



## NIOSH Dose Reconstruction Project Introductory Meeting on Development of Site Profile For Sandia National Laboratories

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### Meeting Date:

June 20, 2005, 2:45 p.m.

### Meeting with:

Office & Professional Employees International Union Local 251  
Albuquerque Metal Trades Council

### Attendees:

Name	Organization
Ron Young	Metal Trades Council
Richard Parker	Metal Trades Council
Peggy Collins	OPEIU Local 251
Susan E. Rivas	OPEIU Local 251

### NIOSH and ORAU Team Representatives:

Sam Glover, PhD – National Institute for Occupational Safety and Health (NIOSH), Office of Compensation Analysis and Support (OCAS)

William Murray – Oak Ridge Associated Universities (ORAU)

Mark Lewis – Advanced Technologies and Laboratories International, Inc. (ATL)

Jack Buddenbaum – Site Profile Team Leader, ENSR International

Mary Elliott – ATL

Buck Cameron – Center to Protect Workers' Rights (observer)

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### Proceedings:

Mark Lewis opened the meeting at approximately 2:45 p.m. by asking everyone to introduce themselves. Mr. Lewis gave a brief introduction of the Energy Employees Occupational Illness Compensation Program Act (EEOICPA), describing the value of workers providing information for the Site Profile. He described his own background as a Department of Energy (DOE) site worker and union representative and his current role on the ORAU Worker Outreach Team.

Mr. Lewis introduced Sam Glover of NIOSH/OCAS, Jack Buddenbaum of ENSR, who is the site profile team leader for Sandia National Laboratories, and Bill Murray of ORAU, who is the Worker Outreach Team Leader. He said that Mary Elliott was present to take notes and make an audio recording to ensure accuracy of the minutes.

### Question:

What exactly is a Site Profile and how is it used?



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**Bill Murray:**

I will address that as I go through the presentation.

Sam Glover explained three NIOSH brochures: *NIOSH Office of Compensation Analysis and Support*; *NIOSH Fact Sheet What a Claimant Should Know*; and *What to Expect During the Dose Reconstruction Process*.

Dr. Glover said that the Site Profile is a “living document” that can be changed at any time as new relevant information becomes available. He stressed the importance of getting workers’ input while the Site Profile is being developed. This improves the site profile and can make the claims process less frustrating for claimants.

**Question:**

Are you connected with the Espanola group?

**Bill Murray:**

No, that office is on the Department of Labor (DOL) side.

**Mark Lewis:**

That is the Department of Labor Resource Center. That office assists you in filing your claim and serves as a point of contact for you after the DOL assigns a claim number.

Mr. Lewis stated that the worker outreach team was present to discuss the types of information that would be important in developing the Sandia National Laboratories Site Profile. He said that since most of the data for the site profiles are from DOE and contractor reports, it is very important to get information from the workers so the profile will be favorable to claimants. It is also beneficial to explore all sources of information, such as reading rooms and document archives, so nothing important is left out. He turned the meeting over to Bill Murray for the presentation.

Mr. Murray described the site profile as a collection of historic information about a specific DOE or Atomic Weapons Employer (AWE) site, assembled from records provided by the government and its contractors; input from the employees of the site ensures historical accuracy because they are the true site experts. He said that the site profile gives details about what went on at the site, what dosimetry practices were observed, what environmental monitoring was done, and the medical X-ray program. All of this is included in the site profile for use by the dose reconstructors in performing claimants’ dose reconstructions: the more information that is available, the more accurate are the dose reconstructions. This is why it is so important to get input from the workers’ standpoint – they know what happened at the site.

Mr. Murray explained that the Energy Employees Occupational Illness Compensation Program Act (EEOICPA) was enacted by Congress to compensate workers from the nuclear weapons industry who became ill as a result of occupational exposure to radiation or toxic chemicals. EEOICPA claims are submitted to the Department of Labor (DOL). There are two types: (1) Subtitle B claims for radiation-induced cancer, for which claimants may receive \$150,000 and medical expenses if a dose reconstruction shows that the probability of cancer being radiation-related is greater than 50%; and (2) Subtitle E claims, which are for exposure to toxic chemicals.



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A claimant may be eligible for both. Subtitle B claims also cover berylliosis and silicosis. He said that the team was there to discuss Subtitle B, which deals with claims for radiation exposure.

Mr. Murray described the roles of the DOL and NIOSH in implementing the program. NIOSH performs the dose reconstruction. They send that information back to the DOL, which makes the final determination. The DOL begins the process when the claim is filed and ends the process with a decision on whether to award the claim.

**Question:**

Does the claim go to NIOSH as an appeal?

**Bill Murray:**

No, it is not an appeal. In order to determine whether a claim will be awarded, they have to go back and reconstruct the worker's dose. They run that data through a computer program to calculate the likelihood that the radiation dose could have caused the cancer. If it turns out that it is at least as likely as not that the cancer is radiation-related, the claim is awarded by DOL. If the probability of causation is greater than 50%, the claim is awarded; if it is less than 50%, the claim is denied.

**Question:**

How is the dose determined?

**Bill Murray:**

I will give you more information about that during the presentation.

Mr. Murray stated that since July of 2001, DOL has referred over 19,000 claims to NIOSH. The first 5,000 claims are now complete. Some claims can take up to three years to process.

**Sam Glover:**

I want to clarify that the 19,000 claims are only those that have come to NIOSH after the DOL has verified the claimants' employment. If the DOL does not validate the claim, it does not come to NIOSH for a dose reconstruction.

Mr. Murray explained that due to the large number of claims, NIOSH had contracted with ORAU to perform dose reconstructions for claims filed under Subtitle B. Government and contractor records are used in writing the Site Profile, and worker input is important to give the workers' perspective and to ensure that the document is not biased in favor of the employer or the government. He also explained that the authors of the Site Profile are not affiliated with the site so there will be no conflict of interest.

Mr. Murray said that claims from members of Special Exposure Cohort (SEC) groups do not go through the dose reconstruction process. The three gaseous diffusion plants in Oak Ridge, Tennessee, Paducah, Kentucky, and Portsmouth, Ohio, along with a nuclear test facility on Amchitka Island, Alaska were named as SECs in the original legislation of the Act. If a claimant worked at any of these sites for 250 days and has one of the 22 radiation-related cancers named in the SEC regulations, the claim is awarded automatically.



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**Comment:**

Is that 250 days at that site, or in a specific building? Secretaries and clerks are moved all over the lab and usually don't have dosimeters. How do you reconstruct their doses when they don't have any data?

**Bill Murray:**

At the site... for that matter, 250 cumulative days at any of the SEC sites where the claimant has worked. But that's getting into what we're going to talk about. If the claimant is a member of an SEC, it is not necessary to reconstruct the radiation dose.

Continuing with the presentation, Mr. Murray said that there are various components to the worker exposures. Workers can receive an external dose of radiation from sources outside of the body and/or an internal dose from radioactive material that is inhaled or ingested. Radiation dose for employees who were not monitored can be calculated based on information regarding the occupational environmental dose. Since many companies required their employees to have periodic chest x rays, the dose from these is included in the dose reconstruction as the occupational medical dose.

**Question:**

Is the environmental dose the same across the site, or does it vary from building to building or site to site?

**Bill Murray:**

It depends on the particular site. At some of the sites, such a Savannah River, there were different environmental doses in different areas. It can be very difficult to determine where a certain person worked, and a maximum value is used in many of these cases. When the legislation was enacted, NIOSH was told that the reconstructions had to be favorable to the claimant, so what they try to do is add in as much dose as possible to fill in missing information. This would apply in the case of administrative personnel who are moved from place to place.

**Sam Glover:**

This is dependent on the site monitoring practices.

**Response:**

You also have to take into consideration that some of the buildings have been there fifty years, and that safety was not a great issue in the early days.

**Bill Murray:**

We are well aware of that. Every day we learn more about the practices during the early years. It is quite different from the way safety issues are handled now.

The Occupational External Dose section of the site profile primarily concerns radiation workers. It is important to know if workers wore dosimeters (badges) to measure radiation exposure, what types of radiation exposure were measured, how often badges were exchanged, the location on the body that the badges were worn, which workers received badges, how missing and lost badges were handled, and any problems that may have occurred with the badges. Estimates of missed doses are applied where there is any doubt.

For the Occupational Internal Dose section, it is important to know what radioactive materials were present at the site, how the radioactive contamination was controlled, what type of air



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monitoring was performed and how often, and what types of radioactive materials were monitored for and where. It is also important to know whether chest counting and/or whole body counting were done. If urine samples were taken to measure how much radioactive material was in the worker's body, it is important to know how often and which employees participated in the program.

Mr. Murray explained that the Occupational Environmental Dose section of the site profile considers both internal radiation dose and external radiation dose. For internal radiation dose, it is important to find out if the air was monitored for radioactive materials at the site. For external radiation dose, it is important to know if any monitoring was performed in outside areas at the plant.

Mr. Murray said that because the occupational medical dose is also considered, it is important to know what medical practices were used. For most workers, a chest x ray was required as a condition of employment. We need to know who received x rays, how often x rays were performed, what type of x rays were performed, and the type of x-ray equipment that was used.

The Site Description section of the site profile describes what went on at the site over the years. It details the radiation sources that were present, the processes and activities that took place at the plant and their locations, as well as information regarding incidents and accidents.

He added that all additional sources of information should be explored. Employees and retirees may have information that was not included in the government and company records; or they may be able to identify other sources of information. If any such information is available, it should be sent directly to NIOSH by mail or e-mail. If a person has classified information that could be used in the Site Profile, a secure interview can be arranged.

***Jack Buddenbaum:***

We are initiating record searches at Sandia now. The Environmental Safety & Health Division has their own records in Building 3 or near the 800 Building. We are finding some things that will be important to help us understand about how the dosimeters operated, and that's an important part of what goes into the site profile.

**Comment:**

In 1989, give or take a year, I had a radiation exposure. We were removing a fume hood from Building 805... two millwrights, two plumbers and I were involved in that job. One of the scientists or engineers or technicians was pouring radioactive waste down the drain... these fume hoods have a sink in them. The plumber had disconnected it and I went behind there to disconnect the electrical. I had my hands in the water. The millwrights hauled the sink out on a flatbed and took it to Reclamation. When they got it to Reclamation, they checked it.

***Comment from another Attendee:***

I understood they swept that one. They looked at the fume hood before anybody touched it, but they could not survey what was in the pipes.

***Jack Buddenbaum:***

And that's what you were handling?



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***Response from first Commenter:***

Yes – what came out of the drain pipe... They took the whole crew – I don't remember how much time elapsed, but it wasn't immediately – maybe weeks later they sent us all up to Los Alamos. And we got in this machine where you get in a hospital gown and you lay in this machine for twenty minutes or a half hour...

***Jack Buddenbaum:***

Are you talking about a whole body counter?

***Response:***

Later, I never heard back from anybody. I went over to our Health Physics group because I wanted to know "what did you find?" And they wouldn't give me any information. I never did find out.

***Jack Buddenbaum:***

They didn't respond to your question at all?

***Response:***

No. I went over to Health Physics – that's where they dispensed the dosimeters – so I went there. I don't know if a dosimeter would have picked that up. The water was on my hands, my clothes.

***Response from Commenter No. 2:***

Whatever radiation was in those pipes... they could pick up a trail all the way down the street. They just followed it down to where it came from... right here. And after that, the Industrial Hygiene people came to the millwrights and ordered some – they wanted somehow to get some form of a Geiger counter and a plumbing snake so they could see what was in the drain lines. We never came up with anything that worked very well, but they could survey the site of those fume hoods and do some radioactive and chemical swipes and see if it was safe to handle. Then suddenly they were going to their trucks with Geiger counters. Then they sent us up to Los Alamos for whole body counts – after they said this was safe to handle – and that was a little disconcerting.

***Buck Cameron:***

That's a very common situation for building trades people because all the things about which we'd normally say "That's fine, it's under control," you guys come in and you disrupt the system. You open up the pipe, you pull wire, you do things that nobody else does. And this is an instance where at least somebody found out after the fact that you had contamination. The concern is in how many instances did you do something and nobody ever said there was a problem – but there was.

***Response from Commenter No. 1:***

We took those things out all the time. What bothered me was the fact that I couldn't get any answers on what they found... what kind of count it was. I never did get any answers. That's what bothered me.

***Bill Murray:***

If they did a lung count or a whole body count on you, you would assume that there was some kind of radiation.



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**Jack Buddenbaum:**

It should be in your records.

**Question from Commenter No. 1:**

Where would those records be?

**Jack Buddenbaum:**

We're looking for those now. When a claim comes in, NIOSH sends a letter to DOE Albuquerque requesting all the dosimetry records for the employee. I haven't been focused on Sandia long enough to know how Sandia is at recovering those records. But in theory, the Health Physics group – they may not be the direct custodians, but they are going to have access to someone at the Lab who keeps those records. Maybe it's an IT function – information technology group – out there. They should be able to compile that for individual claims.

**Response from Commenter No. 1:**

They (the Health Physics group) were the ones who gave out the dosimeters. That's why I went back there. They issued the dosimeters, checked them and gave you the report.

**Jack Buddenbaum:**

They should either have paper copies of the old records, or a lot of those have been transferred to electronic format – scanned in – because they want to standardize everything up to today's computer systems. Of course, in more recent days, they get electronic versions of the results. I do know, from talking to one of the Health Physicists up there, that there was no whole body counting going on, or chest counting, like what you experienced at LANL. That's why you were sent up there. I know for a fact that in the late 1980s and early 1990s, they hired a contractor that had a mobile whole body counter that was brought to Sandia. I haven't yet determined what groups of workers were sent through that for analysis, but they were concerned about internal contamination.

**Response from Commenter No. 1:**

I could have ingested it. I got it on my hands... I could have eaten lunch that day without washing them. I don't know.

**Jack Buddenbaum:**

I've made a note of this and I'll definitely pursue it... find out more about those types of data. It may be that LANL still has the original records and all Sandia ever received was an "okay." Maybe that's all they got and they didn't ask for the record. That's the kind of information we would pursue. We would want to know that for a claimant. We would want that actual record from LANL.

**Response from Commenter No. 1:**

I have the names of all those guys who were involved in that.

**Sam Glover:**

We require that they give us the original whole body count, not their interpretation of it – not dose or just a dose number. We want to see the whole body count and what were the results for the different radionuclides so we can look at that.



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### ***Response from Commenter No. 1:***

Sandia is not a big radioactive processor like Oak Ridge was. We don't have a lot of radiation in the labs, but years ago they said they had over 135 different radiation sources, both big and small. They had enough record-keeping incidents and some contamination incidents that the Nuclear Regulatory Commission (NRC) told them if they didn't clean up their act, they would pull the license to handle radioactive material – period. And in our business, that would be a pretty big blow. So there was something that they weren't doing well.

### ***Bill Murray:***

Were there activities... you were talking about the NRC – most of the sites the information we're getting is DOE or the National Nuclear Security Administration (NNSA). Some places, we're finding that there was NRC work going on, too.

### ***Response from Commenter No. 2:***

We have some experimental reactors. It might have been tied in with the NRC because they are doing some simulations of the accidents at Three Mile Island. They were simulating some hydrogen production within the reactor that they didn't understand.

### ***Jack Buddenbaum:***

One thing I've seen so far, in the brief time we've looked at the records, is that there's a lot of information about the Sandia Pulse Reactor (SPR), and the Health Physicists wrote a lot of reports about that. So that must have been an area where they were concerned about the radiation exposure to the workers. There were other sources of neutron radiation as well, such as the neutron processors, where they are studying the different aspects of weaponry. So there was bombardment of targets, which creates neutron fields. We'll be looking to see if they monitored for neutrons as a specialty in itself for measurements. Neutron radiation is more difficult to measure than gamma radiation. It will be interesting for our team of scientists to see how Sandia performs these measurements and the resulting data.

### **Question:**

Are you going to talk about chemical exposures today? Or are we just going to stick to radiation?

### ***Sam Glover:***

We're just going to talk about the radiation today.

### **Question:**

No asbestos or anything like that?

### ***Mark Lewis:***

We're just talking about the radiological part today. Subtitle E deals with chemical exposures. We're here to discuss Subtitle B.

### **Comment:**

We also had exposure to asbestos. They sent us up into the attics to clean it up with dust masks.

### **Question:**

Where do they go to file a claim for Subtitle E?



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**Bill Murray:**

Those claims are still filed with the Department of Labor. They have only taken over that responsibility recently, and I don't know if they have put together regulations on that yet.

**Sam Glover:**

They have some handouts available.

**Mark Lewis:**

The DOL Resource Center can help you with that.

**Comment:**

For your site profile, you should also inquire about the radioactive dumps south of the area – almost to the Pueblo. You could find some of the retirees who have stories about being told to cover radioactive things up and throwing them out in a ditch and covering them with concrete.

**Mark Lewis:**

Do you have a retirees' organization here?

**Commenter:**

Yes, I can take you to one of their meetings on the first Friday of every month.

**Mark Lewis:**

That would be pretty valuable.

**Comment:**

There's a pretty hot dump site out there that's been capped with concrete. There have been discussions for five years or more about whether we should dig this up and clean it up, or just leave it alone. They are cleaning another up and segregating it, and taking care of it properly. I think there's one out there, they've said the best thing to do is just leave it alone. They were digging it up and were having a hard time just trying to figure out what it was.

**Bill Murray:**

That's the kind of information that Jack needs to find.

**Buck Cameron:**

In the incident that was reported, the contamination and several weeks' delay for the body counting... Does that have an impact on the accuracy of the whole body count?

**Jack Buddenbaum:**

It certainly can. It depends on the type of material and how soluble it is in the body. If it's very insoluble – like an oxide type of metal – if it's inhaled, it's likely to still be in the body and the timing issue is not as critical. If it's highly soluble, it's absorbed and transferred into the bloodstream and excreted from the body, so you could miss an exposure.

**Buck Cameron:**

So stuff in the water is probably soluble. So in that instance you might have a negative report, but it could have been positive if they had sent them that day or the next day?

**Comment:**

I don't remember how much time went by, but it wasn't right away. It wasn't within a couple of days.



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**Jack Buddenbaum:**

If you weren't leaving bioassay samples, then...

**Response:**

I don't think we went to Medical at all. When they finally sent us up there, that was the first time they did any test.

**Jack Buddenbaum:**

You weren't asked to leave a urine sample or anything?

**Response:**

I don't think so.

**Jack Buddenbaum:**

Was your group ever on a routine, maybe quarterly or monthly, bioassay program?

**Comment:**

I think for your site profile, you ought to look into the records of the machine shop in the basement of Building 869. They had a toxic machine shop down there. I believe they did some uranium machining, not much... some beryllium. When that closed down, they just sealed it off and told all the building trades to stay out of there.

**Jack Buddenbaum:**

One thing that they knew early on is that beryllium was pretty nasty stuff. Y-12 at Oak Ridge handled lots of beryllium. They machined it, formed it, just about everything that could be metallurgically done. They were on a bi-monthly x ray program because they knew that berylliosis was a very serious health condition. I knew that Sandia handled some beryllium, and that may be part of the reason they sealed that part of the basement off, because of the beryllium.

**Mark Lewis:**

These are good examples of union input. The retiree club is another important source of information.

**Response:**

I'll take you to talk to those retirees. I'll bet you they could tell you some stuff.

**Jack Buddenbaum:**

I will be coming in and out of here on a fairly regular basis – as well as some of my team members – trying to put together information for the site profile, so we'll try to time one of our trips for that.

**Response:**

They meet the first Friday of every month.

**Jack Buddenbaum:**

Is there a certain meeting place – a restaurant or something?

**Response:**

Yes, a restaurant... it's right on Central Avenue, off of Wyoming. It's called Roper's. It's on the south side of the street on Central.



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**Comment:**

Back in the late 1960s, they took fat plugs from workers at Rocky Mountain Arsenal.

**Jack Buddenbaum:**

Tissue samples?

**Response:**

Fat plugs... they would take fatty tissue samples.

**Jack Buddenbaum:**

Like a punch biopsy type of thing?

**Response:**

Yes. It was done on a routine basis.

**Sam Glover:**

Was it a drug testing program?

**Response:**

No. It was part of the “fertilizer program.”

**Jack Buddenbaum:**

This was for which group of workers?

**Response:**

This was at the Rocky Mountain Arsenal in Colorado. I worked there almost two years.

**Jack Buddenbaum:**

Were you in the program?

**Response:**

No. The administrative offices were closer to town. The fertilizer was made way down in the middle of nowhere.

**Bill Murray:**

This was a DOD (Department of Defense) site, right?

**Response:**

I don't know – because it was arsenal. But I remember the fat plugs very well. It was during the Cold War.

**Bill Murray:**

The only thing I can think of is that they may have had some kind of chemical weapons there that attack the nervous system. Those chemicals accumulate in body fat.

**Comment:**

I've worked at Sandia for 25 years, and my experiences with the dosimetry programs have been pretty good. The only time I can think of that I had any trouble, they gave me a real-time dosimeter – a pocket dosimeter – and that thing just wasn't working. It went up with a factor of time, not radiation. We all worked together handling some fuel rods out of the reactor. Everyone took a break and my dosimeter was higher than the rest of them and I got a little concerned. At the end of the day, mine was quite a bit higher, and – out of curiosity – I actually took it home.



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In the morning, it was just about redlined. It just didn't work. I gave it back to Dosimetry and told them it was broken.

**Bill Murray:**

Those would get charged up and then the charge would leak off and give false readings.

**Jack Buddenbaum:**

Did you also have a film badge or a TLD? Pocket dosimeters are considered to be somewhat unreliable because of the false readings. If you bumped them, they would discharge even quicker. It didn't take a big blow for that to happen.

**Bill Murray:**

When workers were sent into areas with high radiation levels, they would be given a pocket ionization chamber along with the pencil dosimeter, so an immediate dose reading could be taken when they came back out.

**Comment:**

I can think of one case, years ago, where the guards let the custodians into a tritium-contaminated area to mop up some stuff. It was tritium, nothing really horrible, but they got really mad at the guards for letting them into the area. The guards said that the custodians were asked to come in, and that was what they were told to do – that safety issues were not their area. I can't think of too many really horrible radioactive incidents.

**Question:**

What about all of the population out there that have cancer and know nothing about this program? There is no way to get the word out.

**Mark Lewis:**

That is one of the things the Resource Center is charged with – getting the word out about the program. Anything you could suggest to them that would help would be appreciated, I'm sure.

**Bill Murray:**

When the program first went into effect about five years ago, it was advertised in papers across the country. But five years is a long time and a lot of people don't remember reading about it. People who aren't working in a facility such as Sandia may not know about the program.

**Comment:**

We worked with the former director at the Resource Center. We brought him into a lot of department meetings and safety meetings. He would get small groups of 40 or 50 people and give his message. Everyone was pretty unhappy with the DOE effort.

**Comment:**

If you're talking about them coming around and talking to us, that's not what I mean by getting the word out. They've already talked to us.

**Buck Cameron:**

Are these current employees or past employees?

**Response:**

These are current employees. I can't name their names, but I know of about 7 or 8 right now that have cancer, and they have no idea that there is a program.



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***Buck Cameron:***

That could be done through whatever official communications methods you have around the site.

***Comment:***

One woman made a claim and Sandia Medical said there was no way the cancer was caused by her job.

***Sam Glover:***

It's not their call to make that decision. There is a timeliness associated with filing a claim, because if it's approved, all your medical expenses are paid from the time the claim was filed.

***Response:***

She had been out ill, and called to let us know that she had lung cancer. She has been at Sandia for 30 years.

***Mark Lewis:***

Has she filed a claim?

***Response:***

No, she hasn't. Do you have the number for the DOL Resource Center?

***Mark Lewis:***

We're getting that for you right now.

***Response:***

Good. But that's still not the answer I'm looking for. We can't get the word out.

***Mark Lewis:***

We really can't give you the answer. We're doing union outreach, and I really can't speak to how you can get the word out to the community. I agree that word should be put out. The director of the resource center for Sandia is the person you need to talk to about this issue.

***Response:***

They came and talked to us, but we can do nothing personally to get the word out. We are bound by DOE's rules. We can't use official communications, like our e-mail, to communicate with our members via Sandia's resources.

***Buck Cameron:***

Why shouldn't the management be communicating that?

***Response:***

That's what we think – that the management should be communicating with us about this issue. But when you go over there and they tell you that you didn't get cancer and you didn't get it here...

***Response:***

We can do it at the Town Hall meetings and in the Daily News.

***Bill Murray:***

NIOSH can call the Office of Worker Advocacy and DOE, because they're charged with advocating for the workers in this program. If they found out that Sandia was not allowing this...



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**Response:**

I created and maintain a website for the union (OPEIU) that is not connected with Sandia, so I can write an article and put it out in our newsletter.

**Mary Elliott:**

I can send you these brochures in pdf format if that would help.

**Response:**

Here is my e-mail address. Thank you. We have the website and it's well publicized. We do not mention Sandia on it for security reasons, but I certainly can write about NIOSH.

**Bill Murray:**

You can mention the NIOSH website.

**Response:**

I can link it to our website.

**Bill Murray:**

Yes, put it right on there and tell people to look at it and make their own decisions.

**Comment:**

For records for the site profile, pay attention to records for Areas 4 and 5, where the pulse reactors and pulse power research are located. Maybe you can get with the environmental group and find out where the environmental remediation (ER) sites are because some of those have bio-contamination.

**Jack Buddenbaum:**

The ES&H (Environmental Safety and Health) records department provided us with a bibliography of all documents related to the ER program, so we're working our way through those. Thank you for reminding me about that.

**Comment:**

Your comment about having difficulty getting information from some people... our joke here is "My job is so secret, even I don't know what I'm doing." (Laughter)

**Bill Murray:**

We had that problem when we did the Site Profile for Y-12 in Oak Ridge. We used, primarily, documents that were available on public websites – their environmental monitoring reports. We were under the impression that there was no environmental monitoring done at Y-12 until 1983. Now we're finding out that they may have had monitoring for certain radionuclides that went back to the 1950s. But the problem that we run into all the time is that you have to know what questions to ask.

**Question:**

Will they do a site profile for Part E on the chemical exposures?

**Bill Murray:**

I don't know if they're doing site profiles for that. That is strictly under DOL. NIOSH is not involved in Part E at all.



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**Response:**

There are probably more instances of chemical exposure at Sandia than radiation exposure.

**Sam Glover:**

Los Alamos should be pretty exciting for chemical exposures as well.

**Buck Cameron:**

I don't know if Johns Hopkins has done that as part of their former worker studies. We (Center to Protect Workers' Rights) do an analysis of chemicals that are likely to be present.

**Comment:**

We had a population in one lab with neurological symptoms that Sandia had in a Duke University study. They had pretty extensive records from that. But when this (EEOICPA) came up, they started saying that it was the individual's responsibility to provide the records. I said "Sandia's got the whole pile of records, why should we have to do that?"

**Buck Cameron:**

They always make it hard to get your records.

**Bill Murray:**

Yes, it can be difficult.

**Mark Lewis:**

We wanted to get in on the ground floor with the Sandia Site Profile – to have your involvement from the onset. I come from a site where the profile was completed before they ever talked to any of the workers. Then they showed it to us and said "Here you go." That was kind of intimidating to us. It's better to come and get direction from the workers before the site profile is started. When it's done, we'll come back and talk again to see what you think.

**Comment:**

The Director of the Resource Center told us that they were waiting on a site profile for Part E to start processing those claims. She also said that some of the radiation claims had been denied for cancer prior to the site profile being done. Can those claims be appealed?

**Sam Glover:**

That is true.

**Response:**

That is true. One claim is being appealed, because she's in a building where it is very possible.

**Sam Glover:**

In some cases, the type of cancer requires an extremely large radiation dose to cause the cancer. Prostate cancer, for example – although obviously not applicable in the case of your female co-worker – an internal dose tends not to concentrate as it goes through the prostate gland, so you could give the highest intake ever recorded at the DOE – which is a maximizing assumption – and give that person the highest plutonium intake or intake of fission products, and couple that with their external dosimetry records and still not get a probability of causation greater than 50%. So there have been some cases where a high exposure will not bring an award. There are cases that will require an in-depth analysis or a technical basis document (TBD) or a lot more information. That is why we have to wait for the site profile to be completed to work on some of



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the most difficult cases. Dose reconstructions are more difficult with certain types of cancer. If there is an internal dosimetry result that is unusual, it may be more difficult to calculate that probability of causation. That's why some of those cases weren't done prior to having a site profile available.

**Response:**

I just have a real hard time agreeing with the denial, because I know what building she was in.

**Comment:**

Is the Sandia Site Profile going to include Tonopah Test Range and Kauai Test Range?

**Jack Buddenbaum:**

Yes, and also Sandia employees who were sent up to the Nevada Test Site (NTS). In those scenarios, usually Nevada Test Site issued dosimeters to the workers. So if NIOSH requests data, and the claimant made some of those trips, then that data package coming back to NIOSH from DOE should include dosimetry results from NTS or whatever test facility where there was a need for radiation dosimetry.

**Response:**

One of our guys had a big radiation exposure at Tonopah.

**Jack Buddenbaum:**

At Tonopah? I've seen records from all those sites in the boxes we're going through, including Livermore. We have those in our interests as well – Livermore Sandia facility.

**Mark Lewis:**

In the case of (name withheld), since he worked previously at another facility, if he were to file a claim, all of his records from both facilities would be taken into consideration.

**Response:**

Those would go back to 1961.

**Comment:**

We had a lady who argued and fought with Sandia for five years before she was able to get a medical disability. She had an accident and said that the men were taken care of, but she wasn't. She finally retired and lived another 18 months, but never got the problem resolved.

**Comment:**

One of Sandia's specialties is that they make radiation-hardened microchips. If you send a normal Pentium chip up on a satellite, the cosmic radiation will fry it. I don't know what they do to make them more rugged, but they make some sort of custom microchip in small batches that are radiation-hardened. They test them by using a periscope with a radioactive source and then they irradiate them with high doses to see if they work right. That would be another source.

**Jack Buddenbaum:**

I saw an old logbook of these sealed sources – cobalt sources. I think it was in the 1970s. We want to account for all those. We can't go into minute detail, but we can certainly go into the human involvement around those sources and how they were protected. For example, was the control room shielded, as in a reactor setting, or were workers out in the open? Could they have gotten scatter radiation? We're interested in that sort of thing.



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***Response:***

People would service those machines. We'd change them out every once in a while and put fresh fuel in them.

***Jack Buddenbaum:***

We'll try to enumerate as much as we can find. When we get the draft done, you will have the opportunity to look at it and maybe it will spur some other memories to help fill in some gaps. It will be a living, breathing document, as they say.

***Mark Lewis:***

You would be surprised how one person's memory can trigger another person's. We brought in "site experts" – the retirees and former workers – from our site to come in and tell about their experiences. There were lots of times when their memories helped someone else remember other specific events. We'd have them draw maps and write down details. The retirees usually have lots of information.

***Response:***

You can bet those retirees have some stories.

***Mark Lewis:***

It may be more beneficial to have them come to your union hall. It helped us out a lot at our site.

***Bill Murray:***

Does anyone have more questions? We have more copies of this information if you would like them.

***Mark Lewis:***

We'll come back when the profile is done. Jack will be here working on and off, too.

***Question:***

Can I go to the NIOSH website and look at site profiles that have been completed for other sites?

***Bill Murray:***

Yes, there are probably about a dozen that are complete and on the website. Among those are the three sites at Oak Ridge, the other gaseous diffusion plants at Paducah and Portsmouth, Rocky Flats, and Savannah River.

***Response:***

We have lots of people here who worked at Rocky Flats in the past.

The NIOSH/ORAU team exchanged contact information with the OPEIU and Metal Trades Council officials.

Mr. Murray concluded the presentation at approximately 4:15 p.m., thanking the union representatives for meeting with the team.