



NIOSH Dose Reconstruction Project Meeting On Pinellas Site Profile – Afternoon Session

Date:

September 2, 2004 (afternoon)

Meeting with:

Former Pinellas Plant workers invited via mass mailing for an information session regarding the Site Profile. This was the first meeting arranged prior to Site Profile development. The mailing was based on the mailing list of the “Quarter Century Club,” the only known organization or mailing list of former Pinellas workers. The invitational flyer, sent to known former workers, (approximately 600 sent) is attached.

Attendees:

Clarence Davis	William H. Williams	Melvin McKeel	Dolores Daly
David Vaughn	Jim Humphries	Virginia Conrad	Nancy Pethe
John Pethe	Albert Currington	Lois Grayson	Jon E. Dupes
Mary A. Christy	Helen Keseleski	Walter Fulford	Jan Eiserman
Dolores Hubbard	Gerald P. Peterson	Dorothy Murray	John Holliday
Gina Lindsley	Marti Royo	Bill Garen	Horace Piner
Marcus Duncan	Thomas O’Bryant	John T. Pool	Robert Smith
Paul Messenger	Ogot Ludwig	George Nelson	Charles A. Smith
Russel W. Loughry	Sam Mack	Bob Turner	Dan Sgro
Verlean Merritt	Lou Reinhardt	Robert Bossard	Marilyn Bossard
Al Ulmer	Elmer T. Henry	Arlene Henry	Glenn Vogt
Thomas Cole	Warren Hutton	James E. Spencer	Jessie Ford
Claud Romine	Gene Mumma	Sandy Wilson	

NIOSH and ORAU Team Representatives:

Jim Neton – National Institute for Occupational Safety and Health (NIOSH), Office of Compensation Analysis Support (OCAS)

William Murray – Oak Ridge Associated Universities (ORAU)

Mark Notich – Site Profile Team Leader

Mark Lewis – ATL International Inc.

Dawn Catalano – ATL International Inc.

Proceedings

Mark Lewis opened the meeting at approximately 2:00 p.m. by thanking everyone for coming, particularly considering that a hurricane was expected within a few days. He explained that the names and addresses for the invitational flyer were generated from a mailing list provided by one of the former Pinellas workers, and commented that it was a great turnout. Mr. Lewis stated that the purpose of the meeting was to gather information for the development of the Site Profile for the Pinellas Plant. He gave an overview of the Energy Employees Occupational Illness Compensation Program Act (EEOICPA), explaining that the Site Profile is a document that is



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used as a tool for dose reconstructions. He added that the information that anyone gave would be used for NIOSH and ORAU to get an idea of the day-to-day operations and procedures at the plant.

Mr. Lewis talked about his personal experiences as a worker in the Portsmouth Plant during his 20 year career. He said that he became involved with the PACE union. As the health and safety officer, he worked for the bill in Congress that became the EEOICPA. He thanked the attendees again for their participation, and turned the meeting over to Dr. Jim Neton of NIOSH.

Dr. Neton also thanked everyone for attending and introduced himself as the Associate Director for Science at the NIOSH Office of Compensation Analysis and Support in Cincinnati. He said that any discussion of claims at the meeting would be restricted to general topics and eligibility information. He added that if anyone wanted to discuss a specific claim, he would be available to do so after the meeting. Dr. Neton reported that nearly 300 claims had been filed by Pinellas workers or their survivors, and that NIOSH had received a total of approximately 18,000 claims from all Department of Energy (DOE) sites in the last few years. He then turned the meeting back to Mr. Lewis, who introduced the Team. Mr. Lewis then turned the floor over to Mr. Bill Murray for the presentation.

Mr. Murray thanked everyone for attending, especially considering the bad weather. He said that he finds the project very rewarding and has gained much insight from talking to people about their experiences. He stated that the issues being discussed in this meeting are those related to radiation claims only. Mr. Murray also mentioned the handouts that had been distributed, pointing out that they would help to follow along and include maps of the facility to help prompt memories.

Mr. Murray began the presentation by explaining that there are two different types of claims covered under EEOICPA. Claims filed under Subpart B go to the Department of Labor (DOL) involve cancer cases that may be related to radiation exposure, and cases of beryllium disease and silica cases from exposure of underground workers to silica. Claims filed under Subpart D, which is overseen by the DOE cover chemical exposure and are outside the scope of this meeting.

Mr. Murray stated that the Office of Compensation Analysis Support is the office in NIOSH that is responsible for radiation dose reconstruction. DOL sends claims to NIOSH after verifying the claimant's employment at a DOE site. He explained that the EEOICPA was enacted in 2000, and DOL began accepting claims in July 2001. The dose reconstruction project was so large it was necessary for NIOSH to contract with ORAU to perform many of the tasks. ORAU assembled a team of specialists with subcontractors in a collaborative effort. The Outreach Project was begun in 2003.

Mr. Murray began a discussion on Site Profiles, stating that for those that are already written (about 15), there was generally no worker input until after the fact. Pinellas is one of the first for which NIOSH and ORAU are soliciting workers' input at the beginning of the process. Workers who know what was really going on in the plants can add valuable information to the profiles. Mr. Murray explained that Site Profiles are designed for use by radiation specialists (Health Physicists) who are performing dose reconstructions to be used as a tool to ensure consistency, fairness, and to minimize the need for interpretation of data.



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Mr. Murray explained that Site Profiles are organized into six sections known as Technical Basis Documents – Introduction, Site Description, Occupational Medical Dose, Occupational Environmental Dose, Occupational Internal Dose, and Occupational External Dose. Mr. Murray said that Mr. Notich leads a team of radiation specialists (Health Physicists) that is working on the Site Profile for Pinellas. Although nothing has been written yet, the team has collected much information on the site, and will incorporate additional information gathered from the workers as a result of this meeting. The team already knows that Pinellas was fully operational in a manufacturing capacity from 1957 to 1994. The site changed over from manufacturing to environmental management in 1994 according to the records we are already working with.

Concern:

There were still manufacturing components at least into 1995. Items were still being shipped at that time, suggesting they had been produced after 1994. It is possible the manufacturing went on as late as 1997.

Mr. Murray:

This is exactly the kind of information NIOSH and ORAU are looking for. Now the challenge is to find out what was actually going on in the plant after 1994.

Dr. Neton:

The program run by the DOE was for nuclear weapons production; the work that was done in 1995 may or may not relate to that. NIOSH and ORAU will look into it.

Concern:

In a meeting in a glass room in Building 300, they told us our mission would end in September 1994.

Concern:

It might be helpful to get test records. The post-1994 work may have been part of the decommissioning process.

Mr. Murray:

The Site Description lists radiation sources present that could deliver doses to the workers. NIOSH and ORAU also need to know about accidental releases.

Concern:

Workers were aware that the smokestack flange at the base had all but three bolts broken off. When the crew went in to repair it, we found gaps that would have allowed leakage.

Concern:

Exhausts had closed ventilation systems. The rooms were not self contained; they were wide open. Materials in the air would be circulated throughout the whole plant. It would be helpful to talk to the facilities people.

Concern:

What makes NIOSH and ORAU think any information workers contribute ten years later will be more accurate than the documentation you already have? What could the contribution be?



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Dr. Neton:

NIOSH and ORAU are looking for worker input to supplement information provided by facility monitoring programs records. DOE has been accused of covering up and keeping faulty records; there is a general distrust of DOE records among unions and workers. NIOSH and ORAU believe worker experience is a good source of information.

Question:

Will this information affect our claims? Put us over from the ‘No’ side to the ‘Yes’ side?

Dr. Neton:

That is not something that can be answered here in this forum. The information will make the Site Profile more accurate, but NIOSH and ORAU conduct interviews for every claim to make sure the most complete information is included in individual cases.

Question:

What if the worker died?

Dr. Neton:

Survivor benefits are part of the program; a qualified relative could file a claim.

Question:

How do you find out how to file a claim?

Dr. Neton:

The Department of Labor (DOL) runs local outreach programs and has resource centers to help people file claims.

Concern:

The most disturbing thing is that people don’t get information on the program. The plant has records of everyone who ever worked there – why weren’t more people invited? There should be a thousand people here today.

Dr. Neton:

DOL is working hard to get the word out. It is within their purview to inform workers about the program. There are more than 300 facilities within the Atomic Weapons Employers (AWE) designated by DOE that are covered under EEOICPA. NIOSH recently brought in the General Electric Plant, an AWE facility in Wisconsin, in to include workers who transferred from Pinellas. Ideally, NIOSH and ORAU would like to inform those workers as well.

Question:

Most of the Pinellas workers who filed claims had interviews. What other information is needed?

Dr. Neton:

The interview is only one piece of the puzzle. NIOSH needs to reconstruct the whole story including what went on at the plant on a daily basis in order to get an accurate picture of the exposure potential. The tests and monitoring workers received also have to be evaluated.

Concern:

The plant doctor told us that high dose didn’t mean anything; we certainly know now that it does.



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Dr. Neton:

The report that claimants get back with the determination letter interprets what the doses mean. NIOSH and ORAU have found that certain tools used in the plants would not take accurate measurements. In those cases, NIOSH and ORAU give that dose back to the claimant as a missed dose.

Mr. Murray explained that the Occupational Medical Dose covers the doses from employer-required medical x-rays. These doses are not found in workers' DOE radiation dose records. He also explained that Occupational Environmental Dose is workers who were not monitored but who could have been exposed to radiation at the plant. Workers who were monitored would have doses calculated based on the monitoring done, the accuracy of the method, and the source of the exposure. NIOSH and ORAU know that neutron generators and x-ray machines were sources of radiation present at Pinellas, and that tritium and krypton-85 may have been in the air.

Mr. Murray concluded his presentation by explaining how to contact NIOSH with questions or information about the Site Profile. He then turned the meeting back to Mr. Lewis for the Site Profile Discussion Session and thanked everyone for their time and participation.

Discussion Topics

Mr. Lewis opened with comments regarding the concerns that were expressed about the efforts to get the word out about this meeting. He explained that there are usually unions to help get the workers together, but in this case all that NIOSH and ORAU had to work with was the mailing list we obtained through contacts in the community. He added that the outreach effort is starting off with this meeting, and that there are likely be more as the document is developed. He then launched into the topics outlined in the meeting agenda, asking questions specific to the kinds of information the Site Profile Team needs to begin writing.

External Dosimetry

What was the frequency of badge exchange?

The frequency of badge exchange depended mostly on what location of the plant you worked in. Workers in Area 8 and Area E (Tube & Exhaust) exchanged badges weekly.

Workers did not always know when to expect the badges to be changed. There was no regularity or predictability in the frequency of badge exchange; workers simply used what was issued on that particular workday. Workers would pick up a badge in a certain area, and then leave it there when the work was done. This was normal practice from 1965 to 1995.

The badges did not measure dose to but the contamination in the area. Workers harbor a general distrust concerning thermoluminescent dosimeters (TLDs). Since the usage was not strict, the results could be unreliable.

Monitoring was a trial and error process starting in 1957 in Area 8. Urine samples were taken daily once operations were standardized there. Badges and daily urine samples were required for workers involved in testing the product. Concerns were raised about the inconsistency in the program.



One commenter claimed to never have been badged between 1978 and 1997. Others pointed out that the workers were never notified of the results from any monitoring or testing.

Workers in the product testing area wore badges and left urine samples, but they never got the results. This added to the suspicion and mistrust.

People who worked near the linear accelerators were only badged at one point in time. The commenter did not recall the timeframe, but said that the monitoring only lasted a single week. People who supported equipment in these areas were not badged either.

What was the policy for lost and missing badge?

The only procedure for a lost or missing badge was to issue a new one.

Radioisotope Thermoelectric Generators (RTGs)

What procedures were used with regard to the RTGs?

RTGs were handled by workers without any protective gear or monitoring devices. One commenter said that final unit stages of the RTGs were handled bare-handed; another said he had to wear gloves when handling RTGs because they were so hot, but the workers were not badged.

The supervisor of the RTG test department reported that the radiation readings for the product would exceed normal, but the operators still had to go in the vault. Supervisors also took inventory in the vaults, but badges were not required until the 1980s.

There was a Freon spill bad enough to send one person to the hospital, but it was never documented.

Evaporators were running at a primary peak voltage of 10,000 volts.

Between 1983 and 1983 (dates?), an exhaust fan was installed near the plutonium safety area. But a steel plate was placed over the vent on the exterior of the building, rendering it ineffective.

Workers were told it was not safe to eat in the tritium recovery area.

Krypton-85 leak detectors were used from the late 1970s to the end of production.

Workers were exposed to copious amounts of x-rays that were detected when neutron generators were tested between 1957 and 1992.

Years of Operation

What kinds of dosimeters were used? What were the requirements for dosimeters?

No one was ever issued a wrist or ring dosimeter. One commenter had seen them before, but not in his assigned work area.

A monitor was built into the neutron generating device. Part of its operation required the worker to fire it every time the wheel went around. Workers did not wear badges.



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The only time dosimeters were issued in that area was when work needed to be done on the x-ray machines.

Workers in Area 160 in Building 100 were only badged once during the commenter's entire tenure.

What neutron or gamma exposures are you aware of?

There were neutron exposures in different areas of the plant prior to the 1960s. The nature of the generator is to put out neutrons; there was even more neutron output during testing.

In the chemistry lab, components considered hot were dissected and analyzed. The area was known as the 'gas lab' in Area 158. Bioassay samples were required weekly for people working on the exhaust hoods.

Workers were exposed to plutonium and beryllium sources when field microscopes had to be calibrated because of the types of equipment used.

Workers who were involved in the field and/or product testing were required to wear dosimeters. The work was done in an open room without the use of gloveboxes. There were concerns about the inverse square law. Badges were exchanged on a monthly basis.

Employees who worked on the firing units were not badged.

X-ray producing equipment that was used included an electron beam welder (used from 1957 to 1994); an electron microprobe (as early as 1961 until 1966); x-ray fluorescence units (1970s); and x-ray diffraction units (1970s until 1992).

X-ray diffraction was used daily between 1962 and 1992; workers had to be right next to it for certain applications.

Radionuclides

What were the known radionuclides in the plant?

Tritium was the only radionuclide that workers were aware of.

What contamination control methods were used?

Contamination control practices were minimal as far as the workers' protection. Workers were taught simple methods, such as, hand washing and cleaning the area thoroughly. For protection, workers were given rubber gloves, jumpsuits, shoe covers, and lab coats.

Negative air pressure was used as a contamination method.

There was an on-site laundry at the plant, the idea being that the contaminated clothing should not be removed from the premises. That did not help the workers who were wearing them at the time.



Hazardous Materials (HazMat) teams within the plants cleaned up spills, but they were not put into place until the mid-1980s. They were regarded along the same lines as the regular fire fighters in terms of monitoring.

Prior to 1985, maintenance workers were assigned any clean-up that was necessary. There was some protection provided in the 1960s and 1970s. But, between 1957 and 1960, janitors cleaned spills without any protective gear or badges.

What kinds of air samples were taken?

Some were done using the Kanne ionization chambers.

Alpha monitors that were used for the RTG took samples, but they went off during temperature inversions.

A tritium effluent control system was used – all hoods fed into the system.

Dr. Rogers of the Center for Disease Control conducted a study of air sampling in 1996-1997; the report from that study would be useful for the Site Profile.

What kind of monitoring took place during the clean-up phase?

There was no general monitoring done after production ended in 1994.

Floors were swabbed for samples in some areas to determine if a clean-up was necessary. Workers performing the task were not monitored (badges or TLDs). By the time the operations ended and clean-up became the focus, it was mostly Lockheed contractors who would do it.

Employees were not monitored for approximately seven months after the samples were taken.

When the x-ray room was disassembled during the clean-up it was discovered that the lead in the walls was gone.

Are there any Tiger Team reports or other records that would help?

Most workers were not made aware of any reports or studies done in the plant. On the job, everything was considered as ‘need to know’ as far as the tasks were concerned. The best contact person to get the reports from is Mr. Bob Peterson, who was in charge of the Tiger Teams.

Occupational Medical Dose

What types of x-ray machines were used and how frequently were x-rays required?

A standard medical x-ray machine was used, almost certainly a GE model. Dr. Arthur Barker would be the best contact person to verify the specifics.

There were several factors that went into the frequency of x rays, such as age and work location. As a general rule, most workers received annual x-rays until 1985, then every 5 years. After 1985, workers under the age of 40 were given x-rays every other year, then annually after turning 40.



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Members of the Fire Department got annual x-rays because of the increased risk inherent to their job.

Q & A Session

Concern:

It was not unusual for engineers to have product on their desks that would cause contamination the office area.

Concern:

In the late 1980s, maintenance workers were told that it would not be wise to eat lunch near the tritium mezzanine. That was never documented; it was just something they told us.

Concern:

Workers were also told that Geiger counters kept going off in the tube area because they were faulty. The fact is that the equipment was working properly, but workers were told they should not worry about it.

Question:

Does the physician board have to give approval before a worker can file a claim?

Dr. Neton:

That does not apply under Subpart B – that's Subpart D, which is a Workers Compensation Program under DOE. In that case, a Physician's Panel makes a determination about a claim, but not for radiation. The best thing to do is to contact DOE if you have symptoms that are not covered under Subpart B and to ask specifically.

Question:

It was my understanding that workers are no longer eligible to file claims once five years elapses from the time of the last possible dose. Is that still the policy?

Dr. Neton:

There seems to be some confusion about the five year wait. Some cancers take some time to develop and become detectable after exposure – a latency period. The National Cancer Institute helped develop models that are used to help determine the times involved for particular types of radiation-induced cancers. NIOSH and ORAU use those guidelines in determining the probability that a cancer was caused by exposure to radiation on the job. A claim can be filed any time a worker is diagnosed, even if that is several years after terminating employment.

Mr. Lewis thanked everyone for their participation and assistance in this important program. He encouraged participants to contact NIOSH and ORAU team members in the future if they think of additional sources of information that might be helpful in the development of the Site Profile. He said that if anyone had further questions or would like to discuss a personal claim the team would be happy to stay for a while. The meeting adjourned at approximately 4:30 p.m.



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Attachments:

- Sign-in Sheets
- Presentation by William Murray: Development of the Pinellas Plant Site Profile
- Invitational flyer (untitled)