offered by GeoLearning. The State of New Jersey (see above), as well as the Department of Homeland Security, have contracted with GeoLearning to construct and administer learning management systems (LMS) which may support cross-discipline credentialing in the future. In Washington State, the Department of Health and the Department of Personnel have both entered into agreements with GeoLearning for LMS systems to support training for their staffs. The difficult part of any credentialing "system" is the construction and maintenance of a training and standards tracking system, which is what GeoLearning provides. Introduction of a SMART card and an on-site reader system can easily be acquired if a certification system is extant.

With enough time and resource, a cross-disciplinary credentialing system could be constructed in Washington State. However, given current conditions (growing apathy concerning homeland security in the absence of domestic follow-on attacks to 9/11; lack of centralized authority in a "home rule" state; diminishing funding for preparedness projects) we believe a rational cost-benefit analysis would preclude any major immediate investment in a credentialing system. In the absence of any precise guidelines, or even general protocols from the Department of Homeland Security it would be difficult to achieve any high degree of confidence that any current effort on the State's part would mesh with a future national effort.

There are, however, some steps which could be taken now. Specifically, the Homeland Security Institute recommends:

**Recommendation:**

Creation of a disappearing task force (DTF) of State identification system experts, emergency managers, and first response personnel, tasked with studying credentials currently being utilized by local jurisdictions in Washington,

with a goal of recommending a common format and standard. Using this report as a starting point, the DTF will present their findings to the Committee for Homeland Security. Given clear direction, and enough time, a State credential could be established through adoption of uniform standards for individual identification cards (issued locally) across all of the emergency response disciplines.

**Recommendation:**

Key personnel from within the State should remain active participants in the NIMS Integration Center working group for the National Emergency Responder Credentialing System.

**Recommendation:**

The State can aggressively pursue competitive grant funding (separate from existing formula-grant resource) which would support a credentialing pilot project.

**Recommendation:**

Lessons learned can be compiled from other states which are attempting to put together credentialing systems. HSI cannot currently recommend any single ongoing effort as a template for Washington's plan. The First Responder Partnership Initiative, covering the Washington DC region, should be closely monitored as it begins its implementation phase in 2006.

**Recommendation:**

The Emergency Management Council should adopt recommended State training standards, upon which a credentialing system could begin to be established.

**Criteria for any *future* Washington State Emergency Responder Credentialing System should include consideration of:**

- The setting of cross-discipline standards as a baseline to ensure reasonable levels of both quality and uniformity are met.
- An ability to seamlessly merge with any future National Emergency Responder Credentialing System.
- Creation of a State registry of certified individuals, including course completions, contact information, and certifications. HSI has constructed a database of certified homeland security trainers based on input from the State Emergency Management Division as well as regional and county emergency managers.

- Utilization of proven SMART card technology and robust on-scene readers in the provision of any physical system components.

- Incorporation of current discipline-specific certification efforts to ensure these programs are complimentary to cross-discipline credentialing.

**To read the full report, Click on Projects > First Responders**

## *NIMS Alert*

### RESOURCE MANAGEMENT

#### **Credentialing**

The NIMS Integration Center is developing a national credentialing system that will help verify, quickly and accurately, the identity and qualifications of emergency personnel responding to an incident. The National Emergency Responder Credentialing System will document minimum professional qualifications, certifications, training and education requirements that define the standards required for specific emergency response functional positions.

The Center is using working groups to identify job titles to be credentialed and the qualifications and training required. Working groups will focus on the following: Incident Management, Emergency Medical Services, Fire/Hazardous Materials/ Law Enforcement, Medical and Public Health, Public Works and Search and Rescue. Although subject matter experts for these working groups have already been identified, the NIC welcomes your participation into our stakeholder review group. As a stakeholder, you will receive updates on working groups' progress and will be able to review draft documents under development.

If you would like to participate as a stakeholder, please contact the NIC at 202.646.3850 or by e-mail at: [FEMA-NIMS@dhs.gov](mailto:FEMA-NIMS@dhs.gov)

#### **Resource Credentialing**

Q: What is the status of the credentialing initiative?

A: In FY 2007, the NIC will facilitate the 5 existing discipline groups (EMS, SAR, Public Works, Incident Management and Fire/Hazmat), and 3 new groups (Law Enforcement, Health & Medical, and Animal Control). Additional credentialing efforts are being supported by the NIC through technical consultation and advice to various groups. This includes Association of State and Territorial Health Officials, Public Health, National Emergency Number Association (NENA)/Association of Public Safety Communications Officials (APCO), and the DHS Office of Grants and Training Target Capabilities List Working Groups.

Additionally, the DHS Science and Technology Directorate and the National Institute for Standards and Technology (NIST) are working to establish a working group to extend the FIPS-201 SmartCard standard

to address more than identity vetting by specifying the storage allocation of data features, data structures and essential information such as affiliations, qualifications etc. to ensure the various FIPS-201 implementations will be interoperable nationally.

Finally the universal business processes for the credentialing system will be developed covering the selection of accrediting agencies, selection of persons to be credentialed, selection of level of badging persons required by discipline, and the authentication of issued cards.

Q: The NIMS document mentions a credentialing system tied to training and certification standards. Is there a national credentialing system in place that we need to follow?

A: The development of a nationwide credentialing system is a fundamental component of NIMS. A national credentialing system can document minimum professional qualifications, certifications, training and education requirements that define baseline criteria expected of emergency response professionals and volunteers for deployment as mutual aid to disasters.

While such a system is meant to verify the identity and qualifications of emergency responders, it does not provide automatic access to an incident site. The credentialing system can help prevent unauthorized, i.e., self-dispatched or unqualified personnel, access to an incident site.

To support this credentialing initiative, the Center will use working groups to identify positions that should be credentialed and the minimum qualification, certification, training and education requirements for each position. The groups will represent the following disciplines:

- Incident Management
- Emergency Medical Services
- Fire Fighting and Hazardous Materials Response
- Law Enforcement
- Health Care
- Public Health
- Public Works
- Search & Rescue
- Animal Control / Veterinary

In addition to these NIC discipline groups the NIC is working with other organizations to assist their development of credentialing for their disciplines, such as the APCO/NENA initiative to credential emergency dispatchers, and the Citizen Corps initiative for credentialing volunteers.

Although the National Integration Center (NIC) Incident Management Systems Division has identified subject matter experts for its working groups, the Center requests notification of all existing credentialing efforts, regardless of discipline.

The NIC welcomes your participation into our stakeholder review group. As a stakeholder, you will receive updates concerning the working group process and be able to review and provide feedback on the draft products that are developed. If you are interested in participating as a stakeholder, please send an e-mail to: [FEMA-NIMS@dhs.gov](mailto:FEMA-NIMS@dhs.gov).

Q: The current listing of 120 "typed" resources. What is the specific process for making changes to those typed resources? How is it reviewed (against what standards), and by whom?

A: The 120 typed resources were developed by discipline groups in 2002 and 2003. In 2004, the list of 120 typed resources was posted for national review and comment. In 2005, the NIC added a Fire Truck based on comments received. Changes to resources are based on comments received from individuals or groups indicating a need for change. For example, the listing for Bomb Squads was revised based on comments from the Captains of Bomb Squads.

The only standard for Resource Typing is contained in Appendix B to the NIMS. However, the Appendix does not include enough guidance to produce nationally consistent resource definitions. Therefore, resource typing needs to be developed and offered for national comment to find a consensus. This is the process that has been used since 2002.

### **NIMS and Mutual Aid**

Q: NIMS promotes the use of state and local mutual aid to help local jurisdictions better handle large-scale disasters. Where can I find information on how to write a mutual aid agreement?

A: The National Emergency Management Association (NEMA), in coordination with DHS/FEMA and a cross-section of emergency

responders. has developed a tool to assist State and local governments in the preparation of model legislation designed to streamline the sharing of assistance and resources between communities during a disaster. The model is available for download at [www.emacweb.org](http://www.emacweb.org). Additionally, many States, such as North Carolina, have developed State-Wide mutual aid systems [www.dem.dcc.state.nc.us/MUTAID/index.htm](http://www.dem.dcc.state.nc.us/MUTAID/index.htm).

Q: How do we better partner in the development of mutual aid resources built to a national standard?

A: The NIC is working with the DHS Office of Grants and Training on resource typing/credentialing for the resources identified in Phase 1 of the Target Capabilities List. The NIC also is working with the State of Maryland, which has developed 70 additional resource typing definitions following their inventorying the State for the NIMS 120. Following a review by the NIC, some or all of these resources may be added to the NIC inventory. The NIC also is working with Citizen Corps, 911 Dispatch and Humane Society to develop additional national level resource typing.

The NIC is in the process of developing a policy on resource typing to define what resources require a national definition. The new policy will allow State, Regional and local efforts to type resources that are important locally, regionally but do not need a national consensus definition.

Q: How does this mutual aid developmental effort fit into the overall strategic plan? Do we have a clear vision of what we want to build, how many of each package is needed, and where all of these resources should be strategically located?

A: The role of the NIC is establishment of interoperability of resources through consensus definition for teams and equipment, and Knowledge, Skills and Abilities for individuals and members of teams. The NIC is seeking to identify a suitable Automated Resource Management System (ARMS) that could be provided to EMAC (State and local inventorying and ordering) to make locating, ordering and use of National Resources more efficient than the current system of emails, faxes and phone calls.

The determination of how many of any given resource is needed in each community is not a function of NIMS, but is a function of DHS Office of Grants and Training and their work on the National

Preparedness Goal (HSPD-8). While OG&T determines needed resources - the NIC ensures consistent definition of resources so they can be ordered and will arrive fully able to perform the function requested for.

Q: How does the NIC view its role in the management of mutual aid resources? Is there potential for conflict between the NIC and EMAC?

A: The NIC does not manage resources - the NIC facilitates resource management by providing resource typing definitions for nationally important resources. We are working with the US Forest Service to make ROSS available to the 44 States that have inquired/requested access to ROSS to manage their inventories. All the work we have been engaged with is in support of EMAC and for the purpose of making EMAC more efficient.

[http://www.fema.gov/emergency/nims/rm/job\\_titles.shtm](http://www.fema.gov/emergency/nims/rm/job_titles.shtm)

## Press Release

---

 [Email this article](#) | [Government Homepage](#)

### Construction Workers Registration Bill

\*\*\*\*\*

The Construction Workers Registration Bill which is gazetted today (March 7) provides the legal framework for the establishment of a mandatory registration system for construction workers to regulate their delivery of work on construction site.

The Bill, to be introduced into the Legislative Council on March 19, also covers the setting up of a statutory registration authority to administer the Ordinance and the imposition of a levy to be paid by contractors carrying out construction works.

The implementation of the registration system is expected to start one year after passage of the Bill.

The key features of the proposed registration system are formulated after extensive consultation with stakeholders of the construction industry. The objectives are to:

- \* ensure the quality of construction works through assessment and certification of the skill levels of all construction workers;
- \* ensure the availability of more reliable data on labour supply to facilitate manpower planning and training;
- \* raise the status of construction workers by statutorily recognising their skill levels;
- \* foster a quality culture in the construction industry by providing the workers with a clear career path with a view to motivating them for higher skill levels;
- \* help combat hiring of illegal workers on construction sites; and
- \* ensure the availability of site entry and exit records that may assist in resolving some of the wage disputes between the contractors and the workers.

All construction workers who carry out construction work on construction sites are required to register under the proposed registration system according to their skill levels.

Construction workers who possess trade test certificate or equivalent

may apply for registration as registered skilled worker or registered semi-skilled worker for individual designated trades. Other workers with simple job-related skills may seek registration as registered general workers.

A one-off provision will be included to allow senior workers to seek registration as registered skilled workers by passing an assessment interview. Other workers with stipulated experience but without the relevant qualifications will also be allowed to seek registration as registered skilled workers (provisional) or registered semi-skilled workers (provisional).

Registered construction workers have to complete short development courses for renewal of their registrations every three years. They are not required to attend trade tests at renewal except those trades specified under existing ordinances.

A review and appeal mechanism will be established to deal with requests for review or appeal against the decisions of the Registration Authority or the Registrar. A Complaints Committee will also be set up to deal with complaints against the registered workers.

Workers applying for registration or renewal of registration have to pay a small registration fee and a renewal fee. The balance of the operating costs of the proposed Registration System is to be met by a levy imposed on construction works.

End/Friday, March 7, 2003

NNNN



**LEGISLATIVE COUNCIL PANEL ON  
PLANNING, LANDS AND WORKS**

**CONSTRUCTION WORKERS REGISTRATION BILL**

**PURPOSE**

The purpose of this paper is to inform Members of the proposal to implement by legislation a mandatory registration system for the site workers in the construction industry.

**THE PROBLEM**

2. The lack of a registration system to assess and certify the skill levels of construction workers has long been a concern among the construction industry over the quality of construction works. Moreover, the lack of reliable data on the number, trade and skill level of construction workers poses difficulties for manpower planning and training by the Government. Recently, there is growing concern about the employment of illegal workers on construction sites in addition to the increasing number of wage disputes between contractors and workers.

**BACKGROUND**

3. In response to requests from the construction industry about the need of a registration system for construction workers, the then Construction Advisory Board (CAB) decided in July 1999 to set up a Working Group on Registration of Construction Workers (the Working Group), which comprised stakeholders of the construction industry, to study the proposal for implementing a workers registration system.

4. The Working Group concluded and recommended to the then CAB that given the merits of a mandatory registration system for construction workers, it should be implemented by way of legislation.

5. The Construction Industry Review Committee (CIRC) also recommended in its Report issued in January 2001 that a worker registration system should be implemented as soon as possible.

6. Subsequent to endorsement of the proposal by the Chief Secretary for Administration's Committee on Lands, Works, Transport, Housing and Environment Protection Policy Group and the Executive Council in March 2001 and June 2001 respectively, the Administration embarked on the development of the proposed Registration System by further consulting the views of the industry.

## **THE PROPOSAL**

7 The proposed Registration System is set out in the following paragraphs.

### **(a) Coverage**

It is targeted at the majority of construction site workers engage in new construction site works and in major addition, alteration, improvement and term maintenance works. The classification and interpretation of the principal trades to be covered by the registration are essentially based on the booklet "Unified Job Titles and Descriptions of Tradesman and Semi-skilled Workers/General Worker for the Construction Industry" published by the then Works Bureau in 1997. Pending the introduction of a levy on construction-related Electrical and Mechanical (E&M) works to support the expansion of E&M training and trade testing to meet the registration requirement, only workers of the building and civil engineering discipline would be registered initially.

**(b) Categories of Skill Level**

Based on the categorization of skill levels of workers widely accepted by the construction industry, workers will be registered for individual trade under one of the three categories according to their skill levels as a skilled worker or a semi-skilled worker, or as a general worker. Skilled and semi-skilled workers are required to pass the relevant trade tests and intermediate trade tests respectively conducted by the Construction Industry Training Authority (CITA) and the Vocational Training Council (VTC), or possess other equivalent qualification eligible for registration. General worker is only required to possess simple job-related skills.

**(c) Renewal**

The registration will be renewed once every three years. Unless specified in the relevant ordinances, workers are not required to attend trade test for renewal. Before applying for renewal, the workers are required to complete prescribed short continuous development courses.

**(d) Transitional Arrangements**

Workers with not less than six years or two years experience in the construction industry could apply for registration as skilled worker (provisional) or semi-skilled worker (provisional) respectively. A transitional period of three years is allowed for these workers to pass the respective trade tests to register as skilled or semi-skilled worker.

**(e) Exemption**

Workers with ten years or more experience in the construction industry but without a trade test certificate or equivalent could, subject to passing an assessment interview, be registered as skilled workers.

**(f) Enforcement**

This will be similar to that of the mandatory basic safety training certificate as provided under the Factories and Industrial Undertakings Ordinance (Cap. 59). Each worker shall only perform the kind of work he is allowed to do under his registration and shall carry his smart registration card for

working on construction site. The employers shall ensure that the workers employed by them for carrying out construction works on site possess a valid registration . An enforcement team will be established to perform random compliance checks.

**(g) Registration Authority**

A statutory Registration Authority will be established to administer the registration ordinance and oversee the registration of workers. If the powers and functions of the Registration Authority are to be transferred to the proposed Industry Co-ordinating Body (ICB) in future as recommended by the CIRC, amendments to the legislation for the proposed Registration System would be required.

**(h) Registrar**

A Registrar will be appointed to carry out the day-to-day registration and related works. As CITA has been conducting the majority of the trade tests and training for the construction industry, it is considered to be the most suitable organization to act as the Registrar. This is in line with the CIRC's recommendation that CITA would in future work under the direction and guidance of the ICB.

**(i) Complaint Mechanism**

A mechanism will be included to handle any complaints about the level of competency of registered workers. Depending on the severity of the deficiency, the Registration Authority may order the award of an appropriate sanction. Review and appeal systems will be included in the proposed Registration System to handle any grievances that the workers may have against the decisions of the Registrar or the Registration Authority.

**(j) Funding**

There will be no recurrent financial implications for the Government. The proposed system will be supported by a small registration fee and renewal fee which the workers can afford.

The balance of the operating costs is to be met by a proposed levy collected from the construction industry. Based on the current annual gross value of construction site works, we estimated that the rate of levy would be around 0.03% of the value of the construction works.

**(k) E&M Levy**

The Construction Industry Training Authority (CITA) will need to expand the scope of its trade testing and training provisions for civil engineering and building workers, and for electrical and mechanical (E&M) workers with the proposed Registration System. The expenditure arising from the provision of the additional trade testing and training for civil engineering and building workers will be met by the existing construction levy. However, new resources will be required to provide additional trade testing and training for E&M workers and these will be met by the proposed levy on E&M works through amendments to the Industrial Training (Construction Industry) Ordinance (Cap. 317). The Education and Manpower Bureau aims to introduce the amendment bill into the LegCo in the first quarter of 2003.

**(l) Registration of E&M Workers**

Given the requisite training and trade testing provisions would not be ready by the end of 2003, the registration of E&M workers would commence on a separate date.

**ENVISAGED BENEFITS OF THE PROPOSAL**

8. Since skill levels of skilled worker and semi-skilled worker will be assessed and certified based on trade test results or other qualifications acceptable to the Registration Authority, the registration requirement will not only ensure the quality of work but, will also raise the status of the construction workers and will foster a quality culture in the construction industry.

9. Apart from the availability of more reliable manpower data from the register of the proposed Registration System for manpower planning and training, the smart card system installed at construction sites will help combat hiring of illegal workers working on construction sites.

10. The site entry and exit records of each worker logged by the smart card system might also help eliminate some of the wage disputes between the contractors and the workers.

## **PUBLIC CONSULTATION**

11. Representatives from the relevant Government bureaux/departments, trade associations, training institutes, ICAC, major employers of the construction industry as well as the two major trade unions of the construction industry i.e. the Hong Kong Construction Industry Employees General Union and the Hong Kong and Kowloon Electrical Engineering and Appliances Trade Workers Union have been fully consulted through the Working Group and Sub-group on the Registration of Construction Workers since July 1999.

12. To alleviate the burden of workers in paying various fees for working on site, a construction levy as stipulated in paragraph 7(j) above is proposed. This would keep the registration/renewal fees at a level which the workers could afford. For workers possessing other related and recognized certificates/licences such as certificates for registered electrical workers and gas installers, the fees would be further reduced.

13. The proposal of imposing a levy to fund the proposed Registration System is supported by major stakeholders of the construction industry including the relevant trade associations, trade unions and training institutes.

## **THE TIMETABLE**

14. Drafting of the legislation is now being finalized. We aim to introduce the draft Bill into the LegCo before the end of 2002.

## **FURTHER STUDIES**

15. As a longer-term objective, it is planned to carry out further studies, based on the experience gained in implementing the first stage of registration, to consider similar registration systems for decorative and minor maintenance workers, as well as other non-professional personnel such as site supervisory staff in the construction industry.

-----

Environment, Transport and Works Bureau  
24 September 2002

# CONSTRUCTION SAFETY

T S LI  
SAFETY ENGINEER  
SAFETY & ENVIRONMENT PROTECTION  
OFFICE  
HKUST

# Objectives

- Appreciate the safety problems in Construction Industry.
- Aware of the liabilities of individuals and management in safety at work.
- Know the typical hazards in construction sites and the appropriate safety measures.
- Have knowledge about the safety practices and initiatives in the industry.

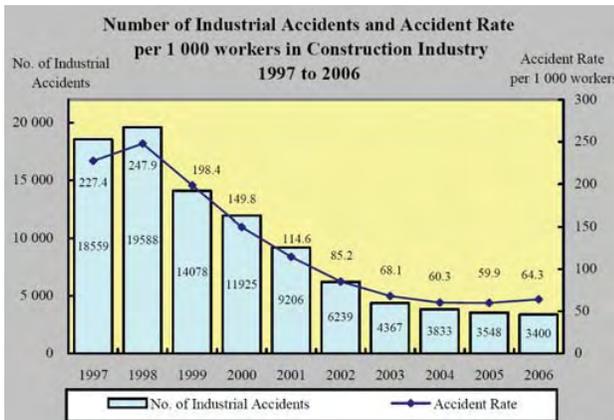
# Content

- The Problem
  - Accident Statistics (Common performance indicator)
- Contributing factors to the problem
- Cost of Accidents
- Analysis of construction site hazards
- Safety improvement initiatives taken by key players of the Industry
  - Efforts to improve the safety situation
- Construction Industry Review
  - Driving a cultural change in the construction industry
- Applicable legislative requirement
  - FIU Ordinance and Regulations
  - The Safety Management Regulation
  - Construction Workers Registration Ordinance

# The Safety Problem of Construction Industry

- Accident Rate and Fatality Rate are unacceptably high





- According to the figures, there have been significant reduction of injury and fatality rates
- Will the downward trend continue or be sustained?
- The long term solution and the real measure is...
  - A safety culture in the industry.

### Factors leading to high accident rate in Construction Industry

- Competitive tendering system leads to low bids being made (and accepted!) at the expense of health and safety standards.
- Subcontracting system makes control more difficult.
- A transient labour force which never gets properly or fully trained.
- Time pressure and the effect of heavy penalty for delay (liquidated damage).

### Factors leading to high accident rate in Construction Industry (cont.)

- The often inherently dangerous and challenging nature of construction work (e.g. work at height), including the ever changing work conditions.
- Exposure to often difficult weather conditions.
- A traditional macho attitude by many in the industry brought about by its inherently tough nature.

### Cost of Accidents



## Humanitarian

- Humanitarian



## Major Construction Site Hazards

### Major Construction Site Hazards (I)

- Fall of person
- Falling objects
- Stepping on or striking against objects
- Fall of ground
- Machinery

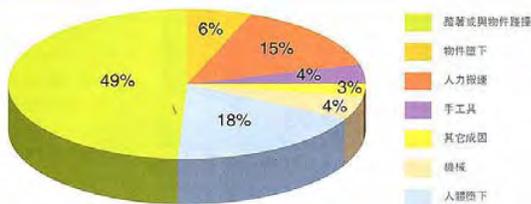
### Major Construction Site Hazards (II)

- Transport/Vehicles
- Electricity
- Use of Tools
- Fire & Explosion
- Gassing
- Chemicals

### Causes for Most Frequent Accidents

- Stepping on or striking against objects
- Manual handling
- Fall of person
- Falling objects
- Machinery

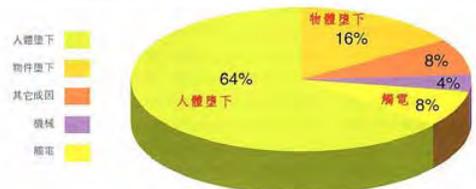
圖三：以成因分析之建造業意外(1996)



### Causes for Most Fatality

- Fall of persons
- Falling objects
- Machinery
- Electricity
- Stepping on or striking against objects
- Fire and explosion
- Gassing

圖四：以成因分析之建造業死亡意外(1996)



### Major Accidents 2003\*

Types of Accident	Injuries	Fatalities
Slip, trip, fall on same level	19% (833)	4% (1)
Striking against or struck by moving objects	17% (747)	4% (1)
Striking against fixed objects	12% (510)	
Manual lifting	16% (712)	
Fall of persons (from height)	12% (503)	36% (9)
Machineries	6% (267)	
Falling objects	5% (237)	12% (3)
Hand tools	5% (219)	
Electricity	0.5% (24)	12% (3)

### Legal Requirements

- Factories & Industrial Undertakings Ordinance
  - Subsidiary regulations

### F & I U Regulations

- 30+ sets of Subsidiary Regulations
  - Governing specific industrial activities and controlling specific hazards.
- A Construction Site is classified as an industry undertaking.

### F&IU Regulations applicable to Construction Activities (I)

- F&I U Regulations
- Confined Spaces
- Blasting by Abrasives
- Woodworking Machinery
- **Construction Site (Safety) Regulations**
- Lifting Appliances and Lifting Gears
- Abrasive Wheels
- Work in Compressed Air

### F&IU Regulations applicable to Construction Activities (II)

- Spraying of Flammable Liquids
- Cartridge -operated Fixing Tools
- Protection of Eyes
- Electricity
- Safety Officers & Safety Supervisors
- Dangerous Substances
- Noise At Work
- Suspended Working Platforms
- Loadshifting Machinery
- Gas Welding & Flame Cutting

### Specific Safety Requirements applicable to Construction Activities

- F&IU (Safety Management) Regulations
  - Implement a safety management system
  - Conduct regular safety audits.
- Construction Workers Registration

Mandatory Safety Training Requirements for Construction Works

**Licensed To Work**

- Green Card (Mandatory Safety Training)
- Confined space works
  - Competent Person
  - Certified Worker
- Gas welding and flame cutting
- Operation of specified machines and equipments

**Safety Practice/Initiatives in Industry**

**Construction Safety Related Authorities\***

- Labour Department (Enforcement)
  - Safety related legislation administered by Labour Department:
    - Factories and Industrial Undertakings Ordinance
    - Occupational Safety and Health Ordinance
    - Boilers and Pressure Vessels Ordinance
  - Occupational Safety Officers
  - Occupational Hygienists

**Construction Safety Related Authorities\***

- Occupational Safety & Health Council
  - Established in 1988 under the Occupational Safety & Health Council Ordinance
  - Funded by a levy on EC Insurance
  - Responsible for:
    - Training
    - Promotion
    - Advisory

**Other Concerned Bodies/ Authorities**

- Hong Kong Construction Association (HKCA)
- Construction Industry Training Authority (CITA)  
(Changed to CITB under the Construction Industry Council Training Academy from 1 Jan 2008)
  - Provide all sorts of construction related skill training, including safety training
  - Provide "Trade test" facilities
  - Scope expanded beyond "training", e.g. registration of construction workers.

**Other Concerned Bodies/ Authorities**

- Public Clients:
  - Works Bureau
  - Housing Authority
  - Buildings Department

## Safety Initiatives/ Requirements

### Safety Initiatives from Various Authorities / Bodies\*

- Housing Authority
  - Performance Assessment Scoring System (PASS)
- Works Bureau
  - Pay for Safety Scheme
    - Requirement for implementation of specific safety measures
    - Requirement for safety audit (Pay for safety)
  - Many other safety requirements
- Buildings Department
  - Site Supervision Plan System

## The PASS System

### **Performance Assessment Scoring System**

- Measurement of both quality & safety
- Compare contractor with contractor
- Affect tendering opportunity
- Periodic (Monthly) assessment to ensure compliance with contract requirements

## Pay for Safety

- Operates by Works Bureau
- Encouragement for contractors
- Pay a % of contract sum as expense for safety
- Implementation of safety management systems
- Requirements on Safety Audits

## Negative Incentives (Practiced by HA and WB)

- Safety Performance affecting tendering Opportunity
- For public and housing projects:
  - A contractor who has accumulated five or more convictions for safety related offences in a rolling of six month period will be debarred from tendering for public and housing projects for certain period.
- From 2001 to 2004, more than 60 contractors have been debarred.

## Site Supervision Plan

- A team approach initiated by Buildings Department

## Safety Responsibilities among Construction Professionals

- The burden for safety was traditionally placed on contractors
- Safety must be a team effort.
- Everyone in the professional team has his specific role to play in ensuring safety
  - >Team Approach to Construction Safety

## Team Approach to Construction Safety

### The Team:

- Client
- Designers -- Architects / Design Engineers
- Consulting Engineers
- Quantity Surveyors
- Clerks of Works / Inspectors
- Project Managers
- Safety Officers

## Site Supervision Plan

- Operates by Buildings Department
- Involves every party (3 Streams) in the building process:
  - Authorized Persons
  - Registered Structural Engineers
  - Registered Building Contractors
- Supervision plans to be submitted with building plans
- Appointment of Technical Competent Persons (TCP)
- Objective to tighten up supervision on site

## Learning From UK CDM Regulation

- UK Construction (Design and Management) Regulations 2007
  - (CDM 2007)
  - First enactment in 1994
  - Place appropriate responsibilities on every party in the construction team.
    - Client
    - CDM Coordinator
    - Designer
    - Principle Contractor (Main Contractor)
    - Contractors (Sub-contractors)
  - Design and construction process well documented

## Latest Development

- A Cultural Change in the Construction Industry

## Construction Industry Review

## Construction Industry Review

- CE appointed a Construction Industry Review Committee (CIRC) in April 2000 to address prevailing problem issues
  - Review Committee Led by Henry Tang
- A report on Construction Industry Review was produced in Jan 2002!!
  - 200+ pages with 10 chapters
  - Chapter 8 : A safer workplace and an environmentally responsible industry

## Construction Industry Review

- Four Pronged Approach for improving safety performance:
  - Designing for construction safety and integrated management
  - Safety promotion and training
  - Incentive for sound safety management
  - Enhanced enforcement

### 1. Designing for construction safety and integrated management

- Safe Design
  - Should place emphasis on hazards identification and mitigation, starting from design stage through subsequent phases of project development.
  - Industrial bodies, professional institutions, research community should collaborate to prepare a COP or guide to assist design professionals:
    - In evaluating safety risk and hazards
    - To provide guidelines on known hazardous activities and procedures on site
    - To determine reasonable time frame for safe conduct of construction activities.

- Team Approach
  - To adopt a team approach similar to the UK CDM Regulation in the long term
  - The current “FIU Safety Management Regulation” should be able to lay foundation for implementing the team approach
  - A five-year time frame was set.
  - Clients are encouraged to adopt such approach on a voluntary basis.
  - Work Bureau and Housing are requested to take the lead in the attempt.

### 2. Safety Promotion and Training

- Build up safety culture through training:
  - For Construction Professionals : Education on safety issues, principles and techniques should be an integral part of undergraduate curriculum and CPD programs.
  - For Line Managers and Supervisors at construction sites : Appropriate training on site safety to enable them to perform an effective management role.
  - Safety Officers : Should be more specifically trained on construction safety

- Site specific safety briefings and training should be more widely promoted. Major clients (incl. Works Bureau and Housing Authority) should take the lead in requiring their contractors to conduct such training for their teams. Assistance provided to contractors/subcontractors in developing in-house safety training.
- Green card safety training should be enhanced by including more hands-on training
- More advance (work specific) safety training in addition to Green Card basic training

### 3. Incentive for Sound Safety Management

- Major clients in public and private sectors are requested to take the lead to set good examples in driving safety performance by setting safety requirements for their contractors, including penalty for those having poor safety performance, such as by reducing their tendering opportunity.
- Incentive on insurance premium : Insurance company should work out appropriate incentive scheme, such as no claim bonus.
- Joint efforts in promotional award scheme to create greater promotional effects.

### 4. Enhances Enforcement

- Transform prescriptive legislation to performance-based legislation.
- Target prosecution actions against known poor performers.
- Amend legislation to enable prosecution actions against individual subcontractors for ensuring clearer accountability
- Encourage construction workers to take responsibility for their personal safety. (Take necessary prosecution actions against individual workers for obvious non-compliance)
- Better coordination between Labour Department and Buildings Department on site safety requirements mandated in the SMS under FIU and Supervision Plan under Bldg Ordinance)

### Other Recommendations having effects on safety improvements

- Eliminate non-value added subcontracting
  - Total subcontracting should not be allowed.
  - Registration scheme for subcontractors
    - Client should require contractors to employ registered subcont.
    - Voluntary initially
    - Voluntary Subcontractor Registration Scheme launched in Nov 2003 under the PCICB
    - 2,600 applications as at Mid-May 2005
- Employment of more direct and permanent (monthly paid) labor instead of short-term (daily paid) workers
- Construction Workers Registration
  - Proposed by Construction Advisory Board, supported by the Review Committee.

### Follow-up of Review

- Provisional Construction Industry Coordination Board (PCICB)
  - Formed in September 2001
  - Seven working groups on different aspects
  - To spearhead industry reforms
- The Construction Industry Council (CIC) has been formed in Feb 2007 to replace PCICB.

### Construction Workers Registration Ordinance

- Follow-up of the Construction Industry Review
- Bill introduced to Legislative Council Feb 2003
- Legislation enacted in July 2004
- Effective in end 2005/2006

### Construction Workers Registration Ordinance (Highlights)

- A person cannot “personally carry out construction work of specific kind on a construction site without an “appropriate” registration.
- An employer cannot employ anyone without appropriate registration to carry out construction work on a construction site.

## Construction Workers Registration Ordinance (Highlights) 2

- Types of registration:
  - General worker
  - Skilled worker for a designated trade
    - There are about 100 different types of trades requiring specific registrations
  - Provisional skilled workers for a designated trade
  - Provisional semi-skilled worker for a designated trade.

## Construction Workers Registration Ordinance (Highlights) 3

- The Registration Process:
  - A Construction Workers Registration Authority will be formed (now taken up by the CITA)
  - Funded by a levy imposed upon contractors
  - Workers have to apply for registration and a fee is required
  - Have to meet specified qualifications set out in a schedule of the legislation
  - Assessment interviews may be needed
  - There is an appeal mechanism
  - Re-registration needed every 4 years.

## The Safety Management Requirement

### Safety Management Requirement

- Mandatory requirements on implementing a SMS
  - Required under F&IU (Safety Management) Regulation (effective early 2002)
  - Applies to:
    - Construction industry
    - Utility companies
    - Shipyards
    - Container handling industry

## The 14 Elements in the SMS

1. Safety policy
2. Safety organization structure
3. Safety training
4. Safety rules
5. Safety inspections
6. Personal protective equipment
7. Accident investigation
8. Emergency preparedness
9. Evaluation, selection and control of subcontractors
10. Safety committee
11. Evaluation of job hazards and development of control measures
12. Safety promotion
13. Process control
14. Health surveillance

- 14 elements for IU >100 employees (or >100 million dollar contract)
- 8 elements for IU >50 but < 100 employees

## Requirement for Safety Audits

- To be conducted by a registered safety auditor

For construction sites or IU >100 employees

- For construction works
  - Once every 6 months
- For other IU
  - Once every 12 months

## Requirement for Safety Reviews

- To be conducted by a Safety Review Officer appointed by the employer

For Construction sites or IU >50 but <100 employees

- For construction sites
  - Once every 6 months
- For other IU
  - Once every 6 months

**THE END**

Working Group Labor  
Union Representative

and

Stakeholder Bios

For September 16, 2008  
HSS/Union Meeting



**Erich J. (Pete) Stafford**  
**Director**  
**Safety and Health Department**  
**Building Construction Trades Department AFL-CIO**  
**AND**

**Executive Director for the Center for Construction and Research Training (CPWR)**

Pete Stafford is the Director of the Safety and Health Department, Building and Construction Trades Department, AFL-CIO and is responsible for occupational and safety health issues related to the building and construction industry. In this position, Mr. Stafford also represents the National Building Trades and 15 International Unions on all safety and health matters, including research and training; and provides assistance to state and local councils in developing programs specific to regional needs and policies.

In addition, Mr. Stafford is the Executive Director of the Center for Construction Research and Training (CPWR). The CPWR is a nonprofit research and development institute established by the Building and Construction trades Department of the AFL-CIO. Mr. Stafford also serves as Principal Investigator for the NIOSH Cooperative Agreement for Construction safety and Health Interventions, the NIOSH Centers for Construction Safety and Health, and the NIEHS Cooperative Agreement for EPA and DOE Hazardous Materials Worker Health and Safety Training. Mr. Stafford authors applications for, and currently administers, 17 Federal grant programs. As Executive Director of the CPWR, Mr. Stafford oversees all products/reports preparation and dissemination; direct marketing and public relations; and reports findings to construction union leadership.

Mr. Stafford is currently a member of the following professional affiliations:

- National Safety Management Society
- Building and Construction Trades Department Safety and Health Committee
- Washington Construction Safety Association
- American National Standards Institute
- National Safety Council



Patricia S. Quinn, Program Director  
 The Center for Construction Research and Training  
 (Formerly the Center to Protect Workers' Rights)

INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
The Catholic University of America, Washington, D.C.	B.A.	1985-89	English

**A. Positions.**

DOE PROGRAM DIRECTOR  
 ENERGY EMPLOYEES UNIT

1996- PRESENT

*CPWR – The Center for Construction Research and Training, Silver Spring, MD  
 (Formerly The Center to Protect Workers' Rights)*

Coordinate, oversee, and monitor work on The Building Trades National Medical Screening Program that provides screening services to construction workers from 19 U.S. Department of Energy sites. Monitor the work of 3 sub-grantees. Activities include, grant and protocol writing, reporting, program and financial management. CPWR liaison to DOE headquarters, DOE site personnel, and to subgrantees. Work with local institutional review boards to ensure the projects protocols fully protect the rights of the workers.

Manage a contract with the US Department of Labor to find ways to obtain union and union-employer trust fund records that can be used to verify that a construction worker was employed by a DOE contractor at a particular DOE facility during a particular time.

SMALL STUDIES COORDINATOR

1991- PRESENT

*CPWR – The Center for Construction Research and Training, Silver Spring, MD*

Administers CPWR Small Studies program, including processing proposals, coordinating reviews, monitor funding, and maintain records.

PARALEGAL/HEALTH SCREENING COORDINATOR

1989-91

*The Occupational Health Foundation*

*Washington, D.C.*

Implemented and coordinated nationwide asbestos screening and education programs for high-risk union members on behalf of the various AFL-CIO affiliates. Liaison between union officials and medical providers to ensure adherence to program guidelines and administrative procedures. Other responsibilities include conference coordinating, development of educational materials for union clientele, researching interest of American workers including the fetal protection policies, child labor statutes, and workers' compensation programs.

**B. Publications.**

Tillett, S, Sullivan (Quinn), P. Asbestos Screening and Education Programs for Building and Construction Trades Unions, *American Journal of Industrial Medicine* 23:143-52, 1993.

Dement JM, Welch LW, Bingham E, Scott J, Cameron B, Rice C, Quinn P, Ringen K. Surveillance of Respiratory Diseases among Construction Workers at Department of Energy Work Sites. *Amer. J. Ind. Med.* 43(6):559- 573, 2003.

Welch L, Ringen K, Bingham E, Dement J, Takaro T, McGowan W, Chen A, Quinn P. Screening for beryllium disease among construction trade workers at Department of Energy Nuclear Sites, *America Journal of Industrial Medicine* 46:207-218, 2004.

Dement J, Ringen K, Welch L, Bingham E, Quinn P. Surveillance of Hearing loss among older construction and trade workers at Department of Energy Nuclear Sites, *American Journal of Industrial Medicine* 48:348-358, 2005.

Bingham, E., Ringen, K., Dement, J., Cameron, W., McGowan, W., Welch, L. and Quinn, P. Frequency and Quality of Radiation Monitoring at Two Gaseous Diffusion Plants. *New York Academy of Sciences*, 2006.

---



**Frank L. Migliaccio, Jr.**  
**Executive Director of Safety and Health**  
**International Association of Bridge, Structural, Ornamental,**  
**and Reinforcing Ironworkers**

Frank L. Migliaccio is the Executive Director of Safety and Health for the International Association of Bridge, Structural, Ornamental, and Reinforcing Ironworkers. He is a U.S. Department of Labor (DOL) OSHA 500 Master Instructor (Train-the-Trainer), and a (DOL) Mine Safety Health Administration Master Instructor for the Ironworkers Train-the-Trainer classes given at the University of San Diego in California. He is also an instructor for OSHA Hazardous Material, Scaffold, Lead, Confined Space and Subpart R- Steel Erection training, among others. Previously he served as the Director of Safety and Health Training for the Ironworkers National Training Fund and was a member of the Subpart N, Crane and Derrick Negotiated Rule Making Committee.

Mr. Migliaccio chairs the AFL-CIO Building and Construction Trades Departments Safety and Health Committee and sits on the Advisory Committee on Construction Safety and Health. Other committee memberships include the Ironworkers Safety Advisory Committee, the Mine Safety and Health Alliance Committee, Department of Labor Drug Free Workplace Alliance, the National Commission of the Certification of Crane Operators, the Specialized Carriers and Rigging Association's Labor Committee, and the IMPACT Substance Abuse Task Force.

Mr. Migliaccio has been an Ironworker for close to 38 years. He has 17 years of field experience, served as an apprentice coordinator for Local Union 201 in Washington D.C., and has been working at the International Association of Bridge, Structural, Ornamental, and Reinforcing Ironworkers for the past 17 years, with almost 7 years in his current position as Executive Director of Safety and Health.

Frank Migliaccio attended the University of Maryland where he majored in Industrial Arts Education.



**Gary Batykefer**  
**Administrator**  
**Sheet Metal Occupational Health Institute**  
**Sheet Metal Workers International Association**

Gary Batykefer is head of the Sheet Metal Occupational Health Institute (SMOHIT) a joint labor-management health and safety organization serving the sheet metal industry. For the past six years he has led the design and development of health and safety training products and services that promote the reduction of occupational illness and injury. As SMOHIT Administrator, he has directed the development and distribution of more than 28 health and safety products and has met the industry's demand of enhanced medical screening programs.

Gary began his career as a mechanical engineering student at Gannon University and graduated with honors from the Dean Institute of Technology with a specialty in mechanical and tool and die design. For more than 29 years, Gary has served the sheet metal industry by addressing issues of mutual concern between labor and management. His background covers extensive work in designing and initiating journeyman training classes, serving as an active member of Sheet Metal Local 12 in Pittsburgh, PA and serving as a Trustee prior to being appointed SMOHIT Administrator.



**Dale P. Hill**  
**International Representative**  
**Sheet Metal Workers International Association**

Dale P. Hill was employed by the Sheet Metal Workers International Union (SMWIA) President, Michael J. Sullivan, in December 1999 as International Representative for the Rocky Mountain Region and currently serves in that capacity.

He served as Business Manager for Sheet Metal Workers Local Union # 207 in Casper, Wyoming for 19 years from December 1980 to December 1999. During that period he also served as President of the Wyoming State American Federation of Labor –Congress of Industrial Organizations (AFL-CIO), and President of the Wyoming State Building Trades Council.

In addition to his position as SMWIA International Representative, Mr. Hill currently represents the International Association on the SMWIA Nuclear Hazardous Materials Council, is the Service Specialist for the International Association for the Heating, Ventilation, and Air Conditioning Industry, and continues to serve as President of the Wyoming State AFL-CIO.



**Barbara McCabe**  
**Program Manager**  
**National Training Fund/National HAZMAT Program**  
**International Union of Operating Engineers**

**Positions and Employment**

1999-Present Program Manager, IUOE National Training Fund – National HAZMAT Program, Beaver, WV

Program Administrator/Principal Investigator for multi-million dollar cooperative agreements and grants for National Institute for Environmental Health Sciences (NIEHS) Worker Education Training Program, Energy Security and Reliability and OSHA Susan Harwood Disaster Response and Recovery. Manages programs, training, and support personnel. Program Administrator/Principal Investigator for multi-million dollar cooperative agreement completed in 2002, to conduct Human Factors Assessments of emerging environmental restoration, decontamination, and decommissioning technologies. Identifies and develops new areas for training and oversees the administrative functions associated with grant applications, proposal submittals, budget, program reporting, contractor oversight, et cetera. Responsible for all cooperative agreement and grant reports and deliverables. Responsible for budget development and oversight for all programs and facility operation. Consults with staff and local unions on technical safety and health issues.

1995-1999 Industrial Hygienist, IUOE National HAZMAT Program, Beaver, WV  
Developed and implemented protocols for human factors assessments and mitigation strategies for health and safety concerns. Managed all hazard analysis to be conducted during the human factors assessment of emerging environmental restoration, decontamination, and decommissioning technologies, including conducting field assessments and development of Technology Safety Data Sheets (TSDA). Provided consultation services on safety and health issues for construction (heavy equipment operators) and stationary (building engineers) local unions.

1991-1995 Industrial Hygienist, EG&G-TSWV, Inc., Morgantown, WV  
Developed and managed comprehensive industrial hygiene program and SARA Title III Community Right to Know Program. Industrial Hygiene oversight on construction jobs and clean coal research projects, including air sampling, noise monitoring, recommendations for PPE, and resolution of training issues. Coordinator for the Emergency Medical Response of the DOE FETC site Emergency Response Team. Conducted site monitoring programs for noise, air contaminants, heat stress, respiratory protection program, ergonomic evaluations, etc. Developed, and trained site employees in all aspects of safety and health.

1985-1991 Systems Analyst, EG&G-TSWV, Inc., Morgantown, WV  
Managed the medical database, medical emergency services, Hearing Conservation, and Employee CPR Program. Conducted all hearing conservation and CPR/first aid training for on-site personnel.

- 1982-1987 Industrial Audiologist (consultant), Monongalia General Hospital, Morgantown, WV  
Provided contract services for audiometric testing for hearing conservation program for Maintenance Department employees.
- 1982-1984 Clinical Audiologist, Morgantown ENT Clinic, Inc., Morgantown, WV  
Conducted all clinical audiometric testing, lesion site testing, and ENG. Supervised Audiology Graduate Students from West Virginia University
- 1980-1982 Clinical Audiologist, Charles E. Haislip, M.E., Fairmont, WV  
Conducted all clinical audiometric testing, lesion site testing, and Electronstagnography (ENG). Supervised Audiology Graduate Students from West Virginia University

#### EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY
West Virginia University, Morgantown, WV	Bachelors of Science	1973-1977	Speech Pathology/Audiology
West Virginia University, Morgantown, WV	Masters of Science	1977-1979	Audiology
West Virginia University, Morgantown, WV	Masters of Science	1990-1995	Occupational Health and Safety Engineering

#### Other Experiences and Professional Memberships

- 1975 to present Member American Speech-Language-Hearing Association
- 1979 to present Certification of Clinical Competence in Audiology
- 1996 to present Hazardous Waste Operations and Emergency Response Trainer
- 1997 to 2006 Member American Industrial Hygiene Association
- 2002 to 2004 Member of OSHA National Ergonomics Advisory Board (Board was established for two years only)
- 2007 to present Member of OSHA National Advisory Committee on Occupational Safety and Health (2 year appointment)

#### Peer Reviewed Publications

B McCabe and B Lippy, "Long-Term Stewardship of the DOE Workforce: Integrating Safety and Health into the Design and Development of DOE Clean-up Technologies", *Environmental Science and Pollution Research*, Special Issue 1 (2001), pp 62-67, 2001. Internet address: [www.scientificjournals.com/webitions/espr](http://www.scientificjournals.com/webitions/espr).

B McCabe, "Technology Safety Data Sheets: A Tool to Protect Workers from the Hazards of Environmental Clean-up Technologies", *TIE Quarterly*, Vol. 9, Winter 2001.

## **RONALD AULT**

**President, Metal Trades Department AFL-CIO**

### **BIOGRAPHY**



Prior to being elected as the Metal Trades Department's President, Mr. Ault served for four years as a General Representative of the Department. A former organizer with the International Union of Operating Engineers and a former business representative for the International Association of Machinists and Aerospace Workers, Ault is a career Labor Representative with more than 30 years experience.

Mr. Ault served a four-year enlistment with the U.S. Navy, including a tour of duty in Vietnam (1968-69). Mr. Ault went to work at the Norfolk Naval Shipyard in 1971; he was hired as an apprentice Inside Machinist. Graduating as a journeyman Inside Machinist with honors four years later, Ault served in various union positions. From 1980 to 1985, he served as president of the Tidewater Virginia Federal Employees Metal Trades Council and the Chairman of the Conference Committee at NNSY in Portsmouth, Virginia. Ault served as Campaign Coordinator in the Metal Trades Department's successful drive for union recognition at the Avondale Shipyard in New Orleans and was the Chief Negotiator for the historic first union contract at the yard.



**Tom Schaffer**  
**General Representative**  
**Metal Trades Department AFL-CIO**

- Served my apprenticeship for Iron Workers Local 67 in Des Moines, Iowa and graduated to journeyman level in 1974.
- Worked both as an Iron Worker and later in the manufacturing business at Artistic Manufacturing builders of many brands of church ware. I left the company in 1977 as plant manager and went back into construction.
- Moved to San Diego in 1978 and was employed as a journeyman Iron Worker in the construction industry.
- I was hired while in San Diego by Rockwell International who was then the Hanford Site contractor and started working at the Hanford Site in 1980 as an Iron Worker/Rigger.
- Was elected to the position of Secretary Treasurer of the Hanford Atomic Metal Trades Council (HAMTC) in 1994, and later served a dual role as Secretary Treasurer and HAMMER Union Liaison for the training facility for two terms.
- In 1999 I was elected as President of HAMTC and served two and a half terms.
- During my last term I was asked to join the Metal Trades Council's parent organization the Metal Trades Department AFL-CIO. I accepted and have served as a General Representative since September of 2003.



**James Seidl**  
**East Coast Representative**  
**Metal Trades Department AFL-CIO**

James Seidl is presently the East Coast Representative for the Metal Trades Department AFL-CIO.

- He served his apprenticeship with the US Naval Ordnance Station in Louisville, Kentucky as a Machinist.
- A veteran, served in the United States Army from 1957 to 1962.
- A forty-one year member of the International Association of Machinists and Aerospace Workers AFL-CIO, served as:
  - President,
  - Business Representative,
  - Grand Lodge Representative,
  - Director of the Government Employee's Department and,
  - Administrative Assistant to the Midwest Territory General Vice President.
- Retired from the Machinists Union in 2002, began working for the Metal Trades Department AFL-CIO in his current position as General Representative.



**Gerald Ryan**  
Director, Training, Health & Safety  
Operative Plasterers' and Cement Masons' International Association

Gerald Ryan serves as Director of Training, Health & Safety for the Operative Plasterers' and Cement Masons' International Association, where he works to deliver programs that inform, train, and protect workers in the construction industry, particularly cement masons and plasterers.

In his thirty years as a third-generation cement mason, Mr. Ryan witnessed first-hand the hazards of the jobsite. When an on-the-job injury ended his ability to work with the tools of the trade in 1992, he became an instructor at his local, helping other workers prevent the same types of injuries he had seen and experienced. He helped set up the Minnesota, North Dakota, Northwestern Wisconsin Cement Masons' Local 633 Apprenticeship & Training Center, and then managed the expansion of the center's training programs from 1996 to 2002.

Since 2002, he has been Director of Training, Health & Safety for the Plasterers' & Cement Masons' International, where he has led a team of instructors in publishing updated plastering and cement masonry curricula, training publications addressing job hazards specific to cement masons - such as silicosis and contact dermatitis - and myriad other training initiatives designed to reach the both the apprentice and the experienced journeyman, ensuring their safety on the job.

Gerry remains directly involved with Safety and Health for his International's members by offering OSHA 500 training courses to increase the number of OSHA trainers available to his International along with numerous other training programs being conducted across the country for their membership.

He also encourages instructors to network with each other in sharing training information and resources. He has worked closely with his Louisiana and Gulf Coast Locals to help them renew their apprenticeship programs following the devastation of Hurricanes Katrina and Rita.

He recently worked with the National Labor College to create a program that will allow OPCMIA instructors to earn a Certificate in Labor Education. This new program gives instructors the opportunity to earn college credit while improving their teaching skills and - most importantly - while serving their Local members.

Today, Gerry continues to work with Plasterers' and Cement Masons' Locals to set-up, improve, and expand their apprenticeship training programs, journeyman upgrade training opportunities, and safety and health training while administering combined DOE and EPA grant funds.



**Doug Stephens**  
**Project Manager/Coordinator**  
**Grant Health & Safety Field Operations**  
**United Steelworkers International Union/Nashville Office**

Employed with Lockheed Martin at the Oak Ridge Gaseous Diffusion Plant for 30 years as a maintenance mechanic, and was also president of Local 3-288 of the Oil Chemical and Atomic Workers International Union (OCAW).

Attended an OCAW/NIEHS Grant sponsored Train the Trainer class in 1993 and began delivering 29 CFR 1910.120 training to the employees of Lockheed Martin in a Department of Energy nuclear facility.

Served as Vice President of the Tennessee AFL-CIO State Labor Council from 1987 to 1997.

Worked with the Oil Chemical and Atomic Workers International Union (OCAW) in Denver, Colorado as Grant Administrator for the Department of Energy Hazardous Waste Operations and Emergency Response Grant from 1997 until the merger in 1999 between the OCAW and the United Paperworkers International Union (UPIU).

Moved to Nashville, TN in 1999 to become the Associate Director of Health and Safety with responsibility of the NIEHS Grants Programs.

Currently, Project Manager and Coordinator of Grant Health and Safety Field Operations for the United Steelworkers International Union's Nashville Office.



**Moriah Ferullo, RPA-C, MPH  
Medical Screening Coordinator  
Worker Health Protection Program**

Moriah Ferullo is a registered and certified physician assistant, having graduated from Long Island University/Brooklyn Hospital Center's Physician Assistant Program in August 1999. Ms. Ferullo practiced in clinical medicine for 7 years prior to receiving her Master's in Public Health, with a concentration in Environmental and Occupational Health and Safety from Hunter College. While at Hunter College, Ms. Ferullo was awarded a fellowship from the National Institute of Occupational Safety and Health (NIOSH) based on her academic achievement. During the course of her studies at Hunter College, Ms. Ferullo held the position as abstract reviewer for the American Public Health Association's (APHA) Annual Conference and she helped establish and maintain the student organization of the American Industrial Hygiene Association (AIHA). Ms. Ferullo completed her fieldwork at Pfizer, in their Health and Safety Department. While at Pfizer, Ms. Ferullo instructed several safety programs including classes on confined space rescue and respirator fit testing. The majority of her time was spent on occupational noise exposure research including; collecting noise exposure data, implementing engineering controls and developing administrative protocols to reduce occupational noise exposure. In December 2005, Ms. Ferullo started as the Worker Health Protection Program's Medical Screening Coordinator.



**Sylvia Kieding**  
**Program Director**  
**USW Medical Surveillance Program**

**A. Education**

INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY
University of Louisville, Kentucky	BA	1967	English
University of Louisville Graduate Business School	N/A	1970-71	Economics
University of Colorado Health Sciences Center	N/A	1986-87	Public Health

**B. Positions.** Beginning with the current position, list in reverse chronological order professional/academic positions with a brief description of work requirements for each position.

**Program Director, PACE**, DOE Medical Surveillance Program for DOE current and former workers at the three gaseous diffusion plants, Mound and Idaho National Environmental Laboratory, 1996-present. Represent Principal Investigator Jim Frederick in the day to day activities and participation of the international union in the five programs. Responsible for overseeing budget administration for USW and ensuring smooth subcontract administration. Oversees the work of the local coordinators on the project team and maintains contacts with the DOE site and national offices, contractors, local union officials, retiree clubs and the media. Maintains community, governmental and legislative contacts through the use of the Site Specific Advisory Committees for the project. Work with Project Director, Dr. Steven Markowitz, and Mark Griffon of CPS Environmental.

**Health and Safety Assistant Director**, Oil, Chemical and Atomic Workers International Union (OCAW) 1995-99. Provided local unions in energy, chemical, atomic and related industries with assistance on health and safety problems, health and safety contract language, OSHA and DOE regulations and orders and answered questions on specific hazards of concern. Served as editor of "Lifelines", bi-monthly newsletter on health and safety issues. Editor of on-going series of fact sheets on such hazards as: Beryllium, benzene, solvents, asbestos, hydrogen fluoride, chromium and others. Assisted in overseeing company compliance with collective bargaining language on health and safety. Acted as advisor to health and safety committees. Helped develop policy on reproductive hazards in the workplace and initiated study of reproductive hazards among petrochemical workers.

**Health and Safety Director**, OCAW 1989-95. Directed health and safety efforts including oversight of all grants. Initiated and directed first Hazardous Waste Training Program in both the industrial and DOE sectors with grants from the National Institute for Environmental Health Sciences (NIEHS). Developed worker-trainers for hazardous waste training. Worked with government agencies such as NIOSH on health hazard evaluations for OCAW members and regulations. Coordinated with academic institutions to conduct morbidity and mortality and other health studies of OCAW members in petroleum, chemical, energy and related industries.

**Health and Safety Coordinator**, OCAW, 1980-89. Worked with Joint Labor-Management health and safety committees, provided technical assistance to OCAW local unions, served as Union representative for government, environmental and corporate forums. Followed legislative and standard-setting efforts and provided comments on activities affecting union members

**Occupational Health Specialist**, OCAW, 1973-80. Assisted in developing program for first joint health and safety committees negotiated with the oil industry; helped develop first nationwide union health and safety newsletter; assisted local members with health and safety problems, helped develop and write newsletter for workers in the atomic sector.

**Public Information Officer**, Air Pollution Control District of Jefferson County, Kentucky, 1968-73. Developed, wrote and published newsletter on air pollution control activities in Jefferson County. Worked with community activists to ensure that regulations were protective of community and environmental health, responded to requests from citizen groups, community organizations such as the American Cancer Society and others to present programs on air pollution control activities.

**C. Publications.** A list of up to 20 publications most closely related to the proposed project. For each publication, identify the names of all authors (in the same sequence in which they appear in the publication), the article title, book or journal title, volume number, page numbers, year of publication, and website address if available electronically.

None are related to medical surveillance in the atomic sector.

**D. Synergistic Activities.** A list of no more than five professional and scholarly activities related to the effort proposed.

Member, Central Beryllium Institutional Review Board,  
Labor representative providing union stakeholders a voice on the Board  
2003 – 2005

Department of Energy  
Medical Surveillance for Former Workers at Gaseous Diffusion Plants  
Role: PACE Program Director  
1996-present

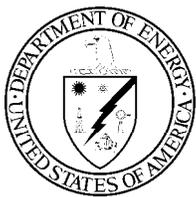
Department of Energy  
Medical Surveillance for Former Workers at INEEL  
Role: PACE Program Director

Department of Energy  
Medical Surveillance of Former Workers at Y-12 and ORNL  
Needs Assessment Phase  
Role: Focus Group design, supervision and report preparation  
2003



**Karen A. McGinnis**  
**Director**  
**HAMMER Training and Education Center**

**Karen McGinnis** is the only director the Volpentest HAMMER Training and Education Center has ever known. Since 1991, Karen has guided HAMMER to its status as an industry-recognized leader in industrial training featuring one of the most multi-faceted training facilities in the world. Karen's crowning achievement is her oversight in establishing the many partnerships forged through HAMMER. These relationships – made up of organized labor, federal and state agencies, tribes, safety professionals and community leaders – prompted AFL-CIO Chairman John Sweeney to remark that HAMMER represents “one of the most important partnerships in the country.” Under Karen's leadership, HAMMER has gained recognition as one of the premier training centers in the world while also achieving the top federal safety award of Voluntary Protection Program (VPP) Star Status. Karen also received a "Special Achievement Award" for outstanding Performance Leadership in furthering the US DOE VPP program. Karen has a Master of Arts, Agriculture and Natural Resource Economics, Washington State University (February 1980) and a Bachelor of Science, Agriculture and Natural Resource Economics, Oregon State University (June 1974).



**Department of Energy**  
Pacific Northwest Site Office  
P.O. Box 350, K8-50  
Richland, Washington 99352

## **BIOGRAPHY**

**James L. Spracklen**  
**Program Manager**  
**Richland Operations Office**  
**U.S. Department of Energy**

James L. Spracklen is currently the DOE Program Manager for the HAMMER Training and Education Center at Hanford. Previously, Jim served as Senior Program Advisor to the Managers of the DOE Richland Operations Office and the Pacific Northwest Site Office. Jim served as the Director of Security and Emergency Services for the Department of Energy's (DOE), Richland Operations Office (RL) for 12 years, beginning in 1991. In his current capacity, Jim oversees the operation of the Volpentest Hazardous Materials Management and Emergency Response (HAMMER) Training and Education Center, which provides hands-on worker safety training to the Hanford workforce, as well as providing emergency response training to other federal agencies, including the National Guard Bureau, the Federal Law Enforcement Training Center, the Department of Defense, the Department of State, and the DOE Office of Electricity Delivery and Energy Reliability.

Jim has been in numerous positions within the safeguards and security organization since joining DOE in June 1983. Prior to that, from 1978 until 1981, he served on the Kennewick Police Department in Kennewick, Washington.

Jim holds a Bachelor of Science Degree in Sociology from Montana State University and a Master's Degree in Criminal Justice/Public Administration from Washington State University.

# # #



**Joseph Thomas (Chip) Hughes, Jr.**  
**Director, Worker Education and Training Program**  
**DEPARTMENT OF HEALTH AND HUMAN SERVICES**  
**National Institutes of Health**

- EDUCATION:** 1974, B.A., College of the Holy Cross, Worcester, Massachusetts  
1982, M.P.H., School of Public Health, University of North Carolina,  
Chapel Hill, North Carolina
- EXPERIENCE:**
- 1998-present Director and Branch Chief, Worker Education and Training Program,  
National Institute of Environmental Health Sciences
- 1990-1998 Program Administrator, Worker Education and Training Program,  
National Institute of Environmental Health Sciences
- 1988-1989 Research Director, Clean Water Fund of North Carolina
- 1987-1988 Coordinator, Utilities Campaign, North Carolina Fair Share
- 1984-1987 Executive Director, East Coast Farmworker Support Network
- 1981-1982 Pesticides Project Coordinator, Farmworkers Legal Services Corporation
- 1980-1981 Consultant, Center for Work and Mental Health, National Institute of  
Mental Health
- 1979-1981 Researcher, US Department of Labor, Division for Policy, Evaluation and  
Research
- 1977-1979 Director of Education & Training, Carolina Brown Lung Association  
(CBLA)
- 1975-1977 Fellow, John Hay Whitney Foundation Research Director, Institute for  
Southern Studies
- HONORS AND AWARDS:**
- NIH Quality of Worklife Award, 1999
- NIH Director's Award, 2000, 2001, 2003, 2004, and 2006
- HHS Secretary's Award for Heroism and Exceptional Service, 2001
- HHS Secretary's Award for Distinguished Service, 2002 (World Trade  
Center disaster response)
- HHS Secretary's Award for Distinguished Service, 2006 (Katrina disaster  
response)



**Deborah Weinstock**

**Director, National Clearinghouse for Worker Safety and Health Training**

**National Institute of Environmental Health Sciences  
Worker Education and Training Program [NIEHS WETP]**

Deborah Weinstock joined MDB, Inc. in 2005 as the Director for the NIEHS National Clearinghouse for Worker Safety and Health Training. Deborah comes to MDB, Inc. with twelve years of experience in the safety and health field. Prior to joining MDB, she spent seven years as an Occupational Safety and Health Specialist in the AFL-CIO Department of Occupational Safety and Health. Deborah has experience working with a variety of government agencies and departments, including, the Department of Energy, the Environmental Protection Agency and the National Institute of Environmental Health Sciences. Deborah holds a B.A. degree in Art History from the University of Maryland and an M.S. in Applied Behavioral Sciences from Johns Hopkins University.

Deborah Weinstock, Director  
National Clearinghouse for Worker Safety and Health Training Operated by MDB, Inc.  
1101 Connecticut Avenue, NW, Suite 550  
Washington, DC 20036  
202.331.0060  
Dweinstock@michaeldbaker.com  
<http://tools.niehs.nih.gov/wetp>