



NIOSH Dose Reconstruction Project Meeting On Fernald Site Profile

Date:

November 16, 2004

Meeting with:

Greater Cincinnati Building and Construction Trades Council, AFL-CIO

Attendees:

Bill Froehle	United Association Local # 392
Fred Gee	Roofers Local # 42
Don Madden	Millwrights Local # 1066
David A. Horn	Cement Masons Local # 132
Timothy I. Long	Glaziers Local # 387
Rick Kremer	International Brotherhood of Electrical Workers Local # 212
Tony Lack	International Brotherhood of Electrical Workers Local # 212
John Cotton	Iron Workers Local # 44
Troy Wafner	Sheet Metal Workers' International Association Local # 24
Mark Schinawau	Sheet Metal Workers' International Association Local # 24
Dave Meier	United Brotherhood of Carpenters
Harry Richardson	Laborers Union
Zeno Whittle	Cement Masons Local # 132
Joe Zimmer	Greater Cincinnati Building and Construction Trades Council
Joe Medley	Boilermakers Local # 40
Barry Rohrmeimer	Asbestos Workers Local # 8
Jim Wilkening	United Association Local # 392
Mike Carpenter	Teamsters Local #100

NIOSH and ORAU Team Representatives:

Chris Ellison – National Institute for Occupational Safety and Health (NIOSH) Office of Compensation Analysis Support (OCAS)

Mark Rolfes – NIOSH

William Murray – Oak Ridge Associated Universities (ORAU)

Kevin Clausing – Department of Labor (DOL)

Mel Chew – Fernald Site Profile Team Leader

Mark Lewis – Advanced Technologies and Laboratories International, Inc.

Melissa Fish – ORAU

Proceedings

The meeting began at 9:00 a.m. with all members of the audience introducing themselves. After the introductions, Mark Lewis began by thanking everyone for their participation in the meeting. Mr. Lewis stated that the purpose of the meeting was to help the National Institute for Occupational Safety and Health (NIOSH) and the Oak Ridge Associated Universities (ORAU)



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Team gathers information from the Greater Cincinnati Building and Construction Trades because they are likely to have personal knowledge regarding the Fernald site and the work processes that occurred at Fernald. Additional Fernald site-specific information could be used to help supplement the Fernald Site Profile which will result in a more accurate and useful Site Profile document for use in the dose reconstruction efforts. Mr. Lewis stressed that it is important to the NIOSH/ORAU team that the various labor groups have input into the Site Profile process. Mr. Lewis then pointed out that the meeting was being recorded so that the team could accurately record individual concerns and comments. Mr. Lewis emphasized that the team only cares about the concern/comment and not who made the comment. Mr. Lewis then introduced the team members who were present at the meeting.

Mark Rolfes also thanked everyone for attending the meeting and told the group that the NIOSH/ORAU team was there to solicit comments and to answer questions that might arise during the meeting.

Bill Murray welcomed everyone and thanked them for taking the time to participate in this meeting. He explained the purpose of the sign-in sheet and audio recorder. Mr. Murray made it clear that attendee names would appear on the front page of the minutes only. Comments and concerns voiced during the meeting would be recorded but not associated with any specific individual. Mr. Murray stressed that the sole reason for the recorder is to make sure that the Worker Outreach team is able to record all of the comments and not to serve as a record or reference for linking names with comments. He added that the comments would be included in a set of minutes that will be created, and people attending the meeting would have the opportunity to review the draft minutes and recommend corrections to the minutes before the draft minutes are finalized and included on the NIOSH website.

Mr. Murray explained that the meeting discussion would focus on the Energy Employees Occupational Illness Compensation Program Act (EEOICPA) and the development of the Fernald Environmental Management Project Site Profile. Mr. Murray told the group that the first version of the Fernald Site Profile is complete and that the NIOSH/ORAU team is soliciting comments and feedback regarding the document. Mr. Murray encouraged the group to ask questions at any point during the presentation.

Mr. Murray explained that the Department of Labor (DOL) is in charge of the EEOICPA program and that there are two types of claims. He provided general information regarding both Subtitles of EEOICPA. Mr. Murray explained that the Outreach team was at the meeting to discuss the Subtitle B portion of EEOICPA regarding radiation and cancer claims. DOL can provide further information and assistance regarding the Subtitle E portion of EEOICPA.

Next, Mr. Murray went on to explain that a team approach including the NIOSH Office of Compensation Analysis and Support (OCAS), and the prime contractor, ORAU, is being used to process claims. Mr. Murray noted the significant dates regarding EEOICPA and added that there are currently about 17,000 claims that have been sent to NIOSH. ORAU works with



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NIOSH/OCAS by helping with the dose reconstructions and the Worker Outreach program. Currently the Worker Outreach program has been to about 15 different sites. Mr. Murray took this time to briefly describe how the probability of causation (POC) is used in determining the outcome of a claim. Generally speaking, if the POC is greater than 50% the claim is awarded and if it is lower than 50% the claim is not awarded.

Mr. Murray explained that the Site Profile is used by radiation specialists to reconstruct radiation doses. The Site Profile provides site-specific technical information and minimizes the interpretation of data so that all claims at a site are handled in a fair and equitable manner. Mr. Murray emphasized that all Site Profile documents can be revised if new information is discovered that would impact the dose reconstruction results.

Mr. Murray pointed out that the site profile is made up of five major sections: site description, external dosimetry, internal dosimetry, occupational environmental dose, and occupational medical dose. The site description describes activities that went on at the site. The external dose and internal dosimetry sections use information from the site dosimetry programs. The occupational environmental dose section looks at the radiation exposures that workers might have been exposed to through the environment (i.e. air) even if the workers were not included in the dosimetry programs. The occupational medical dose section looks at exposures to radiation that workers experienced from x rays that were required as a condition of employment, such as employer required chest x rays. Mr. Murray added that the EEOICPA is unique because it includes the occupational environmental dose and occupational medical dose when reconstructing doses. By including the occupational environmental dose and the occupational medical dose, EEOICPA is being claimant-favorable and actually increases the amount of radiation that is assigned to each individual claimant, which in turn, will likely result in an increase in an individual claimant's POC.

Mr. Murray stated that the Fernald Site Profile team was established in May 2003 and that the team leader is Mel Chew. The Fernald Site Profile has been completed and has undergone an intense and stringent review process and has been approved by NIOSH. The Fernald Site Profile is used to reconstruct radiation doses to workers at Fernald and covers the time from site construction in 1951 to present. The Fernald Site Profile can be obtained from the NIOSH website at <http://www.cdc.gov/niosh/ocas/ocas/ocastbds.html#Fernald>.

Mr. Murray told the group that the Fernald site description provides an overview of the facilities and activities at Fernald since 1951. Included in the Fernald overview are the radioactive materials and radiation sources at the site, as well as the potential radiation exposures from occupational, environmental, and medical radiation sources. For example, the Fernald site description includes information regarding the primary job of producing high-purity uranium products, long-term storage of thorium metals, waste processing and management, and Fernald site remediation. Significant radionuclides present include normal, enriched, and depleted uranium, thorium, radon, and thoron.



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The Occupational External Dosimetry section includes information about dosimeter technology, exchange frequency, workplace radiation fields, and worker locations around radiation sources. It specifically includes information regarding the sources of exposure at the site, methods and practices used by the site over time, and adjustments to recorded doses. This section also looks at the minimum detectable levels (MDLs) of badges to see how much and how little radiation could be detected. Mr. Murray explained that the dose reconstruction attempts to account for the MDL by assigning a dose even when a worker's recorded dose after reading the badge is zero. In cases of recorded zeros, a dose equal to one-half of the MDL is assigned to the worker for each badge exchange. In assigning an external dosimetry dose for every recorded zero, the NIOSH/ORAU team believes that the occupational external dosimetry process used in the dose reconstruction is one example of being claimant-favorable.

Mr. Murray explained that the Occupational Internal Dosimetry section of the Fernald Site Profile includes information regarding the methods and practices used at the Fernald site, the sources of internal radiation exposure, the minimum detectable activity (MDA), which is the smallest amount of a radioactive material that can be detected by whole body counting and urinalysis, as well as reporting levels that were used. Mr. Murray went on to give details regarding the Fernald Bioassay Program which started in 1951. Urine was tested for uranium. Gamma-emitting radioactive materials were measured in the body using a whole body counter beginning in 1968. Records of air monitoring inside buildings are available beginning in 1952.

Concern:

Considering that the whole body counter process was in place since 1968, who did the whole body counter process involve?

Comment:

The commenter wonders how well the building trades' workers were monitored either *in vivo* or *in vitro*.

Mel Chew:

I discovered while writing the Fernald Site Profile was that any person, regardless of job title, exposed or involved in a radiation accident received some type of monitoring. The monitoring could have been urinalysis, whole body counting, or a combination of both.

William Murray:

If there was a radiation dose recorded at the site, either a whole body count or a urinalysis, that information should be included in the individual's dose record. If that information is not in the dose record, then during the telephone interview, the claimant should discuss the type of test that was performed so that the person completing the dose reconstruction for that particular claim would know to go look for that specific information.

Concern:

Are *in vivo* records automatically considered?



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William Murray:

Both *in vivo* and *in vitro* records would be considered, especially if the claimant makes sure that the person performing the interview knows that *in vivo* and *in vitro* information is available.

Question:

Did everyone who worked at Fernald have a baseline urinalysis performed when he or she started to work at the site?

Mel Chew:

Not every worker at the Fernald Site had a baseline. But workers who had the potential to be involved in an accident or were involved in a radiation incident most likely received a baseline urinalysis. It would have been highly unlikely that a worker involved in an incident would have been allowed to leave the site without a urinalysis.

Concern:

Workers are not sure how deep into the work force the whole body count process was used, especially in the earlier years.

Mel Chew:

The whole body count started in 1968 but prior to that date the urinalysis was used.

Mr. Murray explained that the Occupational Environmental Dose section of the Fernald Site Profile could be useful in determining the dose for workers who were not monitored.

Unmonitored workers may include building trades workers. Workers who were not monitored might have been exposed to radiation on site from radioactive materials in the air, radiation sources in buildings, and radioactive materials in the work environment. Specifically regarding Fernald, the external radiation dose resulted from radiation sources inside buildings, radioactive wastes, storage, etc. Site-wide monitoring data were used to calculate the external dose for unmonitored workers. From 1951 to 2003, the average annual dose rate ranged from 0.009 to 0.019 mrem/hr. Regarding environmental dose, Mr. Murray stated that the environmental dose inside the body results from radioactive materials in the air on the site that the worker breathes. The annual intake of radioactive material is based on the average annual air concentration.

Mr. Murray explained that some employers required x rays as a condition of employment. The frequency of employer required x rays and the x-ray equipment and techniques that were used are all considered when reconstructing occupational medical radiation doses.

Mr. Murray concluded his presentation by noting that developing a usable site profile is an important task that helps radiation specialists reconstruct claimant radiation doses. The Fernald Site Profile can change based on input that workers and other site experts provide. All comments regarding the Fernald Site Profile should be sent directly to NIOSH @ National Institute for Occupational Safety and Health, Robert A. Taft Laboratories MS-C34, 4676



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Columbia Parkway, Cincinnati, Ohio 45226 or faxed to NIOSH @ 513.533.8230. Fernald Site Profile comments can also be emailed to: siteprofile@cdc.gov.

Discussion Session

Concern:

Union Representatives want to provide assistance to their members, especially those who are elderly or ill. However, people are not clear about how much they can assist claimants or how to go about providing assistance.

Kevin Clausing:

DOL has 10 Resource Centers available throughout the United States that assist claimants in filing claims. The DOL Resource Centers have contacts with all of the EEOICPA players so that someone with information about a specific incident can also contact the DOL and that information will get passed on to the appropriate agency. The DOL Resource Centers are available to provide any type of assistance that claimants need regarding their claim-- whether it is assistance with understanding the letters they receive, understanding a draft dose reconstruction report, or going to have medical tests. If the Resource Center needs information from a Union Representative, DOL will contact the Union Representative and ask for specific information so that claimant assistance can be provided.

Mel Chew:

It is important when working with a claimant to get as much information as possible regarding time, date, and specific building information regarding an incident. It is also very important that everyone understand that when performing the dose reconstructions, all information related to incidents will be considered. Site Profile information is not the only information that is used when reconstructing doses.

Question:

What do claimants, especially survivors who do not typically have large amounts of information, need to do to have an authorized representative helping them throughout the EEOICPA claim process?

Kevin Clausing:

The person wishing to become an Authorized Representative will need to fill out a form and then they will begin receiving the same information that the claimant is receiving and the Authorized Representative will be able to participate throughout the entire process with the claimant.

Concern:

The Fernald Site Profile seems to have an emphasis on workers who worked at the Fernald site in the past. What about current workers? There were some materials stored at Fernald that were not used in production. For example, recently there were workers exposed to radiation because



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they were trying to remove a General Electric stove/oven. The workers did not know what they were working with and ended up being exposed.

Answer:

Current exposures and incidents would be recorded and reported by the people currently operating the site. A recent incident would not be included in the Fernald Site Profile.

William Murray:

In response to general questions about what doses would be included in a dose reconstruction, building and construction trades had different exposure conditions and circumstances. A new chapter will be added to the site profile documents which will specifically cover the building and construction trades. The NIOSH/ORAU team is working with the Center to Protect Worker Rights to address such issues. NIOSH is aware that Fernald had at least four or five companies that they contracted out with. Any dose resulting from working with those contractors would be included when developing the dose reconstruction. However, any dose related to working at sites regulated by the Nuclear Regulatory Commission will not be included in the dose reconstruction. Depending on the specifics, Decontamination and Decommissioning work might or might not be included in the dose reconstruction report.

Concern:

It is likely that there are other sources of radiation stored at Fernald from other sites that do not show up in the Fernald Site Profile.

Mark Rolfes and Mel Chew:

The dose reconstruction effort goes beyond just considering information from the site profiles. The site profile provides the person completing the dose reconstruction with baseline information. However, because the dose is being reconstructed for an individual, any information that is brought up during the telephone interview will be investigated and considered. Just because something is not mentioned in the Fernald Site Profile does not mean that it will not be considered in the dose reconstruction. It is important that claimants bring up their issues and concerns so they can be considered as the individual's dose reconstruction is being calculated.

Question:

Have any claimants been through the entire EEOICPA process?

William Murray:

Some claims that have gone through the entire process and there are some that have received compensation.

Mark Rolfes:

Currently NIOSH has received 559 claims regarding Fernald from DOL, and of those 559 claims, 265 dose reconstructions have been completed. Of the 265 completed claims, approximately 71 have resulted in a POC of greater than 50% and 194 have resulted in a POC of less than 50%.



Concern:

Is the *in vivo* process part of the bioassay?

William Murray:

Yes, both the *in vivo* process and the *in vitro* process are parts of the bioassay. The *in vivo* process is the whole body count; the *in vitro* process is the urinalysis. In short, bioassay is a common health physics method to measure the dose inside the body.

Question:

What should claimants do when they have information regarding specific dates and specific events?

William Murray:

Claimants and others with specific information regarding events, accidents, or occurrences should notify NIOSH and talk to the people performing the telephone interview to make sure that the specific site information is known.

Comment:

What issues did the Building Trades have with the Savannah River Site Profile?

William Murray:

The Savannah Site Profile meeting demonstrated the need for additional information for the building and construction trades workers. After listening to those concerns, NIOSH decided to add an additional chapter to the site profile specifically for issues related to the building and construction trades' workers.

Concern:

In the past the University of Cincinnati Hospital performed radiation testing. There are currently workers tearing down buildings that might be contaminated, thus exposing the current workers. Is there anything that will cover current workers who are tearing down buildings at the University of Cincinnati Hospital?

William Murray:

EEOICPA would not cover people working at the University of Cincinnati Hospital.

The meeting was adjourned and Mr. Lewis thanked everyone for attending the meeting. Mr. Lewis encouraged further input and comments. A copy of the Fernald Site Profile will be made available for the Building and Construction Trades Union Hall.