



# HealthWatch

A newsletter of the Worker Health Protection Program, a partnership between Queens College, CUNY and the following organizations: United Steelworkers, Atomic Trades and Labor Council, Fernald Medical Screening Program

Volume 6 Issue 10 2007

## Kick-off Ceremony for Lung Cancer Screening Program for ORNL & Y-12 Workers

In August 2006, the Worker Health Protection Program held a ribbon-cutting ceremony at the Atomic Trades and Labor Council (ATLC) union hall to kick-off the Early Lung Cancer Detection Program (ELCD) for Oak Ridge National Laboratory & Y-12 workers. US Representative Zach Wamp was the keynote speaker at the event; other presenters included Oak Ridge Mayor David Bradshaw, former DOE Deputy Assistant Secretary for Health Steve Cary, and representatives of Senator Bill Frist and Congressman Lincoln Davis. Dr. Albert Miller, ELCD medical director, described the promise of low-dose CT screening and noted the remarkable success of the recently completed program for gaseous diffusion plant (GDP) workers that detected 45 lung cancers, 80% of which were in an early stage.

The WHPP Early Lung Cancer Detection Program uses a new technique of x-ray called spiral or helical low-dose computerized tomography (CT) scanning that has shown great promise as a screening method for detecting lung cancers at an early stage. Low-dose CT scanning is a painless, quick procedure that uses less radiation than a standard CT and yet is sensitive enough to detect abnormalities that are too small to be seen on a chest x-ray.

Former ATLC president, Kenny Cook, who orchestrated the event with Queens College, made the opening remarks and introduced the speakers. The union hall was standing room only, filled with former and current Oak Ridge National Laboratory (ORNL) & Y-12 workers, local union and DOE officials, representatives from two of the WHPP local clinics (Park Med and University of Tennessee Knoxville) as well as participants who benefited from the K-25 early lung cancer screening program. Art Hensley, a former K-25 & Y-12 worker whose lung cancer was detected by the GDP ELCD Program in the earliest possible stage, in 2004, gave a moving presentation about the detection and treatment of his cancer. Hensley explained that he was "in perfect health" and saw little need to go through the program until his cancer was detected.

At the ribbon-cutting ceremony, low-dose, computerized tomography (CT) scanning was demonstrated by John Lain, the CT technician for the ORNL/Y-12 ELCD



Ribbon-cutting ceremony at the ATLC union hall. First row, left to right: Ted Sherry, US Rep. Zach Wamp, Kenny Cook, Art Hensley, Albert Miller, and TN Rep Jim Hackworth. Second row, left to right: Steve Cary, Gerald Boyd, Beth Hickman of US Rep. Lincoln Davis' office, Carolyn Jensen of US Sen. Bill Frist's office and Mayor of Anderson County, Rex Lynch.

Program. The ELCD program's state-of-the-art 16-slice Siemens CT scanner is housed in a 48-foot custom built mobile unit parked adjacent to the ATLC union hall.

The lung cancer screening program will offer the low-dose CT scans to ORNL and Y-12 current and former hourly and salaried workers who meet pre-determined eligibility criteria for lung cancer risk. Criteria are based on age, smoking history, and occupational exposure to lung carcinogens such as asbestos, uranium, and plutonium.

At least 1,500 people are expected to be screened for lung cancer during the first year of the program. As of March 2006 – eight months into the new program – over 1000 participants have already been scanned. The lung cancer screening program expands the Worker Health Protection Program (WHPP) medical screening program for former ORNL and Y-12 workers that began offering physical examinations to former workers in May 2005.

*"If it hadn't been for the low-dose CT scan, my cancer would not have been discovered until it was too late. By the time I developed symptoms, it would have spread throughout my body. Now my doctors have told me I have an 80 to 90 percent chance of survival."*

*—Art Hensley, K-25 and Y-12 worker.*

(continued on page 3)



## Message from Dr. Markowitz, WHPP Project Director

What could be simpler or more appealing than to find out you have some disease or illness early in its course so that you can change your habits, take medications, or otherwise be treated to stop that disease or at least reduce its ability to interfere with your life?

The benefits of screening for the early detection of disease, however appealing, are unfortunately not so simple. Scientists argue passionately about these issues. Consider the breast cancer screening technique, mammography, which has been around for 50 years. There is still controversy about its benefits, especially in relation to age and frequency of testing, despite dozens of studies, critiques, and expert panel reviews.

The reasons for the delay in settling these issues are multiple. The science is not straightforward, because screening studies differ from most health studies, which involve people who are already sick. Second, amazingly, the natural history (what happens when a disease goes untreated) is not known for many diseases, so that when we change, or try to change, the natural history of a disease by treating, it is hard to judge exactly what effect treatment has had. Third, medical screening is expensive when applied to large populations, increasing the reluctance of health policy makers and payers to cover new screening techniques.

So, it should come as little surprise that CT scanning for

early lung cancer detection has provoked controversy. We in WHPP have provided such screening at the gaseous diffusion plants and currently do so at Y-12 and ORNL. In recent months, two of the most widely-read medical journals published articles with opposing conclusions. One showed a high long-term survival for people whose lung cancer was detected in a CT scanning project such as ours. The other article concluded the lung cancer death rates were not diminished in people who had been CT scanned as part of a lung cancer screening program. I would argue the first study is more compelling than the second.

But, given uncertainty, what is the proper balance between what doctors decide and what people decide for themselves? Some doctors would argue that lung cancer screening is justified only when we are absolutely certain that such screening reduces deaths from lung cancer in the population screened, more so than if that group had never been screened. But some people, especially those at high risk of lung cancer, might argue that, even if doctors are not fully certain that CT scanning for early lung cancer detection is effective, they still want to be screened, even in the face of the possible limited harm associated with screening. They are willing to "take their chances." And that is a reasonable point of view.

### WHPP Success At-A-Glance

(as of 3-31-07)

#### USW: Gaseous Diffusion Plants, INL and Mound

No. of callers	17,089
No. of exams completed	13,966
No. of workshops completed (excluding Mound)	121
No. of participants who attended workshops (excluding Mound)	891

#### ATLC: ORNL and Y-12

No. of callers	2,323
No. of exams completed	1,938

#### Fernald Medical Screening

No. of callers	788
No. of exams completed	329

If you haven't taken advantage of the WHPP free medical screening exam, call toll-free to make an appointment today!

GDP's:	1-888-241-1199
INL:	1-888-241-1199
Mound:	1-877-866-6802
ORNL & Y-12:	1-800-906-2019
Fernald:	1-888-241-1199



**Robert "RI" Jones,  
Idaho National Lab (INL)  
worker spoke about his  
experience with the Worker  
Health Protection**

#### **Program medical screen-**

**ing, "I would say that if you worked at all at the site and if you have any medical problems, you should get a hold of the union. They will assist you with filling out the paperwork and will get you some medical help, which they have done for me. I was a supervisor and I had nothing to do with the union for 15 years but they helped me."**



# Kick-off Ceremony for ORNL & Y-12 Lung Cancer Screening Program

(continued from page 1)

"Over and over, what I heard was that screening for lung cancer was the top priority for workers at the Y-12 and ORNL facilities," said Kenny Cook, former ATLC President. "Workers at the K-25 facility have had this for the past 6 years, and we are pleased that the DOE's Office of Former Worker Medical Screening Programs is now able to fund this program. We are also grateful for the bipartisan effort in Congress to secure funding as part of the appropriations process for the current fiscal year."

Lung cancer is the leading cancer killer in the US. Each year over 160,000 people die in the US of lung cancer, more than the next three most common cancers combined (prostate, breast, and colon).

Lung cancer is a life-threatening disease because it is usually

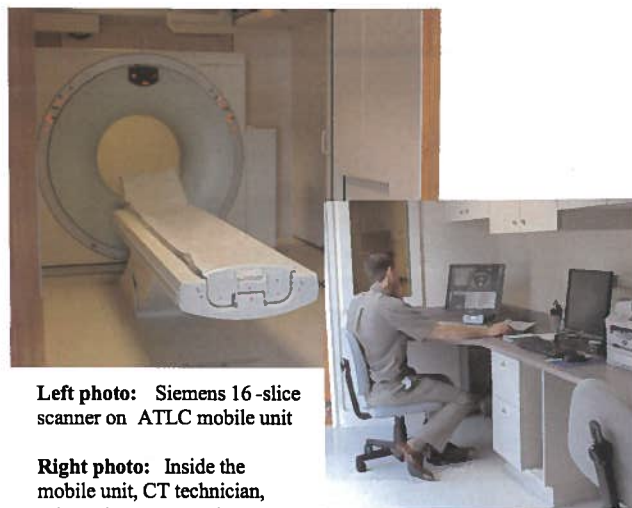
diagnosed only after symptoms (such as cough, fatigue, wheezing) appear, when the cancer is already in an advanced stage. Screening using low-dose CT scanning can detect lung cancer before symptoms appear and before it has spread to the lymph nodes or other organs. If detected early, the disease is more easily treatable.

"Early detection of lung cancer is

essential to reduce its terrible burden and suffering," said

## Did you know...?

- ❖ Lung cancer kills more people in the US each year than the next three most common cancers combined (prostate, breast, and colon).
- ❖ The current 5-year survival rate in the US for all patients diagnosed with lung cancer is 15% (compared to 64.8% for colon cancer, 89% for breast and 99.9% for prostate).
- ❖ With early detection, the 5-year survival rate for lung cancer may be as high as 70-80%.



Left photo: Siemens 16-slice scanner on ATLC mobile unit

Right photo: Inside the mobile unit, CT technician, John Lain, operates the scanner

Dr. Steven Markowitz, Director of the Queens College Center for the Biology of Natural Systems and the Worker Health Protection Program. "Only 15 percent of lung cancers are now detected early, but with this new CT scan technique, we are able to diagnose up to 70-80 percent of lung cancers at an early stage. By finding so many more cancers at an early stage, we hope to increase the number of people who survive lung cancer and extend the lives of others. Who deserves it more than the workers who put themselves in harm's way in the service of their country?"

For more information about the program, call the WHPP Early Lung Cancer Detection Program, toll-free at 1-866-228-7226.

## Capturing Living History: WHPP Oral History Project with Former DOE Workers

The Worker Health Protection Program (WHPP), in conjunction with the United Steel Workers (USW), began videotaping "cold war veteran" testimonials in the winter of 2006, to capture the rich history and often adverse working conditions at our participating DOE nuclear weapons facilities.

This videotaping project provided a unique opportunity to gain insight into the processes and procedures at each site, the day-to-day working conditions, and the potentially hazardous exposures workers faced on a daily basis.

Early in the project, as we traveled to each site, it became evident that we were going to capture more than just the details of the work that was done at each site. We realized that the stories being told were less about the dangerous working conditions or workers' attitudes towards management and more about the dedication these men and woman had toward to their country and about the strong relationships which existed between the workers. They were friends and neighbors who had bonds and relationships that extended beyond the fences of the plant. The

workers looked out for each other and, even in times of doubt, exemplified an extraordinary level of patriotism.

As the oral history project progressed, the team recognized that, in addition to documenting this important chapter of American history, the videotape could be used as an outreach tool to educate and attract more participants to the medical screening program. The data gathered about workplace exposures might also provide a valuable addition to the knowledge base used to examine federal workers' compensation claims.



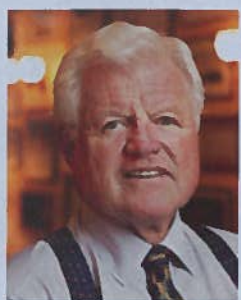
Arthur Mack spoke about working under hazardous conditions at the Paducah Gaseous Diffusion Plant, "It was just a mind set, the way things were. It was a time, you're in a Cold War state, and the plant is doing what it thought it had to, to keep supremacy in the United States..."



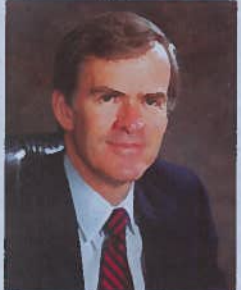
# Department of Labor (DOL) Issues Final Rules On Claims for

In late December 2006, the Department of Labor (DOL) issued the final rules and regulations that outlined how the Energy Employees Occupational Illness Compensation Act (EEOICPA) Part B and E claims will be administered. The DOL has been reviewing claims under interim rules published on June 8, 2005.

The final rule is entitled CFR Parts 1 and 30 Performance of Functions: Claims for Compensation under the Energy Employees Compensation Program Act of 2000. The new final regulations are essentially unchanged from the Interim Rule. In addition to the general requirements of the rule, the main provisions cover:



Senator Ted Kennedy D-MA



US Senator Jeff Bingaman D-NM

- Evidence required when submitting a claim
- Claim filing procedures
- Who qualifies for Parts B and E (eligibility criteria)
- Medical and related benefits available to successful claimants
- Impairment benefits under Part E
- Wage-loss determinations Under Part E
- Appeals process for claimants
- How Part E claims relate to Part B claims and state workers' compensation claims

Senators Ted Kennedy (D) Mass. and Jeff Bingaman (D) NM made significant recommendations for a strong DOL rule in the

Conference Report for the FY 05 Defense Authorization Act, but their recommendations were mostly ignored, as were those of worker advocacy groups and labor unions.

The Final Rule does have some improvements over the Interim Final Rule of June 2005. The Rule establishes an adjudicatory process to address instances when a claimant disagrees with DOL's decision to deny benefits for treatment of a covered occupational illness. The Final Rule also has a "conflict of interest" policy for physicians used by the Office of Workers' Compensation Programs.

One very positive aspect of the new Rule is its standard of causation for Part E claims for illnesses arising from exposure to toxic substances. The claim must show that the claimant's workplace exposure "is a significant factor which aggravated, contributed to or caused the illness." This more "lenient" standard of causation (compared to Part B) does not, however, extend to radiogenic cancers filed under Part E.

Some of the shortcomings of the Final Rule include:

- ◆ **The Rule fails to identify the role of the exposure matrix in the development of a claim.** Part E directed DOL to develop site profiles that would include assessments of toxic exposures at each DOE facility (called "exposure matrices"). However, the Rule fails to require that these exposure assessments be used in the evaluation of a claim. For many, the exposure matrix may be needed as a source of information to supplement inadequate or partial exposure history from the claimant.
- ◆ **The Rule requires Part E claimants with progressive illnesses to wait until "maximum medical improvement" to establish an impairment rating.**

## EEOICPA COVERAGE SUMMARY

**Note:** Prior to enactment of Part E in October 2004, claims for disability arising from exposure to toxic substances were covered under "Subtitle D" and had to be paid through the state workers' compensation systems after review by a DOE physicians panel. "Subtitle D" was abolished in October 2004, but all pending Subtitle D claims were transferred from DOE to DOL and processed under Part E.

Part B (in place since 2000)	Part E (new in October 2004)
<b>Illnesses covered:</b>  Radiation-related cancers, beryllium disease, silicosis (for underground test site workers in Alaska and Nevada)	<b>Illnesses covered:</b>  Occupational illnesses from toxic exposures (such as asbestos, solvents, heavy metals) and exposures also covered under Subtitle B – mainly radiation and beryllium)
<b>Benefits available:</b> <ul style="list-style-type: none"> <li>• Lump sum of \$150,000</li> <li>• Future medical benefits for covered illness (plus conditions consequential to the illness, such as side effects from treatment, complications of the disease (e.g., metastasis, etc.)</li> <li>• No requirement to establish permanent impairment or disability.</li> </ul>	<b>Benefits available:</b> <ul style="list-style-type: none"> <li>• Variable level of benefits based on degree of permanent impairment and wages lost prior to age 65, with a cap of \$250,000 plus future medical benefits for covered illness</li> <li>• DOE contract workers can file under both Subtitle B and E for the same condition, with a maximum combined benefit of \$400,000 (\$150,000 under Subtitle B plus maximum \$250,000 under Subtitle E).</li> </ul>
<b>Claims Payment:</b> U.S. DOL pays claims	<b>Claims Payment:</b> U.S. DOL pays claims



## Compensation Under EEOICPA

The Rule requires a maximum medical improvement or a "stabilized medical condition" for chronic diseases such as asbestosis, silicosis, or chronic beryllium disease; this does not make sense because chronic diseases progress slowly over years. The rule's only exception to "maximum medical recovery" is for terminal stage disease.

- ◆ **Part E claimants must wait two years for an increase in impairment benefits.**

Two years is too long for claimants to wait to file a claim for an increase in impairment benefits for the original illness, particularly when illnesses that are severe will result in rapid increases in impairment.

- ◆ **The role of the Ombudsman in the Rule is too limited.**

The Ombudsman is established basically to provide information on the benefits available under EEOICPA Part E. The Ombudsman should also serve as a workers' advocate. (If you need to reach the Ombudsman, the toll-free number is: 1-877-662-8363.)

Any future changes in Part B and E of the Energy Employees Occupational Illness Compensation Program Act of 2000 (EEOICPA) would require legislation modifying the Act.

*You can obtain a copy of the complete Rule from the DOL Office of Workers' Compensation Programs (OWCP) website at:*

[http://www.dol.gov/esa/owcp\\_org.htm](http://www.dol.gov/esa/owcp_org.htm)

## National Supplemental Screening Program Gets Off the Ground

The National Supplemental Screening Program (NSSP), run by Oak Ridge Associated Universities (ORAU) and funded by DOE's Former Worker Program, has started offering free physical examinations to eligible workers not previously served by any existing DOE former worker medical screening programs. That is, former workers who do not have a DOE screening program associated with their site (such as Pinellas production workers or Argonne National Lab) are eligible for the NSSP physical, if it has been at least five years since they last worked at the site.

The NSSP also offers medical screening to workers who currently live far from the local clinics associated with the former worker medical screening program for their DOE site. For example, if you are a former worker from the Paducah Gaseous Diffusion Plant and now live in Arizona, you may get a free physical at a NSSP clinic where you have relocated.

For more information on the ORAU NSSP program, go to <http://www.oraui.org/NSSP/>. For a referral to the NSSP, you may call the Worker Health Protection Program office, toll-free at 1-888-241-1199.

## Patricia Worthington, Director of the DOE Office of Health and Safety: Energy Worker Advocate

### Dr. Patricia R. Worthington

is the Director of the Office of Health and Safety, within the Department of Energy (DOE) Headquarters Office of Health, Safety, and Security (HSS). This DOE office promotes the health and safety of current and former DOE workers and the communities surrounding DOE sites. This is accomplished by 1) establishing policies for managing workplace hazards at DOE facilities 2) implementing effective health and safety programs and 3) supporting the conduct of national and international health studies and medical screening programs, such as the Worker Health Protection Program, to better understand the biological effects of ionizing radiation and other hazards.



Dr. Patricia R. Worthington

Previously, Dr. Worthington served as the Director of the Office of Environment, Safety, and Health Evaluations within the DOE Office of Independent Oversight. During her seven-year tenure in that position, Dr. Worthington led teams of experts in evaluating the effectiveness of environment, safety, and health programs at sites throughout the DOE complex. She also led a comprehensive investigation of DOE's Gaseous Diffusion Plants, a first-of-a-kind investigation for the Department, into allegations made by former employees regarding working conditions at the three plants. This 15-month investigation, which involved interviews with hundreds of former workers and examination of more than 50 years worth of records, formed the basis for the initiative that resulted in passage of a federal workers' compensation bill for energy workers.

Dr. Worthington has over 20 years of experience in nuclear safety and is an internationally recognized expert in the analysis of severe nuclear power plant accidents, fuel-coolant interactions, and chemical explosions. Prior to joining DOE, Dr. Worthington gained extensive experience at the Nuclear Regulatory Commission where her responsibilities included developing technical support documents for the establishment of Federal nuclear power plant regulations to address hydrogen issues; she also managed the Severe Accident International Research Program. Dr. Worthington is the author of numerous regulatory guides and US Nuclear Regulatory Commission Regulations (NUREG) Reports, as well as publications in journals and professional society proceedings on such subjects as decommissioning nuclear facilities, hydrogen combustion, and aerosol generation. She holds a Ph.D. in Chemistry from Howard University.



# WHPP Medical Screening Expanded to Include Mound Workers

The Mound Medical Screening Program began in summer 2006 and tests former plant workers from the Mound Miamisburg site which operated from 1948 to 1997 and the Dayton Project, which operated from 1943-1948. Workers are tested at two clinics run by Kettering Workers' Care, an occupational medicine provider with offices near the Miamisburg, Ohio plant.

The Mound WHPP Program maintains an office in Carrollton, Ohio. Eric Parker, former President of USW Local 84200, and Paige Gibson are the coordinators and Mike Ball is the retiree coordinator. The office is open daily from 8:00 a.m. to 4:00 p.m. to help program participants interested in the program and to assist with compensation questions and filing claims under EEOICPA. The Coordinators have studied the Mound site profile developed by the National Institute of Occupational Safety and Health (NIOSH) and the site profile audit to better help claimants.

The Mound WHPP coordinators are also active in the community, attending retiree breakfasts and luncheons and making presentations on the program. They work in coordination with the Department of Labor EEOICPA Resource Center and make the office available one week per month to Resource Center representatives.

Mound was a unique research facility that dealt with a number of exotic isotopes and chemicals. Initially large amounts of polonium were produced. Its work increased over time to include nuclear weapons component development and production and some non-weapons related work



Left to right: Mound WHPP Coordinators Eric Parker, Paige Gibson and Mike Ball

including radioactive waste management and recovery. The facility played an important role in the development, manufacturing, and evaluation of explosive components for the nuclear defense stockpiles. Mound also built the power supplies for NASA's space probes.

**For further information, contact the Mound Medical Screening Office at:**

**Address:** 113 East Central Avenue  
Carrollton, Ohio 45449

**Toll-free:** 1-877-866-6802

**Local:** 1-937-866-6802

**Fax:** 1-937-866-6803

## Records Destruction Uncovered: Ability to Properly Evaluate Mound Workers' EEOICPA Claims Likely Compromised

In 2005, officials at the Los Alamos National Laboratory ordered 400 boxes of records from the Miamisburg, Ohio Mound Plant to be buried in a New Mexico landfill for radioactive waste.

News of the records' destruction raised concerns that the ability of federal health officials to properly evaluate the risks faced by Mound workers would be compromised. To date, 700 workers and their survivors from the site have applied for compensation under the Energy Employees Occupational Illness Compensation Program Act of 2000 (EEOICPA) and more than three quarters of these claims (77%) have been denied by the National Institute of Occupational and Safety Health, the agency responsible for reconstructing radiation dose.

The records were shipped from Mound to Los Alamos in 1993 and tested positive for radioactive contamination before they left Mound. Eric Parker, local WHPP coordinator and former USW local 84200 president, and Paige Gibson, also a local coordinator, staff the local WHPP office for program participants. Their conversations with former workers reveal that workers handled these documents in both non-radioactive and radioactive areas without being told of the conditions. Parker and Gibson report that workers have gone on record about handling the radioactive documents without any protective equipment.

Joseph Fitzgerald of Sanford Cohen and Associates, the firm that audits site profiles for the President's Advisory Board on Radiation and Worker Health, discovered the records' destruction last April, when requesting an inventory of records at Mound. (Site profiles give a historical overview of the chemical and radiation hazards at a particular DOE facility and are compiled to assist NIOSH evaluate whether a claimant's illness is related to his or her work at DOE. The Advisory Board is tasked with reviewing the quality & accuracy of a percentage of the site profiles.)

Fitzgerald reported to the Advisory Board that the records buried at Los Alamos were particularly important in compiling a Mound site profile. He also questioned the fact that such a large amount of potentially relevant information was disposed of without a review by DOE's Office of Health, Safety and Security. Under an Energy Department 1990 moratorium, records that might be useful in health or epidemiological studies are not to be destroyed without a review by the Office of Health, Safety and Security.

The Radiation Advisory Board will consider whether the records that were destroyed are necessary for an accurate Mound site profile, at its meeting in Denver in May 2007. Meanwhile, an estimate of the cost of retrieving and decontaminating the records is now at \$6 million.

## Message from Ray Beatty, Local Coordinator, Fernald Medical Screening Program

My involvement with the Fernald Medical Screening Program actually began with a rather unusual start. I was reading my United Steelworkers union magazine and I came across an article about the Worker Health Protection Program (WHPP). I was curious as to why the Fernald DOE site was not included in this medical screening program, so I made a few telephone calls. I had the privilege of speaking with Libby White from the DOE, who introduced me to Dr. Steven Markowitz of Queens College to discuss funding and establishing a program for our site; the rest is history.

The WHPP medical screening for Fernald workers started in July 2006. We estimate that we have approximately 2,000 former workers to screen.

Our program has two unique aspects. As of October 2006, the Fernald site is now officially considered a "closure site" by the Department of Energy. This closure status makes contacting our former workers somewhat difficult, as many have moved or relocated to other areas for employment. The second unique aspect of our program is that we are only screening former workers who were employed at our site after January 1st, 1986 (until closure in October 2006). For anyone who worked for National Lead of Ohio (NLO) from the early 1950's until NLO left the site December 31, 1985, there is a separate medical monitoring program, that was established in 1995, known as the Fernald II Workers Settlement Fund Program (FWMMP).

The local Fernald Medical Screening Program staff works very closely with participants, assisting them with

occupational history questionnaires (completed in advance of the medical screening), and providing information about federal workers' compensation through the Energy Employees Occupational Illness Compensation Program Act (EEOICPA) and state workers' compensation claims. Fernald workers' concerns about adverse health effects are very similar in nature to the other DOE sites; that is, they worry about their exposures to radiation, chemicals, and toxic dusts such as asbestos or beryllium.

On behalf of the Fernald WHPP Medical Screening Program, I want to express my appreciation and give thanks for the support of The Metal Trades Department AFL-CIO President, Ron Ault. He has personally seen the harmful effects on the health of our union brothers and sisters who have dedicated so much for our great country towards winning the Cold War and knows how important the Worker Health Protection Program is to our former coworkers. It has also been a pleasure working with Senator George Voinovich and Senator Sherrod Brown of Ohio, who support this program. And finally, I would like to thank the Department of Energy for recognizing the importance of these programs now and the importance of their future continuation given the often long latency period of health effects from toxic exposures.



## WHPP Program Offers Former Fernald Workers Medical Exams

Based in Harrison, Ohio, near Cincinnati, the Fernald WHPP Program is coordinated by two former workers and local Fernald Atomic Trades and Labor Council Officers, Ray Beatty, former financial secretary, and Alan "Mooch" Callaway, former vice president, of Fernald ATLC. Testing of former workers is done by Mercy Medical Center.

The Fernald Feed Materials Production Center, a uranium processing facility, first broke ground in 1951 and continued for nearly four decades of the Cold War to deliver high-grade uranium metal products for the nuclear weapons complex.

Production ended at the site in 1989 and its mission changed to environmental clean-up. Thanks to the help of over 3,000 workers, the plant became a closure site in late 2006 after pursuing an accelerated cleanup plan that resulted in significant savings of time and tax dollars.

The Fernald Medical Screening Program maintains an office at 1150 Harrison Avenue, Harrison, Ohio -- where Beatty and Callaway answer phone calls requesting information on the program and also about the Energy Employees Occupational Illness Compensation Program Act of 2000 (EEOICPA). The team also provides assistance with the completion of occupational exposure questionnaires for the medical exam and, if requested, provides assistance with workers' compensation claims for partici-

pants with abnormal screening results letters.

To date, 329 former workers have been tested through the Fernald Worker Health Protection Program. Beatty estimates that the potential population of participants for the medical screening is around 2,000. Over the years many more workers were employed at the Fernald site, however, the Fernald Worker Health Protection Program is limited to screening former workers who were employed at the site after January 1st, 1986 until closure in October 2006. There is a separate medical monitoring program, established in 1995, known as the Fernald II Workers Settlement Fund Program (FWMMP) for anyone who worked for National Lead of Ohio (NLO) from the early 1950's until NLO left the site December 31, 1985.

**For further information, contact the Fernald Medical Screening Office at:**

**Address:** 1150 Harrison Avenue – Suite 106  
Harrison, OH 45030  
**Phone:** 513-367-1333  
**Fax:** 513-367-4698



# Understanding Anemia

Blood is a complex tissue made up of a mixture of cells in a liquid called plasma. There are three types of cells present in the blood:

- white blood cells
- platelets
- red blood cells

**White blood cells** fight infection. **Platelets** help blood clot when bleeding occurs. **Red blood cells** carry oxygen from your lungs, via your bloodstream, to the various body tissues. Specifically, **hemoglobin**, an iron-rich protein in the red blood cell “picks up” the oxygen brought into the body from the lungs. Hemoglobin also carries carbon dioxide back to the lungs so that it can be expired.

Red blood cells are produced regularly in the bone marrow, a material found within the cavities of certain bones. To produce hemoglobin and red blood cells, the body needs an adequate amount of iron, protein and vitamins from food. Red blood cells have an average life span of about 100-120 days. When these cells no longer function adequately, they are removed from the circulation by other cells. Millions of red blood cells are destroyed on a daily basis, but millions more are formed to replace them.

When the blood has too few red blood cells, this condition is called **anemia**. Anemia can occur for many reasons, but there are three basic mechanisms involved: 1) the body produces too few healthy red blood cells, 2) the body loses too many red blood cells (excessive bleeding) or 3) destroys them faster than they can be replaced. (Anemia may also describe a condition when the amount of hemoglobin in the red blood cells is below normal.)

Medical screening to detect anemia usually involves a blood test called a “complete blood count” (CBC). This test measures the levels of the different types of blood cells. To evaluate whether anemia is present, three specific values are looked at: the hemoglobin count; the hematocrit; and the red blood cell (RBC) count. The hemoglobin count is the amount of this particular protein in a sample of blood. The hematocrit measures the proportion (percentage) of the blood that is made up of red blood cells. The RBC count measures the number of red blood cells in a sample of blood.

A person may be considered anemic if any one of these tests is below the normal values. (See table on this page.)

Over 3 million people in the United States are affected by anemia. Though there are many different types of anemia, the most common are described below.

- **Iron deficiency anemia** is the most frequently diagnosed anemia in the United States. The cause is a shortage of iron in the body. The bone marrow needs iron to make hemoglobin. Without adequate iron, the body can't produce enough healthy red blood cells.
- **Vitamin deficiency anemia** is another common anemia. Folate (a vitamin) and vitamin B-12 are needed to produce sufficient numbers of healthy red blood cells. A diet lacking in these and other key nutrients can cause decreased red blood cell production.
- **Aplastic anemia** is an anemia caused by a decrease in the bone marrow's ability to produce all three types of blood cells — red blood cells, white blood cells and platelets. In most cases of aplastic anemia, the cause is unknown, but there are well-known occupational causes, including benzene, arsenic and ionizing radiation.
- **Hemolytic anemia** develops when red blood cells are destroyed faster than bone marrow can replace them. Certain exposures, such as lead, can cause increased red blood cell destruction.

There are several other forms of anemia including sickle cell anemia and thalassemia, which are hereditary conditions. Certain chronic diseases — such as cancer or kidney failure — can also interfere with the production of red blood cells, resulting in chronic anemia.

The CBC test can diagnose if anemia is present, but further tests may be needed to determine more precisely the cause of the anemia, which in turn will determine the appropriate monitoring and treatment.



Complete blood count test	Normal values for men	Normal values for women
Red blood cell (RBC)	4.2 to 5.8 million per microliter of blood	3.8 to 5.1 8 million per microliter of blood
Hemoglobin	13.2 to 17.1 grams per deciliter of blood	11.7 to 15.5 grams deciliter of blood
Hematocrit	38.5 to 50 percent	35 to 45 percent

## WHPP Health Watch

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### Written, edited and compiled by:

Moriah Ferullo, RPA-C, MPH  
Amy Manowitz, MPH  
Steve Markowitz, MD  
Lyndon Rose, MD, MPH  
Sylvia Kieding, BA

### Other contributing authors

this issue:  
Ray Beatty  
Paige Gibson  
Eric Parker  
Herman Potter

For more information visit our website at:  
[www.worker-health.org](http://www.worker-health.org) or e-mail us at  
[whpp@qc.cuny.edu](mailto:whpp@qc.cuny.edu) or call us at 1-888-241-1199  
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