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GENERAL STEEL INDUSTRIES
WORKER OUTREACH MEETING

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August 21, 2006

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Collinsville Holiday Inn
1000 Eastport Plaza Drive
Collinsville, Illinois 62234

Court Reporter

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PARTICIPANTS

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Mr. Robert A. Stephan, Metro East Field
Representative for Senator Barack Obama

Mr. William A. Houlihan, Downstate Director for
Senator Richard J. Durbin

NIOSH Panel Members

Mr. Stuart L. Hinnefeld, CHP, Technical Program
Manager, Office of Compensation Analysis
and Support

Mr. David E. Allen, CHP, Dose Reconstruction Team
Leader, Office of Compensation Analysis and Support

15

Ms. Laurie Ishak, SEC Petition Counselor

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Mr. Mark Lewis, Senior Outreach Specialist,
Advanced Technologies and Laboratories
International, Incorporated

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General Steel Industries Employees

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1 IT IS STIPULATED AND AGREED by and between
2 SimmonsCooper, LLC and Pohlman Reporting Company that
3 the August 21, 2006 GSI Worker Outreach Meeting will
4 be transcribed to the best of their ability by a Court
5 Reporter.

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9 MR. HINNEFELD: Okay. Good evening,
10 everybody, and thank you for coming. My name is Stu
11 Hinnefeld. I work for the Office of Compensation
12 Analysis and Support. We're part of NIOSH, the
13 National Institute for Occupational Safety and Health.
14 Our organization was established to fulfill NIOSH's
15 responsibilities under this law that was passed in
16 2000, the Energy Employees' Occupational Illness
17 Compensation Program Act.

18 And part of what we do and in our -- our
19 responsibility for this -- well, our responsibility is
20 to reconstruct radiation doses that people received
21 who have filed claims under the program, that their
22 cancer may be related to their radiation exposure at
23 work. And part of our -- part of our work when we do

24 that is to obtain information from the people at the
25 various sites that are in the program that -- and have
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1 them tell us, you know, their -- you know, what they
2 saw, what they did, what they worked with, what
3 conditions were like because that helps flush out the
4 paper record that we're able to retrieve from various
5 sources.

6 So that's what we're here to do tonight.
7 We thank you all for coming and sharing your time with
8 us tonight.

9 I want to introduce my -- my colleagues.
10 Dave Allen is the dose reconstruction team leader.
11 Dave and I both have the same occupational background.
12 We're both health physicists, that means we're
13 radiation protection people. We kind of understand
14 radiation doses and reconstructing radiation doses, at
15 least that's what we're doing now.

16 Laurie Ishak is a -- another of my
17 colleagues. She is the special exposure cohort
18 petition counselor, and she is specifically assigned
19 responsibility for assisting people who want to
20 petition for the special exposure cohort status in
21 writing a good petition and the -- and the best
22 possibility for success that that petition can have.
23 We can get more into that later on.

24 Like I said, we're mainly -- I didn't come
25 with a presentation. I'm mainly interested in hearing
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1 from you, but I'll answer any questions anybody has at
2 any time.

3 Our final -- the final colleague we have
4 along is Mark Lewis who works for our contractor.
5 Mark actually works for -- ATL International is the
6 name of the company he works for. And that is -- the
7 company is part of the ORAU team. ORAU stands for Oak
8 Ridge Associated Universities. They are the
9 contractor that we hired to assist us in the -- the
10 big bulk of work that came at the onset of this
11 program. So they do -- the ORAU team actually does
12 the bulk of the work and the research that's done.
13 Our federal staff is relatively small. And as we work
14 through this large initial input we feel like the
15 contract effort can maybe be less required and more of
16 the -- the higher percentage of the work will be done

17 with the federal staff.

18 With us tonight -- we're very honored to
19 have with us tonight representatives from the two
20 senatorial offices from Illinois. First of all, I'd
21 like to introduce William Houlihan from Senator
22 Durbin's office and Robert Stephan from Senator
23 Obama's office. And if you gentlemen would like to
24 say a few words, that would be great.

25 MR. HOULIHAN: Is it okay standing here?
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1 Thanks, Stu, David, and Laurie. We really appreciate
2 you holding this meeting. Thanks also to and
3 for the hard work they have. Folks, just tell your
4 story. Let these people hear what has to -- what you
5 have to say. Senator Obama and Senator Durbin's
6 office will work with you through this process. We
7 look forward to the record of today's meetings and
8 tomorrows so that we can go through the record with
9 our staff in DC to make sure the -- the correct follow
10 up is done. And we look forward -- if you have any
11 questions and know how to get in touch with
12 us. And please tell the story that you know happened
13 to you those many, many years ago. Thank you for
14 coming.

15 MR. STEPHAN: Also, I want to echo what
16 Mr. Houlihan said. Thank you, Stu and your team for
17 coming. We really believe this is a step in the right
18 direction that NIOSH is here to hear firsthand what
19 these workers have to say. Also, just like
20 Mr. Houlihan had to say please tell them your story.
21 Anything that you can remember will be very important
22 for -- for NIOSH to -- to take back with them for
23 and to hear.

24 And just on a note from -- from our
25 office, you know, we've been working behind the scenes
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1 for more than a year now with Senator Durbin and
2 Congressman Costello and Congressman Shimkus. This is
3 a bipartisan effort. Politics has never played a role
4 in trying to help you. It never will play a role in
5 trying to help you. We are going to continue to try
6 to help you. And as you have been frustrated we have
7 been frustrated. Not certainly on a personal level
8 with any of you, but -- but mainly with the -- what is
9 actually we feel in our office is a broken system. So

10 with -- inside of that broken system we're trying to
11 help you as best as we can as soon as we can. And I'm
12 hopeful that you guys will continue to tell your story
13 even after today to if you think of
14 something, please get in touch with him, get in touch
15 with our office. We'll do anything that we can to
16 help you. Thank you.

17 MR. HINNEFELD: I'd also like to thank
18 and who've worked so hard
19 to arrange this and -- and kind of been part of the
20 driving force behind this -- this as well. I know
21 has some initial presentation he would like to
22 start with.

23 : Stuart, thank you and Dave
24 and Laurie for coming. And Mark, we -- I sincerely
25 appreciate it. There are a lot of sites and a lot of
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1 people who would like to have you come to hear their
2 stories. So we feel very fortunate in that regard.
3 What I'm going to try to -- what and I are going
4 to try to do together actually is to kind of paint the
5 broad-brush picture of what he and I have learned
6 about the General Steel site over the last year and in
7 particular focus on what we hope the men will be able
8 to sort of amplify for you all today.

9 I'm going to concentrate on radiation
10 source terms because I think that's absolutely
11 critical to understanding this site. And the -- the
12 complex radiation source terms are -- are really quite
13 different than they are at many other sites.

14 Just for a brief overview -- is going
15 to elaborate on this -- but there have been problems
16 in just starting off with the wrong name for this
17 site. And as we will show you Granite City Steel and
18 General Steel Industries are two completely different
19 places and in different locations. And will --
20 will fill you in on that.

21 At General Steel Industries there were two
22 24, 25 MEV Allis Chalmers Betatrons that operated
23 between 1953 and 1966 to x-ray ingots, uranium 238
24 ingots from Mallinckrodt both downtown and at the
25 Weldon Springs site for structural flaws. There is
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1 some data that the men have advanced that -- that
2 beyond the x-ray work there may have been some other

3 things done with that uranium at GSI, but we're --
4 we're -- we are only investigating that possibility.
5 The NIOSH people, the Environmental
6 Measurements Lab, and now Department of Energy we have
7 a request in to there to confirm the fact
8 as echoed by Landauer Corporation that -- that none --
9 none of those agencies have any personal dosimetry
10 data for this site.

11 We believe the workers definitely were
12 harmed. And -- and this is probably the area that
13 they're going to fill in for you the most detail. We
14 know there were accidents. There was very little in
15 the way of a formal radiation safety and worker
16 protection programs. And I believe you will hear from
17 many people that they were not told adequately about
18 the risk to which they were exposed.

19 Besides the two Allis Chalmers x-ray
20 machines and of course the -- the Betatrons
21 accelerated electrons on to a target and produced
22 secondary x-rays. And we'll talk about that a little
23 bit more. But -- but they also gave off electrons and
24 neutrons.

25 We believe that there were -- we know
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1 there were at least two cobalt 60 gamma sources used
2 again for nondestructive testing. We believe that
3 they were 60 and 80 curies. We also know that there
4 was an external company called St. Louis Testing
5 Company that came in to augment the gamma sources.

6 And actually not on this slide the work
7 was so intense at General Steel for many years that
8 they had spillover jobs all the time which they had to
9 address their nondestructive testing at the American
10 Steel Corporation which was nearby. And we'll --
11 we'll show you a picture of that. They had a one
12 million electron volt source over there.

13 And then at GSI also there was a 250 KV
14 portable x-ray unit which was used throughout the
15 plant buildings. A very important thing that we're
16 going to try to elaborate on as this process goes on
17 that the -- the huge Betatrons were powerful enough
18 that they produced secondary activation radioactive
19 products both from the uranium ingots from
20 Mallinckrodt but also in the more than 30 different
21 metallic alloys that they used for their castings work

22 at General Steel.

23 This is a picture of the Betatron. You
24 can see it on the left. I told we thought we
25 were organized but we didn't bring a pointer. But you

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1 can see on -- on the left-hand picture the large
2 machine hanging down from the ceiling is the Betatron.
3 And you can also see that underneath it is a -- is a
4 large steam turbine casting. They did a lot of work
5 there for steam turbines, for instance for nuclear
6 power plants. And some of the castings were really
7 gigantic, and 15, 20 inches of steel was what they had
8 to x-ray through. So that's why they needed this much
9 power.

10 You can also see in the caption that we
11 have excellent evidence now, no question about it,
12 that the old Betatron building, the one built there in
13 1952 was built, paid for, and owned by the federal
14 government. We are not sure which branch of the
15 government. And we've expended an enormous amount of
16 energy trying to find out that what seemingly is a
17 simple fact. But we certainly know that from the
18 panel on the right you can see that there was an
19 intimate connection with the Army and particularly the
20 Army Ordnance Works at the St. Louis district. So
21 it's possible that they were the branch that owned the
22 Betatrons and the Betatron building in this era.

23 The men will tell you we've come across
24 board minutes from GSI that show that not only did the
25 government buy the Betatrons and buy the Betatron

0012

1 buildings. But for instance in that same year that
2 they spent \$299,000 on that they also spent three and
3 a half million dollars for other equipment including
4 two buildings that had to do with heat treating of the
5 steel and had to do with the armor plating work that
6 they did at that site.

7 So there was major government ownership of
8 the site. We do not have any evidence directly that
9 is was the Atomic Energy Commission which of course
10 would be extremely important if we could prove that
11 because that would make this a DOE site as well.

12 I wanted to spend a minute to tell you
13 about why the Betatron exposures are very complex and
14 will be very complex to calculate an accurate dose for

15 the workers that were exposed. As I say, there were
16 -- besides the x-rays there were electrons, there were
17 neutrons which were not -- not measured at all. There
18 were beam losses. There is this very important
19 phenomenon that's well documented of sky shine where
20 the x-rays actually activate the air. And the -- the
21 roofs of the two Betatron buildings were poorly
22 shielded. One was wood and tar in the old building
23 and tin in the new building. So we think sky shine
24 was a major factor.

25 There was also scatter from the sides of
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1 the building. The two -- the two Betatron buildings
2 had ten-foot thick walls made of concrete, filled in
3 with sand. The other thing you will hear from the
4 Betatron operators today is that both machines ran
5 wide open 24 hours a day, 7 days a week. There was no
6 cooldown period between the exposures. And as I said
7 they often had spillover work they were so busy.

8 There are a number of logbooks and reports
9 that were generated during the course of operating the
10 Betatrons which we unfortunately find are either
11 missing, lost, destroyed, or they're either in
12 Mallinckrodt and AEC DOE records that are either
13 classified or not available to us after considerable
14 trying. And those include what they call the shot
15 records which were the actual exposures that were
16 made. The number of roentgens in those days were
17 recorded and the times for the exposures. There was a
18 -- also a master log that they kept of the jobs that
19 went through there.

20 We don't even have a copy of the Allis
21 Chalmers operator's manual for the Betatron. In fact,
22 the workers have told us that they were unaware of
23 seeing that book which one would think would be sort
24 of critical there in the workplace. We have not also
25 been able to recover any of the x-rays done for
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1 Mallinckrodt or the x-ray reports.

2 I will show you in a few minutes that the
3 standard way to calculate distance to target was by a
4 string and that at the -- on these large castings I'll
5 show you how they marked the film locations on the
6 inside and the outside of the huge castings.

7 This slide is simply -- this is actually

8 from the Los Alamos Betatron operator's manual. And
9 they're highlighting here the phenomenon of sky shine,
10 and that is that a source inside an incompletely
11 shielded building such as the two Betatrons radiates
12 in different directions, some of which are up over the
13 -- the solid part of the building that is shielded and
14 activates the air and then that reflects down into the
15 rest of the building.

16 is going to talk to you more about
17 the plant itself. Now, we know from a pretty
18 extensive literature search which is not hard to find
19 by the way that the 24, 25 MEV machines were big
20 enough to cause fission of Mallinckrodt uranium 238
21 ingots, and I'll show you those references.

22 We know that the daughters just like in an
23 atomic explosion where there's fission that there's a
24 whole range of them. Of course, you all know that
25 better than I do, some with very brief now second half
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1 lives. But a few of the daughter products extend for
2 days, and those are the ones that are most interesting
3 because these castings then went from the Betatron
4 building throughout the plant.

5 We also know, as I said, that there were
6 at least 30 different steel alloys of course with many
7 different components. And so in calculating a dose
8 for an individual you would have to know which ones
9 specifically of those steel alloys they came into
10 contact with, what the composition of the alloys was,
11 and -- and what all the component metals were. And
12 that would be the defining source. So each one of
13 those alloys and components would become their own
14 secondary radiation source.

15 And then finally it has become apparent
16 that another source that was throughout the plant was
17 the Magnaflux powder. So Magnafluxing was a
18 technique, as everybody knows, where you'd put a
19 powder under a magnetic field on a casting and then
20 you could see surface cracks. Well, once a surface
21 crack was identified then that same casting with the
22 Magnaflux power still on it had to go in to the
23 Betatron building to look for deeper damage. And so
24 at the time the Betatron irradiated it it caused the
25 Magnaflux powder which was -- might be widespread on
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1 that casting to become secondarily activated. And
2 then that was carried back in to the plant and spread
3 around.

4 Here -- here's an example of one of the
5 tremendously large castings that they dealt with at
6 GSI with these very long high exposures. And you can
7 see the two Magnaflux machines at either end, the
8 casting in the middle with a bunch of workers. Note
9 please that the workers are in ordinary summertime
10 clothing, you know, with jeans on and -- and pants but
11 absolutely no protective clothing at all.

12 You can see marked on the casting a number
13 of grids and these were the positioning marks for the
14 x-ray film. And there were various kinds of marked --
15 magnetic markers that they used, and the men I'm sure
16 will tell you about that.

17 One of the things I wanted to point out
18 that is outside of the realm of even medical radiation
19 therapy is -- is the tremendous doses that were
20 delivered. So a big casting like this may take two
21 weeks to complete because there were several hundred
22 individual exposures that may last up to an hour. And
23 so doses in the realm of 10,000 rads were not uncommon
24 for 15-inch thick steel castings, and there were even
25 thicker parts of -- of the some of the channel
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1 castings for example.

2 I wanted to show you this slide in
3 particular because we're not just imagining the
4 activation scenario. And this is an article actually
5 which was -- went into some detail about what you had
6 to do to decommission a Betatron once you wanted to
7 get rid of it. There were lots of parts of it that
8 were still radioactive and needed to be re --
9 repurposed and cleaned and remediated.

10 We're not sure today what exactly happened
11 to the Betatrons at GSI. One of them there's
12 testimony I think that you will hear over the next two
13 days they actually have been decommissioned by simply
14 burying it out in the field near the -- near the
15 Betatron buildings.

16 But I wanted to key you in -- this is a
17 1979 article now that said that at that time there
18 were as many as 1,200 particle accelerators in the
19 United States. And at least 50 accelerators -- and

20 this is all in quotes -- at least 50 accelerators
21 produced significant induced activation.
22 Here are two references that and I
23 feel are some of the most informative that Betatron
24 activation occurred in uranium 238 which is specific
25 of course to our site. And the first one by Schmitt
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1 and Sugarman is entitled Uranium Photofission Yields.
2 It's just a letter to the editor of Physical Reviews
3 in 1953.

4 The second reference by Schmitt,
5 S-C-H-M-I-T-T, and Duffield, D-U-F-F-I-E-L-D, has a
6 very ironic title to me. It says Low-energy
7 Activation Functions for Photofission of Uranium 238
8 and Thorium 232 -- that's also in Physical Reviews in
9 1957.

10 Now, what do they mean by low-energy
11 activation? And here are some quotes and a comment
12 you can see. Activation functions for symmetric and
13 asymmetric photofission. So uranium and other heavy
14 atoms like that can split in several different ways.
15 They were determined over the range of four and a half
16 and ten million electron volts. So that's the
17 definition of low energy which is really a gigantic
18 energetic burst.

19 So at four to five to ten MEV they
20 measured two of the main photofission products,
21 cadmium 117 and barium 130 -- cadmium 117 for
22 symmetric photofission and barium 139 for asymmetric
23 photofission. And they found that for uranium at
24 least the maximum yield within that energy range was
25 about .05 percent activation products. And for
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1 thorium it was .1 percent. So it was a much higher
2 percentage by 20-fold for thorium over uranium.

3 found many of these articles, but
4 this one by Professor Kuttemperoor -- and for our
5 court reporter I -- I have to spell that perhaps or
6 for myself -- K-U-T-T-E-M-P-E-R-O-O-R, Vincent Z.
7 Kuttemperoor who was in the Department of Physics at
8 the University of Milwaukee School of Engineering.
9 And he wrote two articles, and as far as we can tell
10 that's the only two articles the good doctor wrote.
11 One was called Photo Activation of Materials Subjected
12 to Betatron Radiography and that was in Materials

13 Evaluation in 1974. And another one he wrote Photo --
14 Photon Activation of Alloys and Elements Used in
15 Industrial Parts Requiring High-energy X-ray
16 Radiography. And both of these articles are about
17 Betatron effects inducing activation. The latter
18 article was in Materials Evaluation, Volume 33 in
19 1975.

20 And then finally we offered -- this is a
21 small set of the total literature -- an article by JK
22 McDowell at the Rock Island Arsenal and his article
23 Non-destructive Testing as Applied to Tank Parts
24 Inspection. That was in Non-destructive Testing,
25 Volume 10 in 1952/53 (sic) Winter edition. And that's
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1 particularly relevant because GSI was a major
2 manufacturer of the M48 and M60 Abrams tanks.
3 We know at GSI that there were several
4 radiation incidents. I haven't captured them all in
5 this -- in this slide, but just to give you a flavor
6 because the men will amplify this. We know that there
7 was a cobalt 60 source exposure in 1963 just before
8 President Kennedy was assassinated, a worker was taken
9 to the hospital. That person is alive, his memory's
10 good, and we'll have an affidavit about that.

11 We also know that one of the cobalt 60
12 sources by mistake was actually removed from the
13 plant, taken home, and returned the next day I think.
14 And maybe their workers can fill in on that. I'm not
15 sure what happened to that person.

16 The other thing to mention that's
17 important about these two sites is there was sort of a
18 corporate culture change. GSI had two divisions that
19 -- they had many divisions, but one operated in
20 Eddystone, Pennsylvania and the other in Avonmore,
21 Pennsylvania. And in 1963 Eddystone closed, and its
22 Betatron then was moved to Granite City to GSI where
23 it was housed in what's now called the new Betatron
24 building. And at that time a lot of personnel came
25 from Eddystone as well. And apparently -- and this is
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1 to an outsider -- it sounds to me like there was a
2 culture change where perhaps practices and protocols
3 and -- and standard procedures were not followed quite
4 as closely in the Betatron operations.

5 And so there are reports during that

6 latter period of some nonstandard exposures of the
7 castings on -- away from where their normal target
8 area was on dollies and railroad cars. There was said
9 to be what's called head flipping so that the beam of
10 the Betatron was pointed in a direction where it could
11 actually get into Building 10 which was right next to
12 the new Betatron building. There are stories of
13 workers who were so terrified by the Betatron that
14 they actually fled to remote parts of the plant when
15 the red Betatron light came on.

16 And there were several reports of workers
17 -- for a while there they monitored their white cell
18 counts. And there were several reports of men being
19 told they had low white cell counts. Interestingly,
20 there was never any indication to me that there was
21 a -- you know, a dedicated plant doctor. Sometimes
22 they'd go to the hospital, but usually they were back
23 on the job. And there was no indication that I've
24 heard that anybody told them that the low white blood
25 cell counts could have been related to their radiation

0022

1 exposures.

2 So my final slide is -- going to --
3 you'll see this slide again. But -- but I just wanted
4 to emphasize here that when we get to defining a class
5 of workers for our SEC we're going to have at least
6 the following people to include, all the operators of
7 course in the old Betatron and the new Betatron
8 facilities. And that also will include the support
9 team, the electricians, the inspectors, the
10 maintenance people who regularly came in and out of
11 the Betatron building. So that would be in addition
12 to the number at the -- in the Betatron building.

13 And I think we also know that there were
14 workers in Building 6 and 10 who were specifically
15 exposed to the cobalt 60 and iridium 192 sources. One
16 of the cobalt sources was permanently housed in
17 Building 6 in a -- in a building with -- inside the
18 main building which didn't have a ceiling on it at
19 all.

20 I said all workers in this slide there
21 were about 2,000. That number's not right. There
22 were about 3,000. But all the workers through the sky
23 shine principles and so forth could have been exposed
24 to the uranium because it didn't just stay in the

25 Betatron building but it was moved to other parts of
0023

1 the plant. The iridium from what I've learned
2 probably was used throughout the plant. The 250 KV
3 source was portable, and I've mentioned the activation
4 daughters and the sky shine.

5 DOE credits the site with having residual
6 on-site uranium from 1966 when the Mallinckrodt work
7 stopped through 1994 when DOE came in and remediated
8 uranium dust in the rafters of the old Betatron
9 building only.

10 We are all extremely puzzled since both
11 Betatrons were used for the uranium work why no
12 uranium dust was found in the new Betatron building.
13 And that's a -- that is a mystery. And I've mentioned
14 that we have some -- some evidence that in 1994 a -- a
15 work crew that was laying fiberoptic cable came across
16 a buried Betatron.

17 About what we know about the physical
18 presence of the Betatrons themselves was that they --
19 the first one came on site in '52. They were both on
20 site in 1988 at the very initiation when DOE contacted
21 the site because there's a letter in the records where
22 some of the workers at -- at the new owner of the
23 property which was Granite City Steel went down to the
24 old Betatron building, came back and report -- with a
25 -- with Geiger counters came back and reported to
0024

1 their boss who then reported to DEO that yes, in fact
2 there were two Betatrons in the building which was now
3 being used actually to store transformers. We -- and
4 somewhere between 1988 and 1994 both -- both machines
5 left the old Betatron building.

6 Okay. So that's mine, and I'll cue up
7 and he can take it from there.

8 : While doing that I'd
9 also like to thank everyone for coming to this
10 Illinois site to discuss with the workers. I've known
11 some of you longer and I know Stuart knows I've been
12 asking for this for a long time. So this day being
13 here is definitely I think a real pleasure for us and
14 an opportunity to share with you what happened. So
15 you can hear the real story from people that were
16 there. I tried to do everything I could with this
17 site to make sure you got the right information. If

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18 there's anything in our presentations that anybody can
19 tell you was to the contrary or new information, we
20 certainly welcome it. We've also put together a lot
21 of information for you that we hope you take back with
22 you to review. So if we could go ahead and go on.
23 Like ' said the biggest issue --
24 one of the first issues everybody in this room's been
25 told they worked at Granite City Steel. There's
0025

1 nobody here worked at Granite City Steel during this
2 time. But when the site was cleaned up Granite City
3 Steel bought the site.
4 Now, you can see from the map, the
5 right-hand side that's General Steel, 127 acres. On
6 the left-hand side you can see Granite City Steel.
7 And I don't know the exact size, but they're two
8 totally different New York Stock Exchange companies at
9 the time. We actually have a prospectus from 1956 for
10 General Steel Castings. And I actually have a stock
11 certificate for the company, two totally different
12 companies.

13 Now, the next slide you can see this
14 really is a steel town. There are four plants so it
15 gets a little confusing. Granite City Steel in the
16 middle left. Then we have another company we're going
17 to be talking about today who is GSI's neighbor -- or
18 actually we'll be talking about them tomorrow --
19 that's Dow Chemical. They're divided by a railroad
20 track. General Steel's in the middle and American
21 Steel to the lower right. And like said earlier
22 sometimes these guys would go to American Steel to use
23 their radioactive source for their nondestructive
24 testing because they were actually backed up at the
25 one site.
0026

1 Now, the effected workers, we know there
2 are approximately -- and we're real fortunate because
3 we have people in here who were managers and
4 supervisors. But there were approximately a hundred
5 employees in the government owned old Betatron and new
6 Betatron facilities. And at the new Betatron it did
7 come to Eddystone. We've got every documentation. It
8 actually came from Eddystone approximately 1963. They
9 needed more I guess backup here, and the plant up
10 there closed.

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11 Now, the workers in Building 6 and 10,
12 we've got documentation about the radioactive sources
13 in there. And that Building 6 if you can imagine an
14 eight-foot concrete block wall with no roof, no door
15 and they actually used cobalt in it. Today somebody'd
16 be in a lot of trouble for that.

17 And then recently we found out 10 Building
18 at the far end -- and 10 Building you'll see from some
19 maps later is a pretty good size building. There's
20 hundreds of people working in there. It's also
21 open-ended and it goes in to the main foundry. And
22 somebody in their infinite wisdom decided to use some
23 radioactive material at the far end behind some
24 corrugated metal behind a welding shield so you didn't
25 see the bright light. Well, there's not much of a

0027

1 bright light from cobalt or iridium. So anybody that
2 came upon that was in trouble as well.

3 Workers throughout the plant with the
4 U-238, iridium, KVP Betatron activation daughter
5 isotopes, residual uranium from 1966 through 1994 and
6 then the two Betatrons. And that one buried one, not
7 real sure if it's still there because we did have
8 somebody tell us they ran across it while they were
9 working there putting in fiberoptic cable like
10 said. So you know, it's either there today or maybe
11 somebody cleaned it up. But I don't think that's how
12 you get rid of particle accelerators is put them in a
13 hole. So that would be kind of interesting.

14 That's the map. I've had a lot of friends
15 here in this room help me. Doesn't get any better
16 than this. That lays out the whole site of the plant.
17 It's numbered. The numbers are a little goofy because
18 they were like a tour map. Number one could be
19 Building 6, number two could be Building 10. It gets
20 a little confusing. So if you'll just, you know,
21 follow the -- the numbering up above. And we'll show
22 you why that's so important.

23 And the one thing that's not on there, we
24 have a good engineering map and we've got a couple
25 guys here from the railroad at the plant. There's a

0028

1 railroad car that goes in just about every one of
2 those buildings, there's track that go in. We'll get
3 into that a little later.

4 Now, I just touched on a couple of the
5 buildings here or a few of the buildings. There's a
6 lot more than this, but we thorough believe --
7 thoroughly believe radiation, radioactive materials,
8 residues, you name it definitely in the foundry. All
9 the railroad areas, they put the ingots on railroad
10 cars and brought them into the Betatron. The cars
11 were gone when they cleaned up the plant. Those cars
12 are still floating around somewhere.

13 The lab, we were told they stole the
14 cobalt in the lab. And I talked to the lab workers,
15 nobody ever had a badge. The storeroom, interesting
16 new bit of information from a gentleman that's not
17 here today but I think he'll be here possibly
18 tomorrow. Now we find out there was some special
19 material that came into the storeroom and everybody
20 knew it was radioactive. They didn't quite know what
21 it was. But you know, we read the Mallinckrodt
22 reports, we know what ingot -- or actually what
23 Betatron slices are. So that'd just have to be my
24 guess.

25 Building 5 -- these are all open-aired

0029

1 buildings. Building 5 connects to 6. Building 6 is
2 the infamous one where they had the cobalt in the
3 little block house. And the same thing, it's
4 open-ended on 7. And I've reconfirmed this this
5 morning with actually a manager from General Steel so
6 I got my facts correct.

7 Machining, I couldn't quite get all the
8 buildings on there. They did a lot of machining. I
9 mean drilling, grinding.

10 And in Building 9 -- 9 -- 8, 9 and 10 if
11 you look at them on that map later they're connected.
12 They're all open aired. So you can bet whatever
13 happens in one probably happens in all.

14 And that Building 10, that's real bad
15 news. That's where it all starts. That connects to
16 the new Betatron. And again, in somebody's infinite
17 wisdom these wooden doors are probably safer than what
18 they had on there. They had tin garage doors. Not
19 real good, not a heavily shield wall or door by any
20 means. And all these buildings we know now these are
21 put underground. But that little tin door, you might
22 as well as not even had a door there. That would be

23 my guess. It just went right into 10 Building. And
24 there were a lot of people working in there, then the
25 other ones are open.

0030

1 Now, the government Betatron which is item
2 35 on that little map, called it the old Betatron
3 building. We now have more proof that that was funded
4 by, paid for both building, devise, prospectus names
5 it as government owned property which is a federal
6 document for the Federal Trade Commission or
7 Securities Exchange Commission. No doubt about it,
8 that's a government owned building and \$3.4 million
9 worth of other goodies to go to that plant in 1951.
10 Probably use a multiplier of ten, so \$34 million worth
11 of goodies going into that plant. And that was just
12 one board meeting in 1951.

13 So those plants and buildings, the
14 government owned a lot of it. And obviously that's
15 what helps us with this law. That gives you a little
16 better view just taking a picture of the -- the plant
17 itself rather than just looking at the stick drawing
18 and diagram. But if you look at that there are some
19 things that really stand out. You can see railroad
20 tracks. Like I said, they go in to every building
21 just about. There's a couple the guys told me they
22 didn't go into.

23 If you look at the left-hand side, you can
24 see the old Betatron sitting out in the field. The
25 new Betatron's right up next to 10. They've connected
0031

1 it. And radiation, we all know the best thing you can
2 do with radiation is keep it away from people.

3 Is that the old Betatron?

4 That's the old Betatron and
5 then the new. And I asked somebody why in the heck
6 would they put a Betatron building right next to where
7 all those workers are. Didn't have to use the
8 railroad, they could wheel them right in from 10. It
9 was a financial decision I would think. It was a lot
10 cheaper to do it that way, keep the production up.

11 And if you look at that building, its got
12 a couple little bitty turbines on top. Los Alamos has
13 stacks, tall stacks to exit the radiation gases, what
14 have you. They get them up and out in the entire
15 plant. And Los Alamos was monitored for radiation so

16 the neighbors didn't have any problem. Well, there's
17 a lot of houses around there so that probably wasn't a
18 very good thing. The 8, 9, 10 Building you can see
19 that pretty well. They're all connected together, and
20 I won't belabor that.

21 There's one thing I noticed though and the
22 guys were kind of amazed. See that little pond. That
23 little pond's not mentioned in the cleanup report.
24 That little pond apparently was covered over. I don't
25 think anybody ever tested that little pond. So that
0032

1 has to make me wonder. There's a sewer system in that
2 building. Wonder where that sewer system went. And
3 that's the same building they activated product, the
4 dust, the residues, and the uranium ingots were in.

5 Now, we're going to get into the uranium
6 ingots a little later. But do me a favor, just keep
7 in mind the railroad tracks.

8 And if you will.

9 If you want to point out --

10 : Sure.

11 -- where the Betatron was
12 buried maybe.

13 Yeah. The -- the reports
14 we have of the Betatron are right in here. And that'd
15 be kind of interesting. I'd love to go over there
16 with a metal detector and see what they have. Because
17 a Betatron back then cost a million bucks, or today's
18 date -- or today's price about a million bucks. That
19 building cost 299,000 in '51. I don't think you just
20 throw away a Betatron. So -- but we know now from
21 this other report it's pretty expensive to have one
22 decommissioned. So we're just curious, you know. And
23 again, we know what the individuals said they saw,
24 didn't look like a crane, it looked like a Betatron
25 because he'd seen the picture of a Betatron. So that
0033

1 would be an interesting little scenario too.

2 Now, just kind of wrapping it up we're
3 definitely located in Granite City. So maybe that's
4 how they get the Granite City Steel name. There's old
5 and new Betatrons because they always seem to talk
6 about the old Betatron. There's definitely two over
7 there, one just came a little later. And there's
8 definitely no doubt about the old Betatron building

9 and the Betatron itself being owned by the government.
10 But they throw another little curve in there because
11 now there's boundary -- that building's actually
12 sitting in Madison, Illinois instead of Granite City.
13 So it gets a little confusing. And then the dumping
14 ground in the foreground on that map where the lake
15 is, we're not sure who owns that. I don't think I
16 would want to buy it.

17 Major government ownership of other
18 buildings. They owned the heat treatment building.
19 They owned a -- a sand system building, and that's
20 pretty important because DOE says the government
21 actually owns a controlling portion or substantial
22 portion of the property. There's a good chance it
23 qualifies for DOE status. So we're -- we're
24 definitely pursuing that.

25 And then that misnamed as Granite City

0034

1 Steel. We were told recently by the Department of
2 Labor they're going to change that. We've been trying
3 to get it changed for a year. They said they'll be
4 able to change it on everybody's website because that
5 is a little misleading. Because if you did look at it
6 or look for it on the Internet, these guys would all
7 say I never worked at Granite City Steel, I worked at
8 General Steel, I'm not going to file a claim. So
9 that's just a -- a little twist there that really
10 throws people -- you know, it throws them off track.
11 And we looked for a little help on that too but
12 couldn't.

13 Now, we have to consider the lack of
14 radiation safety. You know, there -- there were a few
15 guys that had some training and they can tell you more
16 about that today. But I think it's one percent of
17 what the plant population was. The entire plant is
18 totally involved in this, not just one little Betatron
19 building.

20 A small number of workers had radiation
21 badges, and those were either the Betatron workers or
22 the isotope specialists that are noted. A lot of
23 those guys are here. A lot of them went in and out of
24 there, inspectors, maintenance, electricians -- it
25 goes on and on -- guards, management. They went in

0035

1 there and not one of them was given a badge is what

2 they have told me. So -- or maybe one, but I -- I'd
3 not say any more than that.

4 And then workers were not warned of all
5 the various radiation dangers. Why not? Well, they'd
6 seen the articles in the Legacy articles. And
7 sometimes they didn't want to pay hazardous duty pay.
8 They were afraid they'd get a bad image in the
9 community. I mean, it's actually coming right off I
10 think it's DOL's website. Those are some of the
11 reasons. Don't sound like very good reasons to me.
12 This includes most of the managers and supervisors.

13 You know, over the last year and a half
14 I've spoken with a lot people. When I say uranium
15 ingots I see these people go to bright red. They had
16 no clue. That's definitely not right. You know, if
17 you know the enemy and you know it's something that
18 can hurt you, you can do something about it. When you
19 don't know it's there, it can get you pretty fast. So
20 that -- you know, if that's not criminal, nothing is.
21 They could have done much better on that. Okay,
22 Oh, this one -- oh, that last picture --

23 : This is a good picture.
24 That one right there, Los
25 Alamos guidebook that I've referenced a lot in the
0036

1 documents I've given you, you know what the one thing
2 they say not to do to material is activate it or
3 contaminate it. It says it, don't burn, don't grind,
4 don't chip, don't machine. I got some guys here today
5 tell you that's all they did do because that's how you
6 fix things that are broken in a steel mill when you
7 find a flaw. And when the flaw's in something like a
8 submarine part you can't have any flaws. And there
9 was massive amounts of military work being done over
10 there.

11 So those pictures -- up there on the left
12 that guy grinding away, he's here today. I spoke with
13 him for the first time last Sunday night to ask him if
14 he'd come to this meeting. About two days later I
15 happen to see that picture. And is here
16 tonight. So I told him he'd be a star, there he is.
17 That's hard work. You can't quite see the respirator
18 he was never given. You sure can't see the safety
19 equipment. I don't think that apron counts as a
20 safety equipment.

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21 And the thing he's working on, that's one
22 of the worst things. That's manganese, and it's been
23 tested with a Betatron. And manganese, when it's hit
24 with a Betatron, it'd be worth taking a look at the
25 Los Alamos guide because it tells you what it does to
0037

1 it, it's not good.

2 So that will give you an idea of what the
3 guys did. The uranium they talked about in the
4 Betatron, those chainmen on the lower right, that's
5 probably how they got the ingots off the car and in to
6 the Betatron. They chained and moved everything.
7 Everything weighed tons. Okay. Can we move to
8 the next one.

9 I think that one's pretty self
10 descriptive. That's the first day my wife and I went
11 over to look at that plant. I really have to wonder
12 what happened. You know, it's -- how do you go from a
13 3,000 bustling -- you can imagine that place. It was
14 like a city, those stacks, had its own generator. I
15 mean, it ran like a city. I think I know what
16 happened. I think somebody didn't do what they were
17 supposed to do a long time ago. Okay. Could you
18 move to the next one. But maybe we can correct that
19 now, get back to that.

20 And then of course the -- the plant
21 radiation pass direct exposure in the old and new
22 Betatron. That -- nobody can deny that. And those
23 railroad tracks connecting all the buildings, we got
24 one guy here who told us they painted those railcars
25 once or twice a year whether it needed it or not. And
0038

1 you know what, those railcars carried uranium ingots
2 in and out of that Betatron. Then they found residue
3 in the tracks. They cleaned it up and hauled it off
4 to an environmental site. It's in the cleanup report,
5 the FUSRAP report.

6 And that cleanup report, we're going to
7 help them get some good information in there because
8 they -- that thing's a bit flawed. We have some new
9 information we can share with them.

10 Once they got done with that uranium and
11 those cars were full of goo -- must have been full of
12 goo because they found it in the track, couldn't get
13 in the track without being on a car. Then you put a

14 normal casting on it and moved it everywhere else in
15 the plant.

16 Our storage area, Building 6, casting
17 activated by Betatron exposed workers in multiple
18 buildings. I don't -- I don't think there was
19 anywhere over there that probably didn't have
20 something that was activated. And we're positive on
21 that fact.

22 So hopefully that gives you an idea, and
23 these guys will be able to give you the real picture.
24 If there's any questions or -- you know, anybody had,
25 so we'll get a chance to talk about it shortly. Thank
0039

1 you.

2 : I just had one final note and
3 that is I gave to Stuart a list of the things that
4 shortly following this meeting we will give to him to
5 include just for the record. We've had a set of four
6 previous meetings where we tried to get -- we did get
7 excellent information from the workers that might
8 contribute to their affidavits. And we will send
9 complete sets of that material, DVDs of the
10 videotapes, the electronic transcripts, hard copy of
11 the transcripts. We'll send all that to NIOSH for
12 their records. We also are going to have some sets of
13 DVD videotapes, transcripts, and hard copies from this
14 meeting for today and tomorrow. I'm going to send
15 that to NIOSH. We're going to send you actually two
16 sets because we want to make sure that Batel gets a
17 copy. And Dave Allen who's here today is the contract
18 manager for Task Order 16. And we -- we are going to
19 ask him to make sure that Batel gets a copy of all
20 that material to help them.

21 previously gave to the advisory
22 board, to NIOSH, to the Department of Labor, and to
23 SC&A, the auditors a copy of this really terrific
24 research book that he and put together. And
25 I do have another copy of that because I -- I think
0040

1 it's important that the record of this outreach
2 meeting be complete. And so that's another copy that
3 could stay with this record wherever that resides.

4 I also -- we're going to send you two
5 copies, again, for NIOSH and Batel of (and
6 CATI interview because that was the first place

7 where they extremely well-documented the multiple
8 radiation sources that were present at GSI including
9 the Betatrons and the cobalt and the iridium sources.

10 We're also preparing -- really for our
11 SEC, but we'll send it for part of this -- this record
12 as well because they're almost finished. We've
13 expanded on recitation of the site buildings
14 and the activities and the jobs that went on there.
15 So we'll send you a copy of that and then a little bit
16 expanded copy of the radiation source terms and the
17 PowerPoint from today that I just presented. And then
18 we will send you a -- a few other documents that will
19 support this outreach meeting.

20 So with that I'm going to turn it over to
21 and let him pass -- pass it around and get the
22 testimony from the workers.

23 Okay. Actually, are there
24 any comments that you guys want to make and any
25 guidelines to the folks that will be commenting on the
0041

1 site?

2 Well, I want to make sure
3 everybody understands there are certain things that
4 are within NIOSH's authority and certain things that
5 are not. We are authorized to reconstruct the
6 radiation doses for the covered period as defined by
7 the Department of Labor. So your conversation about
8 ownership and government ownership and does that lend
9 -- you know, that brings into part -- to play
10 different parts of the law and -- and things like
11 that. That's a -- oh, is mine not on anymore?

12 ; You're not very loud.

13 MR. HINNEFELD: That -- that brings in --
14 you know, those -- those questions and bringing in
15 these other parts of the law into play are really
16 discussions that should occur with the Department of
17 Labor and the Department of Energy because NIOSH does
18 not have the authority to -- to act in terms of
19 expanding the covered area. So we certainly
20 appreciate the comments.

21 In our research if we run across things
22 that support information you're providing, we
23 certainly will share that with those agencies. But
24 that's outside of our authority.

25 I think also at the risk of, you know,

0042

1 lengthening the meeting, but I think it's important
2 for us to all understand when we're talking about a
3 Betatron and -- and as a particle accelerator, you
4 know, a Betatron is a lot different than a particle
5 accelerator that shoots charged particles at a target
6 and you see these kind of exotic things come off of
7 it. And if it gets out of line, it activates the --
8 activates the wall of the tube -- of the accelerator
9 tube. This is -- this is a -- if it's operating
10 correctly, creates, you know, protons -- high energy
11 protons by, you know, accelerating those electrons
12 around this vacuum -- evacuated tube.

13 And so you should as -- as in terms of
14 activating the Betatron really the -- you know, its
15 only potential activation would be on the anode at
16 the -- where the electrons slam into something --
17 something heavy at the end to make an x-ray. You
18 know, when a electron runs its route and hits the --
19 but if it's operating correctly, the only activation
20 of the Betatron should occur on that piece there, and
21 so -- if there's any at all. So it operates like a --
22 like a medical x-ray machine except the energy's a lot
23 higher. So there is more potential for activation
24 because the energies are higher.

25 But it's -- you don't get into things like

0043

1 air activation where if you have an accelerator, a
2 linear accelerator, or a cyclotron, or something like
3 that that's shooting at a target and then radiation is
4 generated outside of the evacuated tube. You know,
5 neutrons, high energy charged particles in the air,
6 that's where the air would be activated. Air would
7 not be activated typically by a Betatron I don't
8 believe. We'll continue to research that, but -- but
9 I don't believe that it necessarily would activate the
10 air.

11 So I did want to comment to that -- to
12 that effect that a Betatron, while it does accelerate
13 electrons, is not necessarily the same as things that
14 people normally call an accelerator or a particle
15 accelerator. You know, normally there's kind of a --
16 a distinction between a Betatron and something else
17 that's called a particle accelerator. So I just want
18 to make that comment. But we'll continue to research

19 the issue.

20 : I need to comment. We -- we
21 will give you many articles that refer to air particle
22 accelerators. So that's probably an argument for
23 another day.

24 MR. HINNEFELD: Yeah. Yeah. Absolutely.
25 That's not -- that's not for here and for this
0044

1 audience that's -- that's for sure.

2 . Right. Okay.

3 MR. HINNEFELD: The kinds -- the kinds of
4 things we're interested in for sure, there --
5 excellent research book here -- this is my second
6 copy, my other copy's up in my room -- is -- has a
7 number of really fine pictures of uranium ingots, the
8 pieces of uranium as they were likely brought to
9 General Steel. And so people who have seen the book
10 and that can recognize those uranium ingots and can
11 speak directly about the movement of those, you know,
12 that -- that would be something we'd certainly want to
13 hear.

14 We want to hear what everyone wants to
15 tell us about where materials -- you know, we think --
16 we think we kind of understand that once the material
17 was examined with the Betatron or any of the other
18 testing devices it went throughout the building. We
19 understand that there were particular experiences
20 about things you think maybe just didn't seem quite
21 right or looking back this didn't seem quite right,
22 we'd certainly hear that. Anyone who would want to
23 talk about accidents that occurred, we'd certainly
24 want to know about those.

25 In general terms you don't have to -- if
0045

1 you don't want to name names, that's okay but in
2 general terms about those things. So -- and then
3 just, you know, maybe work conditions and things of
4 that sort, you know, that aren't explained by the --
5 by the photographs we've already seen, that would be
6 great. I don't want to -- I don't want to inhibit
7 anybody to speak. I mean, everybody that wants to
8 speak should speak and everybody that has a story
9 should say it. So --

10 . GSI. I
11 operated both Betatrons, the old and the new. I was a

12 . operator also. Sir, I look back 40 years
13 and I wonder why 40 years after the fact I picked up
14 accelerator books from Los Alamos and DOE and for the
15 first time can see the hazards along with all these
16 fellows I operated with 40 years ago. I see the
17 hazards of the -- the machines for the first time.
18 That puts a definite question on how long I might
19 live, what was taken in the work clothes home to my
20 wife. We were never told of hazards of such things.
21 I look back and was told there was no activation, no
22 residual at the time these machines -- of -- that
23 we're told of these machines.

24 Sir, 40 years later I read entirely
25 different facts involved with this. I look back and I
0046

1 see both Betatrons had definite shooting limits. You
2 could not traverse to the far left looking south. You
3 could not traverse toward of the shooting room or you
4 could not traverse to the far right to aim that
5 Betatron toward the ribbon door. Yet at times sources
6 were brought in, used for every conceivable type of
7 casting including atomic submarine parts. In my
8 estimation these sources have 360 degree mission. You
9 had concrete walls going up only halfway with steel
10 siding above that, steel siding for the roof.

11 What's the chances of sky shine going over
12 -- over your head, over the concrete, through the
13 steel wall into 10 Building or down the long leg of
14 the L through the ribbon door in the 10 Building?

15 Serious questions like this come up after
16 40 years when you read facts like this. And our
17 training was not at all involved with hazard training.
18 Forty years after the fact, as I said, we see these
19 handbooks for the first time.

20 Different for the Magnaflux. We were
21 specifically trained in atomic sub work. There were
22 extremely specific classifications and -- and work
23 specifications, and there were very definite ones. We
24 were both trained on the job and by examination, test
25 examination. In the case of the Betatron I was

0047

1 trained chiefly by on-the-job training with good
2 experienced operators mind you. These fellows were
3 good, they did their job. But why we were never
4 warned of the hazards until 40 years later, I don't

5 know, sir. Thank you.

6 I started to
7 work there in 1955 until I in the maintenance
8 department. We used to go down there every time the
9 Betatron was down for a little while and service the
10 machinery. Also the machinery and stuff in the heat
11 treat building which was owned by the government. We
12 was on the roof at the time they had these big exhaust
13 fans pulling heat of there. We would pump the grease
14 out of -- through one side and out the other. And in
15 all -- in -- in -- in the Betatron -- both Betatron
16 buildings, service the x-ray machines, the cranes.

17 And we would -- sometimes on a Saturday
18 when they wasn't operating we'd eat lunch right in
19 there. It was easier to eat lunch in there than to
20 walk all the way back to the maintenance department
21 because that was way out in the middle of that field,
22 you know.

23 And we used to get that grease and dirt on
24 us, and I don't know about the rest of these guys, I
25 wasn't dirty. But a lot of us guys we wore our
0048

1 clothes Monday through Friday and took them home and
2 our wives washed them and cleaned them up. And in
3 behalf of the maintenance workers we was in -- in and
4 around that stuff all the time. And we had that stuff
5 on us -- we'd get it on us, and naturally if you're in
6 the oiling department and the pipe department you had
7 the grease on you. If you had the dust on you, it's
8 going to stick. That's all I got to say.

9 My name is

10
11 COURT REPORTER: The last name?
12 I started up
13 there in '64. I was a chainman. I took -- I worked
14 from the 10 Building back to the 3 Building. I got
15 into everything. I'm only talking now because just
16 recently I've been -- I've just been examined for
17 having lesions on my brain and on my lungs, cancerous
18 all of it. I'm getting -- I got a radiation treatment
19 today. But I didn't miss -- I know like he said I ate
20 lunch right there in -- right there in the building.
21 We didn't -- we didn't bother to walk away or anything
22 like that. No -- no -- absolutely no warning, no idea
23 at all.

24 I just ran into a friend the other day who
25 told me about the meeting. I was thinking it was
0049

1 about the asbestos exposure I had being a roofer. But
2 they said I didn't have that type of cancer. So and
3 then this comes up. But that's what I'm getting
4 treated for right now from whatever. I don't know if
5 that's going to be -- I know I didn't get not one iota
6 of a warning. You know, just like you was saying that
7 none -- I know other guys, I just haven't seen them to
8 tell them about the meetings up here, you know. They
9 probably got something too, you know, because I
10 usually stay in pretty good shape. But that was a
11 shock to me. Just -- I just got analyzed for that
12 just, what, six weeks ago only because I started
13 having seizures. I got the thing on my brain is
14 pushing my brain. They say I'm probably going to
15 start having them, going to push my brain right down
16 through my skull, you know. So that's all I got to
17 say right now.

18 Excuse me. My name's
19 I'm the guy that you all saw in the picture
20 grinding. When we went in to the finishing department
21 I went to the 10 Building, 3 Building. Matter of
22 fact, all over the plant is the grinding. When we
23 went in they put you with a older fellow learned you
24 how to grind. And then (inaudible) for gaining the
25 knowledge of what to wear and this and that they --
0050

1 they never did do that, sit down and have a safety
2 meeting with you or anything of that nature. So just
3 like this young man said back there that you have no
4 idea what you're dealing with. And now I have to
5 (inaudible) a master at 13 which now I'm 67 years old.
6 I'm facing the situation of ; cancer. So now
7 whether it come from there or not I do not know. But
8 there's a lot we should have learned back then but
9 (inaudible) now. And somebody would say go out there
10 and do it. Thank you.

11 Thanks a lot.
12 ; My name is
13 and I worked there from 1951 to . And I would
14 like to clarify something about the layout of the
15 buildings. When you talk about buildings you have in
16 your mind that you have a building with a wall here

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10 don't know whether it's related to that or not. But
11 I'm here today to let everybody know that no one know
12 -- knew about what they were going through at that
13 building. They wasn't told anything, that it was any
14 danger of anything. We were given equipment that
15 wasn't sufficient. If -- if we took it home and
16 washed in your washing machine, you would see all that
17 residue in the bottom of the machine that your wife
18 had held and your children was exposed. If you had
19 young children, they came and hugged you when you came
20 home. But you had on those same clothes that was --
21 was defected. Thank you.

22 I forgot to add that I
23 quit General Steel Castings in 1961. In 1972 I had
24 colorectal cancer surgery. And I have a son that was
25 born with . He was born in . And I have
0053

1 no idea where that was -- where that came from.
2 Thank you.
3 : My name is
4 I was a -- started in 1963 at General Steel, and I was
5 a -- a clerk in the Betatron first and then promoted
6 to a foreman and a I
7 can verify for a fact that we did wear badges. We
8 have pictures of people in -- in these booklets here
9 of -- of our pocket badges that we did wear. We wore
10 them and changed them on a weekly basis. Excuse me.
11 What concerns me is the lack of
12 information that we as foremen, group leaders,
13 whatever were not given. We weren't told about things
14 that -- that -- we were put in harm's way and not told
15 about them.

16 To my knowledge -- to my -- in my memory I
17 can't ever remember referring to the ingot that we
18 were shooting as uranium ingot. They were referred to
19 as Mallinckrodt ingot. They didn't tell us that we
20 were -- it was uranium. Of course, at the time we
21 probably wouldn't have questioned it anyway. But we
22 were -- we were told they were ingots from
23 Mallinckrodt. They could have been lead for all we
24 know.

25 The only thing we knew is they were dense
0054

1 and we couldn't shoot them. We couldn't get a
2 readable film. You had to shoot them obliquely around

3 the corner and it would kind of blow it. And when I
4 first heard about it about a year ago I said why are
5 we shooting -- why were we shooting these. It didn't
6 make sense to me. And we started looking up different
7 items.

8 And I have a report from the Globe
9 Democrat in April of 1959 that shows these ingot from
10 Mallinckrodt's Weldon Springs, and they were bragging
11 about how nice and neat these were and how clean and
12 pure and that there were only several parts per
13 million of impurities in these. And the Postwar Smith
14 Report described the product as having a degree of
15 purity seldom achieved even in the laboratory.

16 Why did they send them to General Steel to
17 be shot? You couldn't get a readable film, couldn't
18 see a structural damage, and they were pure as several
19 parts per million. What were we doing with those? We
20 were bombarding them with the -- with the Betatron to
21 either split the atoms, the U-238 or 235 atoms to
22 produce a -- a better quality ingot I suppose. I
23 really don't know.

24 I'm I went
25 to work at General Steel in 1953 until . And I was
0055

1 in 12 Building where they made these big industrial
2 castings. I started there, and when Eddystone shut
3 down they brought them all down here. I was in charge
4 of them in that building making the molds. Then we'd
5 take the molds out in the foundry to put cores, the
6 core room. Then when they'd go to the Betatron for
7 them to x-ray it we'd have to go over there and look
8 at them to see what -- if they had busts in them or
9 cracks, where to put the right shields and stuff like
10 that. And we used to laugh about it while we was in
11 there looking it that the hair on your arm would stand
12 up. And we was talking about that and wondering why.

13 COURT REPORTER: Your name again?

14 Name, your name?

15 I remember I
16 got hit in the head with a -- with a -- with a chain.
17 I was turning over a train underframe, you know. And
18 that day I was telling them, the overhead crane
19 operator keeps raising the chains up and he knocked me
20 all the way over the -- over the thing. That's all
21 cool, you know, but I don't know what his trip was.

22 But anyway, I was having a serious problem with
23 migraine headaches. I mean, and I didn't try to trick
24 them. And I was going to their doctors, you know what
25 I'm saying? I remember distinctly my first credit was
0056

1 bad because General Steel wouldn't pay the damn doctor
2 bill and I got hurt there on the job. I ain't --
3 yeah. They ain't -- pardon me, but I got to tell you
4 they ain't shit. I mean for real, that's my first
5 credit, man, was bad credit. I was comfortable. I
6 just would not pay it, you know, because I got hurt
7 right there. I didn't get a dime for it.

8 . I'm I worked in
9 the Betatron. I worked with the sources. I worked
10 with all the sonics, and I also worked with Magnaflux.
11 I've been a lab technician most of my life, and I
12 worked for about eight different firms.
13 And it was strange I -- after I left
14 General Steel I went to work for McDonnell Douglas and
15 I met some very high educated people in the radiation
16 field. They never did understand why we didn't have
17 protection, clothing, equipment, lead jackets, and
18 things. Then they come up with this story on the
19 uranium billets we were working with. And he says do
20 you know what -- where they ended up one highly known
21 fellow in the United States told me. He says they
22 were made into rods for nuclear plants. And they says
23 they had -- were so pure and they didn't need any more
24 records than was necessary. Thank you.
25 If I could

0057

1 could just for the -- I got a clarification of the
2 record. Would people in this room that had a
3 radiation badge regularly just raise your hand. Then
4 could I ask another question. How many people in this
5 room worked in the Betatron that just raised their
6 hand. The point is the people who didn't work in the
7 Betatron who weren't isotope specialists never had
8 badges.

9 : My name is ,
10 and I was a switchman in the -- on the crane. And I
11 went in and out of the Betatron on the average of
12 three or four times a week carrying these castings in
13 and out.

14 Did you have a badge?

15 : I didn't have no badge.
16 : I just asked . 'if
17 he had a badge and he said he definitely didn't and he
18 was a regular.
19 : My name is . I was
20 with the labor gang and they used to drop things on
21 the ties and things. And we'd go in there and boy,
22 they really bragged on us -- we was only 19, 20
23 year-old kids -- how fast we would replace them ties.
24 And boy, we would tear them out of there, rip them
25 out, do anything we can so old Wimpie would brag on
0058

1 us.
2 And -- and then later on when I became a
3 process inspector I'd go into the different buildings,
4 and I'd come in from the foundry end. And you get
5 looking at castings like my boss . would
6 tell me go check this out or go check that out. And I
7 was just a kid again, and I'd go to -- by the time I
8 got to the other end of the building there'd be a sign
9 up there, keep out, radiation. It was too late. I'd
10 done been through that whole building one end to the
11 other.

12 : Thank you.
13 My name is ., and I
14 want to be clear for my own -- you made a statement.
15 I want to make sure what the purpose of the meeting is
16 for.

17 MR. HINNEFELD: The --
18 You said something about the
19 radiation or something about the way the Betatron
20 operates. You said you weren't interested in that
21 or --

22 MR. HINNEFELD: Yes. Yes.
23 You weren't?

24 MR. HINNEFELD: Yes. I am. I am
25 interested in that.

0059
1 Oh, I'm -- in my opinion they
2 had a safety department, whether it was effective or
3 how good it was I'm not questioning it. I don't know.
4 But I -- I would think that when they had that
5 operation or the Betatron in operation they would have
6 made it an effort to see what -- what area was safe.
7 Now, they -- you got to -- if they're not available,

8 maybe at some facilities that has a similar location
9 like that General Steel had you could get an idea of
10 where their radiation -- how far you had to be in
11 order to be safe. I don't know whether that makes any
12 sense to you or not.

13 MR. HINNEFELD: Yes. It does.

14 Yeah. And they -- we were --
15 we were all workers, and it wasn't up to us -- we had
16 survey meters to check the area for radiation because
17 basically we're not -- we're not guinea pigs and we're
18 -- we're there to perform a service. But I know when
19 I -- I operated all the equipment at different phases
20 and different times from '53 to '73, and I had worked
21 with them slabs from Mallinckrodt. When I left
22 General Steel I became a -- an authorized ;
23 for I have a commission with the
24
25 with a nuclear endorsement. That's my background.
0060

1 And I'm presently in -- have that same connection and
2 still work on a part-time basis.

3 MR. HINNEFELD: Okay. Thank you.

4 Thank you.

5 I wanted to give everybody
6 else --

7 COURT REPORTER: Name?

8 -- a chance to talk. I
9 didn't work -- I didn't work for GSI. I
10 worked on the property. I worked for a cable
11 contracting company. And unfortunately I got to
12 uncover the Betatron. It wasn't unusual for us in my
13 job to dig up anything and everything. It was a
14 daylong choice of do we cut through this, is this a
15 hazardous material, is this something that is
16 containing liquids. We called it the Frankenstein
17 machine. The reason is -- is because when you look at
18 it in the picture there's bolts seen that stick out of
19 it. And there was a radiation symbol that's stamped
20 in the metal and also the words Allis Chalmers on it.

21 The question that I had that day to the
22 management of General Steel Corporation was we can't
23 punch through this, we're going to have to go around
24 it. And they told us well, you need to bury it back
25 up, we're going to send our own crew out to do that.

0061

1 And they did describe it that day as a debris field.
2 I call it organized debris which I'm not used to.
3 Normally you hit a debris pile it's junked each and
4 every way. It's not very deep. It's only about three
5 feet deep but the debris field goes down about ten
6 foot. Would you be interested or do you have the
7 authority to dig something like that up to study it to
8 see what these men were exposed to?

9 MR. HINNEFELD: I don't know that we have
10 the authority to do that. That's -- we haven't done
11 that typically as a part of this. So it would be
12 something that would have to be investigated by people
13 at the agency other than me probably about -- about
14 that. It would be kind of interesting to know what
15 the condition of those things were, you know, when
16 they were exposed to them.

17 It was in great condition
18 when I seen it in '93.

19 MR. HINNEFELD: Is that right?

20 But that -- that's quite a --
21 quite a bit of time ago.

22 MR. HINNEFELD: Right.

23 And also the cleanup was
24 still active at that time. It could have just been
25 buried prematurely and then retrieved later.

0062

1 MR. HINNEFELD: Okay. I see what you're
2 saying I think.

3 My name is . . . I
4 worked for GSI for about eight years as a Betatron
5 operator, as a -- I also was a -- operated all the
6 sources and the Betatron -- I mean, the (inaudible)
7 MEV over at Steel. And I remember shooting
8 that Mallinckrodt ingot they'd call it. We always did
9 it on the midnight shift. They would put the
10 operators -- the experienced operators in the old
11 Betatron and we always did it on the midnight shift
12 for some reason or another. I don't know why.

13 And those -- that Betatron operated
14 probably 24 hours a day, 7 days a week at full
15 capacity. It was always operated at full capacity for
16 some reason or another. And operating that machine
17 over at . . . Steel there was only just a little
18 bit of a concrete wall there, you know. You could sit
19 there and watch the machines, you know, as it was --

20 as it was on you could see the casting and everything
21 else right there. There was hardly any protection
22 there.

23 Thank you.
24 , Back in '93
25 when they was cleaning that plant up I was working at
0063

1 SCI at that time. And they was out there digging in
2 the steel out of the dump. I don't know if this is
3 what he was talking about. They was cleaning up --
4 That was the area, the same
5 area where we hit what I described as the Frankenstein
6 machine which of course to me now I know that was the
7 Betatron.

8 Well, Granite City --
9 Whether it was the casing or
10 the actual machine itself I'm not sure, but it's
11 distinct.

12 Granite City Steel had -- had
13 it blocked, nobody could get up in there where there
14 was digging. They was digging out there in there
15 dump. That was in '93 when we was sitting out there
16 eating lunch when I seen it.

17 Betatrons,
18 Magnaflux. I failed to mention I had a bout with
19 cancer a few years ago. I mentioned earlier there was
20 definite shooting limits on the Betatron, sir.
21 Simply, there came a point in time another department
22 head, , sorrowfully was replaced and
23 another department head was brought in. We were given
24 orders, sir -- and I'm sure there are operators here
25 that can verify this -- to invert the camera downward
0064

1 signal complete reversal of the camera face which in
2 fact bypassed the limits. This was done in order to
3 save casting moves, in order to coincide with the
4 limits of the machine. They inverted the camera by
5 orders, we had to. Which I don't have to tell you we
6 shot toward the control room, and there was shots
7 going toward the ribbon door.

8 During that period of time there was an
9 incident I remember. For some unknown reason a pallet
10 full of x-ray film was inside the ribbon door of the
11 shooting -- the shooting lane. Why it was left there
12 or why it was brought in I have no idea. When it was

13 discovered it was removed. was present and
14 is present here today saw this film, sir, under a
15 light. And I believe he can verify that the outer
16 edges of this film was exposed. And this film was
17 just inside the -- the ribbon door just beside of 10
18 Building. If that film was exposed, it had to prove
19 that radiation was escaping down -- downward down that
20 base of that L through that ribbon door, sir. Thank
21 you.

22 My name is ' . What
23 just -- what ' just said is -- is absolutely
24 correct. The -- this pallet of film was brought into
25 the Betatron building via -- by a forklift operator
0065

1 who was in a hurry because it was quitting time. So
2 they just set the whole pallet in to the shooting
3 room, never said a word. And when I finally noticed
4 it I thought what -- what in the world's this stuff
5 doing sitting here in the -- in the operating room.
6 So we got it moved out, and the -- and film was used
7 but the edges were burnt inside the boxes. Okay.
8 Now, the pallet -- say that wall was the ribbon door.
9 The pallet sat about right there. To the operating
10 room or -- and the railroad track run the full length.
11 To the corner of the actual operating room was
12 probably the back wall or even a little farther. And
13 the Betatron would shoot towards that wall. But that
14 film was exposed sitting over here. That's a good
15 question.

16 Okay. There was some talk about us guys
17 having lunch on the job. I ate lunch many times at a
18 control panel in the -- in the operation room.

19 Overtime, overtime was at one time -- and
20 back here, I think he could verify that,
21 if you felt you weren't getting enough overtime, come
22 see me. Okay. I normally worked 16-hour days about
23 three days a week. And that included a -- as an
24 operator, setup man, Magnaflux, layout. I worked the
25 hot floor with the burners, chippers, and the

0066

1 grinders.
2 Okay. In the Magnaflux, I'm going to --
3 I'm going to bring along my little Magnaflux machine
4 tomorrow and a magnet that I have. In Magnaflux
5 there's one picture back here that shows a Magnaflux

6 machine sitting next to a casting.

7 And you know, in the summertime you -- you
8 put on a pretty good sweat. We wore just street
9 clothes. But one of the guys from Eddystone told me
10 -- he said never wear a white shirt on Sunday because
11 that Magnaflux dust gets in your pores and if you
12 sweat you're going to have a rusty shirt. And I had
13 -- you never wanted to wear a white shirt on Sunday
14 even after you took two or three -- two or three baths
15 because that powder was ground right down into your
16 pores. And if you sweat like this shirt here, it
17 would turn rusty after two or three baths. So if --
18 if -- if these magnetic particles coming out of the
19 Betatron from the Magnaflux machines that was floating
20 all over the plant and they're buried into your skin,
21 is this good, bad, or otherwise?

22 Same way getting back to the Betatrons.
23 When the shot ended you got up, went on out, and set
24 up the next shot. There was absolutely no cooldown
25 period between shots. The machine run at full speed
0067

1 all the time. When the machine got too hot you called
2 an electrician to come in and add or subtract banks in
3 the control panel and you went back to shooting wide
4 open again.

5 So the -- another instance, one of the
6 guys that was authorized to use the cobalt unit, we
7 shot the -- we were shooting the well prep on a
8 channel head which is the top end of a nuclear power
9 plant. You set up the whole ring of the -- of the
10 casting. You use flex film. You tied it on to the
11 casting with a strap. You set up your cobalt unit in
12 the middle of the channel head and you shot 42 shots
13 at one time, 42 film. The most beautiful film you
14 ever seen in your life. Okay. That's the top of a
15 nuclear power plant. What kind of material was it?

16 Okay. The night I worked with this one
17 gentleman he wouldn't lock the case on the cobalt
18 unit. Anybody turned a crank on the inside of the
19 shooting room, control panel room we'd have been
20 exposed. He finally did lock it after I chewed his
21 ass out. But this is -- this is some of the things
22 that a lot of people don't know about, the
23 carelessness of some operators.

24 Okay. The same token, this channel head,

25 that being the ribbon door for the shooting room, the
0068

1 railroad tracks coming in. The channel head was set
2 up on the end of the railroad tracks which wasn't in
3 the shooting room. And we shot them 40 shots with the
4 cobalt unit sitting right there in the corner,
5 radiation going straight down the railroad tracks out
6 in to 10 Building.

7 Tomorrow morning I'm going to bring along
8 my little suitcase with the Magnaflux machine in it.
9 I can show you how the Magnaflux actually worked which
10 is no big deal. All it is is positive and negative
11 charge going into metal from two prongs. And you
12 sprinkled powder in between to see if there was a
13 crack there. If there is a crack there, the magnetic
14 field will draw that powder to the crack. I also got
15 a hand magnet that was used to hold the film up in the
16 -- under the castings. I -- I took it home because it
17 was going to be thrown away. I still use that magnet
18 today. It's still got a good charge.

19 I bet.

20 MR. HINNEFELD: If you used a Magnaflux to
21 test me for flaws, my wife will attest you'll find
22 plenty.

23 : Well, there -- there was a lot
24 of things that got carried out of the plant when it
25 closed. And if -- if I'd have known what I know now
0069

1 I'd have been the biggest pack rat in the world.
2 My name is . I
3 loved the . My grandfather worked
4 there and my dad worked there for 50 years with some
5 of the relative of some in the room. And I worked
6 there. And these guys that worked in the Betatron
7 worked hard enough that I got a promotion. And pretty
8 much everything that has been said here today I would
9 agree with except one thing. It's not very important
10 to most people but it is to me. The Abrams tank was a
11 Wellman (phonetic). We never ever cast the Abrams
12 tank. The last tank we cast was the Patton tank M60.

13 I don't know that I can add much to -- to
14 what is said except you -- if -- if you had any pride
15 in that plant, and most of the people that worked
16 there did, there was something that happened that
17 changed a lot of things including safety. When the

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18 plant in Eddystone, Pennsylvania was closed a new
19 group of managers came in and -- and everything
20 changed with -- with that one event. And I guess in
21 any plant where you replace the vice president and the
22 plant manager and on down there would be a lot of
23 changes.

24 When the -- when the Betatron was
25 originally started in what you all call the old
0070

1 Betatron it was the slowest operation in the world.
2 They -- two guys, ; (phonetic) took
3 care of all the cobalt 60 work in 6 Building and the
4 Betatron. The Betatron was used to -- to see if the
5 casting process was working as well on this 20
6 castings as it did before. It -- it was not a go, no
7 go gauge. It was a tool to improve the process.

8 But there was -- you know, there was -- if
9 you x-rayed a few x-rays on the -- on the M60 tank, it
10 was -- it was not in operation a hundred percent. And
11 again, when the Eddystone plant was closed they were
12 making HY 80 castings for nuclear submarines including
13 the missile tube. That work was transferred. That
14 work was very hydrogen prone. HY 80 castings if it'd
15 cool too fast, you got at least flaking but you might
16 get hydrogen embrittlement. But when that -- when
17 that happened we went from a lackadaisical area in the
18 Betatron to -- two people who worked there part time
19 to, as these guys have said, seven days a week, 24
20 hours a day and we were 500 percent overscheduled.

21 Now, that -- that's a problem when you're
22 trying to -- to improve your production and you -- and
23 regardless of how hard you worked you couldn't -- you
24 could not make enough exposures. We sent -- we sent
25 castings -- always we sent the big turbines because
0071

1 there was maybe up to 350 exposures on one casting.
2 We sent them to Baldwin-Lima-Hamilton in Lima, Ohio,
3 and we sent them to Allis Chalmers in West Allis,
4 Wisconsin. But -- but you can't imagine the pressure
5 that was on everybody including the Betatron operators
6 to produce, produce, produce. And they did a very
7 good job and I'm very proud of them.

8 And I -- I have two kinds of cancer.
9 There is none like this in my family. I was quite
10 surprised that I would get renal cell carcinoma,

11 kidney cancer and then later on non Hodgkins lymphoma
12 under control, very well under control. A couple of
13 us have the same doctor.

14 But I never gave it a thought that it came
15 from the Betatron or the cobalt or anything else. The
16 large cobalt source was after my time. But these guys
17 did a good job, and everything they told you today is
18 very true.

19 Thank you. What time is
20 it? Okay. Just checking the time in case anybody was
21 interested. I just want to make sure we're not
22 running over.

23 I have a question. I just
24 wonder how many guys here have had cancer.

25 COURT REPORTER: I need a name.

0072

1 Could we have your name,
2 sir?

3 I'm ' and I
4 worked in -- in the mid '50s at GSI. And I was just
5 wondering how many people here have had cancer. You
6 know, put your hands up. Looks like a pretty high
7 percentage, doesn't it? Thank you.

8 Thank you. you got
9 anything?

10 Betatron,
11 Magnaflux. Very briefly, sir, I wanted to mention the
12 stringent work policies of -- of Electric Boat. When
13 we -- when we worked on anything Electric Boat, the
14 upper missile tubes, the lower missile tubes, rudder
15 hubs, yokes, bulkhead plates, escape hatches simply
16 you had to have prods six inches apart. You had to
17 have 600 amps showing up on that BC leader, 100 amps
18 per inch, Electric Boat specifications. That's how
19 particular they were. And believe me, I remember when
20 the Thresher went down because we had people looking
21 over our shoulder all hours of the night. Thank you.

22 I just
23 want to point out that the reason that the Betatron
24 was put there was to x-ray the tanks for the Army.
25 And then -- then since it was there it started being

0073

1 used for a whole bunch of other things including the
2 uranium.

3

4 actually made a very good point, the Betatron was
5 brought in there for the tanks and used for everything
6 else. There are records that can be verified.
7 started to elude to those, about the
8 nuclear missile launch tubes and nuclear defense
9 product. And there were a lot of nuclear related
10 product over at that plant from power generators,
11 submarines. Just like Mallinckrodt, you know, all
12 that uranium they used didn't necessarily go into a
13 nuclear bomb. At least we were told a lot of that
14 wasn't enriched anyway, so that's kind of interesting.
15 But the tie to nuclear weapons and nuclear plant
16 materials at GSI is extremely strong. I just wanted
17 to mention that for the record. Anybody else? Any
18 comments, questions?
19 : In the -- , In
20 regard to the film badges if you look at the pictures
21 back here you will see myself and x-raying
22 a valve for a nuclear submarine. You can also see our
23 film badges. is right now in chemotherapy
24 treatment for lung cancer. And was a -- is an
25 old And he -- he would -- whatever he did
0074

1 was done correctly. And he was one of my main mentors
2 in learning my job on -- on layout and repair in -- in
3 ultrasonics. And I can't praise the man enough for --
4 because he was one of the few guys that you could bank
5 on for telling you the truth and now he's biting the
6 bullet. Thank you.

7 : If we could we need to take
8 a couple minute break. Do you need to change the
9 film?

10 VIDEOGRAPHER: We've got ten minutes.

11 Got ten minutes. Okay.

12 VIDEOGRAPHER: It only takes a second.

13 Just thought we'd let

14 everybody know.

15 My name's ' . I

16 worked in the Betatron.

17 , you got -- we got --

18 ten minutes you've got. Sorry.

19 I'll be done.

20 Go ahead, . You're

21 fine.

22 . I wanted to ask you are --

23 are -- what you're telling us now the Betatron had no
24 effect? Once the Betatron machine was shut off it was
25 over. Is that what you're telling us?

0075

1 MR. HINNEFELD: No. I -- I didn't try to
2 say that.
3 I : That's my understanding.
4 That's why I haven't come forward because that's what
5 the company told us.

6 MR. HINNEFELD: There's -- that's an odd
7 -- that's a subject of research on our part as to
8 determine whether or not it's -- when it's turned off
9 it's, you know, it's -- it's -- there's no
10 activation --

11 That's what we -- that's
12 what we were told.

13 MR. HINNEFELD: -- or whether there is some
14 lingering effect from either on the Betatron itself or
15 from the material it irradiated.

16 I he differs with
17 you.

18 MR. HINNEFELD: and Mr.
19 have pointed out journal articles, they've
20 described the effect of photo activation of materials
21 which would very likely occur with this kind of
22 energy. And to -- so the extent to which that would
23 contribute appreciably to radiation exposure would be
24 something that's a subject we are investigating, we
25 have to investigate.

0076

1 Right.

2 MR. HINNEFELD: So we have not -- I have
3 not -- I have not tried to say that once you turn it
4 off it's off.

5 See, that's what -- that
6 what the company always told them.

7 MR. HINNEFELD: And an x-ray --
8 : When we'd -- we would shoot
9 exposures as long as six, seven hours on 16 inches of
10 steel. And they said as soon as we shut the machine
11 off activation was finished, we could go right out
12 there and start again.

13 MR. HINNEFELD: Well, typically with like
14 a medical x-ray machine when you turn those x-ray
15 machines off --

16 : I don't know what it was. I
17 just worked it.
18 MR. HINNEFELD: Yeah. With a medical
19 x-ray machine when you turn the machine off there's no
20 residual radioactivity hanging around, but that's a
21 much lower energy proton. It's a much lower energy
22 machine and so there may be a difference in this case.
23 That number was either about
24 200, 250 roentgens a minute on it and sometimes it run
25 as much as six, eight hours.

0077

1 MR. HINNEFELD: So it was 250 roentgens --
2 --- A minute.
3 MR. HINNEFELD: -- a minute was the output
4 of the machine?
5 --- That's what the new Betatron
6 did. The old Betatron we couldn't do that good.
7 MR. HINNEFELD: Okay.
8 : It would run probably 100,
9 110 at maximum.
10 : Every time the counter clicked
11 there was ten roentgens going.
12 : We -- we have a unique
13 opportunity today because , is
14 here. And I wanted NIOSH to know that we have only
15 two people out of that 3,000 member work force that
16 ever received an individual written radiation exposure
17 report. And ` was one who got -- who had
18 several such sheets that he has shared with us. They
19 show the Atomic Energy Commission on the top. They
20 show their cumulative radiation dose. And maybe he
21 would comment for us. And I -- I find this very hard
22 to understand how two people could get such reports
23 and nobody else we've talked to. And you saw earlier
24 there were approximately 30 or 40 people in the room
25 who wore badges.

0078

1 . He had to leave. He had
2 to leave.
3 Oh, he had to leave?
4 Yes.
5 Oh, that's too bad. Okay.
6 The other -- is \ in the room,
7 |----- : He left about five
8 minutes ago.

2 phenomena that he mentioned. One was you could smell
3 it because the air was activated. And he also
4 mentioned the skin standing up on your arm.

5 So maybe -- I really don't understand the
6 phenomenon. Maybe it's a type of static electricity,
7 but it could also be a phenomenon where the -- the air
8 molecules themselves are charged and could have
9 related to that. So anyway, I think that testimony is
10 interesting about the hair standing on your arms after
11 the machine is cut off.

12 : Okay. We got about two
13 minutes.

14 . I just want to say did -- did
15 not they -- they found radioactive particles on the
16 tracks outside the Betatron. So something activated
17 that. I mean --

18 COURT REPORTER: Your name please, sir?

19 VIDEOGRAPHER: Name?

20

21 UNKNOWN SPEAKER: You're talking about
22 that they found uranium?

23 Yeah. On the outside of the
24 Betatron.

25 UNKNOWN SPEAKER: Right. That wasn't from
0081

1 activation. That was oxidation off the uranium metal
2 that they found.

3 Sir, one
4 question. Why is it on activation I'm reading in Los
5 Alamos and DOE reports anything over ten MEV, any
6 accelerators over ten MEV will activate the dust, air,
7 dirt, cooling liquids, and most possibly the castings
8 we worked on. This is their report, it' not mine.
9 Now, I have these reports at home.

10 MR. HINNEFELD: Right. That -- again,
11 that's ten MEV on an electron particle accelerator and
12 it's --

13 These were 24 and 25, sir.

14 MR. HINNEFELD: Right. And so the
15 activation of -- would occur in the Betatron. If it
16 occurred, it would occur in the Betatron head itself
17 from that phenomenon. Okay. From a -- from the --
18 because the electrons -- the particle -- the electron
19 particles were within the -- the Betatron and when it
20 hit a target they generated the x-rays.

21 : They also said everything in
22 that shooting room would be contaminated. They made
23 this statement, sir.

24 MR. HINNEFELD: And again, I'm not
25 disputing the fact that a Betatron is a particle

0082

1 accelerator. I'm saying that there are some
2 differences between a Betatron and a particle
3 accelerator as they're describing in the Los Alamos
4 book. I'm not saying --

5 I'm not a physicist, sir. I'm
6 not arguing.

7 MR. HINNEFELD: I'm not saying that
8 there's no problem here, understand that. I'm not
9 saying that -- and I'm saying that's a subject we have
10 to research. But I do want everybody to understand
11 that the Los Alamos handbook on linear accelerators is
12 talking about a class of accelerator that I would say
13 a Betatron is not a part of that class. I'm not
14 trying -- I'm not trying to dismiss it and say it's
15 not a concern. I'm just saying that there is a --
16 there's a -- there's a difference between the two
17 devices, that not everything in that handbook may be
18 applicable.

19 : Does one get you sicker than
20 the other one?

21 MR. HINNEFELD: Beg your pardon?

22 Sir, does one get you sicker
23 that the other one?

24 MR. HINNEFELD: Well --

25 : Which type of cancer does one

0083

1 get you and one doesn't.

2 MR. HINNEFELD: Well, that's a good
3 question. There's no difference.

4 I'm not trying to be a smart
5 guy.

6 MR. HINNEFELD: No. There's no difference
7 there.

8 : I think we're going to need
9 take a break for the tape. You've got one minute
10 left. You're out?

11 VIDEOGRAPHER: I'm done.

12 How about a --

13 VIDEOGRAPHER: It just take a minute to

14 change.

15 : Yeah. Just a few minutes
16 if somebody has to take a quick break. Five minutes
17 if you would please.

18 (Whereupon, a short recess was taken.)

19 Okay. Welcome back,
20 everybody. And we're going to -- we have a little
21 conversation that was going on before we took our
22 break. And is going to read into the
23 record some information that we're going to share with
24 NIOSH and ask them to please take it in for their
25 consideration and to please help us finalize the
0084

1 research on this.

2 . Yeah. So I wanted to read
3 into the record from the two articles I mentioned by
4 Vincent Kuttemperoor. So the first one is from his
5 May, 1975 article. And this is the abstract of the
6 article entitled Photon Activation of Alloys and
7 Elements Used in Industrial Parts Requiring
8 High-energy X-ray Radiography. And the abstract reads
9 it was pointed out in a previous paper that the
10 radioactivity induced in materials radiographed using
11 a 25 MEV Betatron represents a potential health
12 hazards to persons working with such activated
13 materials and others who accidentally come in contact
14 with them. In this paper radiation analysis of alloys
15 and elements not discussed previously are presented
16 more specifically -- are presented. More
17 specifically, decay rates and nuclear spectra of a
18 number of alloys and elements are presented in
19 addition to the induced radiation levels observed in a
20 typical industrial part exposed to high energy x-rays
21 under radiography conditions. The creation of a
22 number of radioactive isotopes having both short and
23 long half lives has been verified by energy and half
24 life measurements. Some of the isotopes identified
25 include carbon 11, aluminum 28, chromium 49, chromium
0085

1 51, manganese 56, iron 52, nickel 57, cobalt 61,
2 copper 61, copper 62, copper 64, zinc 63, silver 106,
3 and silver 108. The results presented in this paper
4 can be applied to situation in which the alloys and
5 elements studied here are present in industrial parts
6 that require high energy x-ray radiography so as to

7 minimize the radiation exposure of persons handling
8 such -- such activated materials. That's the end of
9 that abstract.

10 And then Dr. Kuttemperoor in his article
11 in July of 1974 in the same journal, in that -- and
12 that article is called Photon Activation of Materials
13 Subjected to Betatron Radiography. I just want to
14 read that in part. He again confirms that he's
15 talking about a -- that the parts were radiographed
16 using a 25 MEV Betatron just like the ones at GSI.
17 He's talking about short and long lived isotopes in
18 the activated material. Then he concludes his
19 abstract with this statement. He says the
20 radioactivity of the material after radiography is
21 explained on the basis of the creation of several
22 isotopes which resulted from different photonuclear
23 reactions that took place in the material during
24 exposure. The analysis presented in this paper
25 clearly shows that materials that had been
0086

1 radiographed using a 25 MEV Betatron become
2 radioactive. The health hazard associated with the
3 observed radioactivity are pointed out.

4 So I has some copies of both of these
5 articles for our visitors from NIOSH. And we
6 certainly hope these will be considered. And I also
7 back up what I said, that we hope that -- that this
8 will contribute to the consideration of whether active
9 doses can be -- can be done.

10 I also want to make another comment in
11 general to Stuart's comment about Betatrons and
12 medical Betatrons. Allis Chalmers made both medical
13 and industrial Betatrons. And we have been trying to
14 get some of their manuals and operating manuals and --
15 and really their design parameters for those machines.

16 But as a general comment right now where I
17 stand in our research on this I think the medical and
18 the -- the medical Betatrons were in use widespread in
19 the early 1950s as they were in industrial
20 radiography. The difference I think is in the
21 shielding of the two types of machines. So I think
22 it's going to be very important for both NIOSH and
23 ourselves, you know, to look into the specific
24 differences between medical and industrial Betatrons.
25 And my general impression was that, you know, there

0087

1 were very much stricter standards used in hospitals
2 for protecting their personnel than there were in the
3 industrial situation.

4 And apropos of -- of the relevance of the
5 Betatron to linear accelerators, you know, we have
6 also -- and we'll introduce those. Although the
7 electrons were largely contained within the -- the
8 head of the beam there was leakage of electrons out of
9 the Betatron. So that was a phenomenon. And we have
10 very well documented records of measurements of
11 neutron fluxes outside medical Betatron housing units.
12 So -- at -- at good places, you know. So I think
13 we'll just have to look into that. But that's a
14 general statement. , are you going to hand
15 those --

16 : I already did.

17 MR. HINNEFELD: I got them.

18 : Any comments?

19 MR. HINNEFELD: No. Just that we -- the
20 abstracts are very interesting. We -- I think we can
21 find the entire citation probably.

22 Actually, I will have the
23 whole article for you tomorrow morning.

24 MR. HINNEFELD: Oh, okay. Great.

25 : I've already researched,

0088

1 brought them home, read them.

2 MR. HINNEFELD: Okay.

3 . We'll give you the whole
4 thing. It's a little easier that way. We appreciate
5 it because we -- we did a little more research and
6 this gentleman here may have -- he and some of his
7 associates actually at the dedication of their
8 Betatron at the University of Wisconsin School of
9 Engineering -- and it's a Allis Chalmers Betatron
10 exactly like they had over at GSI no if, and, or buts.
11 You can see the logo, and we thought it was pretty --
12 we almost felt like we wrote that article, it looked
13 that good. So hopefully it will help you guys with
14 your quest too.

15 MR. HINNEFELD: Right.

16 : That's what it's meant for.

17 I'm going to

18 present this photo. I'm the guy that's standing on

19 top of the table. The guy in front of the Betatron is
20 He was hit by one of the cobalt units.
21 And -- and today he's in chemotherapy. It both shows
22 our radiation badges and the -- right here's my badge.
23 And right there's his badge. So the -- the badges
24 were worn, and it's very interesting now that the
25 reports and everything connected with them has
0089

1 disappeared. This is a Navy nuclear submarine valve.

2 MR. HINNEFELD: Okay.

3 The other casting here's a
4 Westinghouse turbine.

5 MR. HINNEFELD: Thank you.

6 : I appreciate it. Thank
7 you, sir.

8 : I'm The -- the
9 time, we're going way back. I started there when I
10 was 16 and then went to the military. I'm 77. That's
11 61 years ago when I first went to work for the
12 Commonwealth. So it's not -- it's not hard to imagine
13 that the people who handled the film badges, they're
14 no longer here. . . . who was my boss, he was
15 he died within the past 18 months.
16 His secretary committed suicide. And that's the way
17 it is with even the companies. Allis Chalmers, you
18 can't get much from them. I think they're out of
19 business.

20 The company that sold us our film, it was
21 -- we used -- always used Kodak for years. But then
22 it was changed when -- when people changed things
23 change. But Picker X-ray in St. Louis sold us the
24 film. Their sales representative who -- who loved us
25 because he got a lot of money from commissions on --
0090

1 on our sales. And we didn't always use one film in a
2 cassette, we might use three. And so it was a
3 lucrative account.

4 I can't find anything about what happened
5 to Picker X-ray. I've looked and looked and looked
6 with the various search engines. And I can't find

7 Now, you got to remember would
8 probably be in his '80s. So we -- we're -- none of us
9 I don't think were good friends of his.

10 There were -- there were two accidents in
11 the Betatron during my tenure. . . . from the

12 core room came over and was inside a tank on a flatcar
13 when an exposure was made. Now, there's all the kinds
14 of bells and whistles and safety devices, but
15 didn't pay any attention to them. He -- he's older
16 than me and he's deceased.

17 And then later there was a -- a guy from
18 plant engineering named . I don't know his last
19 name, don't remember. He did the same thing. He was
20 measuring for the plant engineering department, and
21 again the bells and whistles go off and he doesn't pay
22 any attention to them. And we don't know if he was
23 exposed or got cancer later. Once an accident happens
24 the safety department and plant management really
25 takes over, and you don't hear much after that.

0091

1 : Thank you. Any other
2 comments? Mr.

3 Yes. I'm again.
4 And I must comment on how these accidents occur. I
5 was using the cobalt 60, a -- the big source and we
6 were shooting some parts, repairs on a channel head.
7 So I -- the shot was over, and I attempt -- I went to
8 crank it in. And I thought I had it cranked in. I
9 went out with the survey meter into the shooting room.
10 And it was -- I was working from second onto midnight
11 shift. And we walked out of there and we -- our
12 survey meter was not -- was acting erratic. So we
13 went back into the shooting -- I mean, operating room
14 and we zeroed in the survey meter. We went back out
15 and there we were. We might have picked up two
16 minutes of exposure. Then by cranking it back and
17 forth, jerking it it released and we were able to roll
18 the pill back into the bud, what we called the pig,
19 the container. And I reported that immediately.

20 I went out to first-aid, and they were
21 very nice. Well, the nurse was sympathetic. She made
22 a few phone calls, nobody knew what to do or acted.
23 So they sent me in their little old Ford black station
24 wagon and says I should lay down. And they took me
25 home to _ Illinois to the _ Hospital.

0092

1 Well, we got ahold of our family doctor.
2 He was a nice young, highly intelligent, one of the
3 more intelligent people in the community,
4 . And he got off the phone and they didn't

5 know what to do. Oh, he says all we can do is give
6 you -- I -- I thought he gave me injections. I
7 thought they were antibiotics, and that was it. So I
8 come out of it pretty good.
9 I went back to work the following day.
10 And low and behold they says oh, you don't work in the
11 Betatron. They kept me out three -- three I think
12 nights. And the weekend come up and they says oh, we
13 need a Betatron operator. So they said you're all
14 right, we got -- they were supposed to send my film
15 badge somewhere. And they says we got a word that
16 you're all right. I says well, will I get a affidavit
17 on that. I got the Xeroxed copy of it. Of course,
18 that was 30 years ago and I stored a lot of those
19 things over at my mother's home. And after she passed
20 away her home burned down, so did the affidavit as my
21 wife can -- always watched over those things.

22 And so about 12 years after I left General
23 Steel I thought I had walking pneumonia. I started
24 getting weaker and weaker. So naturally I went to the
25 family doctor, and he gave me all the penicillin I
0093

1 wanted. He was a -- it was a ex-military doctor out
2 of the Philippines. And so I got sicker and sicker.
3 So he performed biopsies. And he come out, what did
4 he tell -- how did he tell you?

5 He said you might as well
6 leave your husband here because in 30 days he'll be
7 dead.

8 . So -- so I had one son in
9 Springfield. He was in the kidney,
10 what do you call that? And then I had another son
11 working for ., you know, he's a research chemist.
12 So they had -- they pulled some strings and got me
13 into the best cancer center for the time. It was
14 Barnard Cancer Center, it's now Siteman. So they got
15 all of the information. They got it from Augusta,
16 Maryland being I was in the service, ex-military and
17 they contacted the Mayo brothers. And they got
18 information that's there, but it's never been -- it's
19 being used at Barnes. Oh, yeah. Because they worked
20 -- they were working day and night on something like
21 this. But industry could care less. They put you in
22 a station wagon and send you home. Thank you.

23 Thanks for sharing that

24 with us and your wife. I'd say you just showed
25 them.

0094

1 What's that?
2 : You showed them. You did
3 real good. You're still with us. We're proud of you,
4 buddy. Thank you.

5 : What he didn't tell you
6 was that was only 29 days ago. Tomorrow he's going --
7 : Oh, this is a rough crowd.

8 Any other comments?

9 I've got to give top credit to
10 the Barnes cancer people --

11 : Oh, we got a commercial
12 here now.

13 : -- in St. Louis because they
14 worked day and night to find the cure because my kids
15 were also in the medical field.

16 : I tell you what, we're glad
17 it worked, Thank you very much.

18 : One quick comment.

19 I would like to comment on something
20 stated. And I want to make it very clear we went
21 through a lot of roentgens in between these two
22 Betatrons. There's a lot of technicians that never
23 fired a 10,000 roentgen shot in their life. It was a
24 regular routine with us people, a regular routine. I
25 don't know if you people realize the enormous amount

0095

1 of roentgens that went through those two machines 24
2 hours a day, seven days a week, time after time, month
3 after month, year after year. And it -- I just wanted
4 to make that clear. Thank you.

5 : Thank you, Any
6 other comments? You know, we've discussed a lot of
7 things tonight. Actually, there's a lot of
8 interesting stories about that plant. And I know over
9 the last year or so I really felt I heard them all
10 with the disappearing radioactive materials, the I
11 guess lack of safety, the hazards all these people
12 went through. You know, they in essence did it for
13 their families and they did it for us and the younger
14 generations, you know. So I think they definitely
15 deserve a well, you know, warranted round -- you know,
16 a standing type ovation because if they didn't do it

17 -- it was dirty, it was dangerous. They didn't
18 question it, they just went and did it. And I just
19 wanted that on the record because there's a lot of
20 brave people in here.

21 And it looks like we're kind of wrapping
22 up unless somebody comes up with another question.
23 We're ready, but there's another individual who came
24 here kind of late tonight. And we probably wouldn't
25 be here tonight -- a guy over here by the name of
0096

1 , will you stand up a second? This is the
2 guy that my father-in-law actually grew up with.
3 called us. worked at GSI and then he also worked
4 at Mallinckrodt. So he's -- he likes to go into
5 excitement totally. And at one of the --

6 : Stupid, that's all.
7 : At one of the meetings he
8 heard what happened at GSI. He called us, he told us
9 hey, you might want to look into this but something's
10 goofy, they keep calling it Granite City Steel. But
11 the address is General Steel. And so we started to
12 look into it, but the type of guy that took a
13 minute to call us in order to help my mother-in-law,
14 and I appreciate it. And I think he's probably helped
15 a lot of families now. So I just wanted to say
16 thanks,

17 Well, I'll tell you one thing
18 at Mallinckrodt the word was it won't hurt you, just
19 don't eat it just about the same thing. And --

20 : Lift your mike up.
21 : Oh, I'm sorry. I'm not used
22 to this. My mouth's so big I usually don't need it.
23 So anyway, one day they called me in, get your --
24 excuse me -- ass to the hospital. What's the matter.
25 Your badges, three of them in the row bing, bing,

0097
1 bing, bing. Straight to the hospital. So I go to the
2 hospital, they give me yeah, uh-huh, uh-huh, get the
3 hell out of here. And so I went to get those records.
4 Guess what? They disappeared, all the records out
5 there. So I go wait a minute, you can't do that
6 because this was after the fact so to speak because I
7 had sold them the system for the records on microfilm,
8 another company I worked for. I said so you got to
9 have them on microfilm. But, but, but, that's all I

10 got. Well, I finally got ahold of them and they gave
11 me the Mallinckrodt portion. That -- well, it could
12 have happened so to speak, but we don't have the
13 records anymore. So the government is going to take
14 that for what it's worth. Anyway, good luck, guys,
15 and just keep on fighting.

16 Why don't we have any records?
17 : Could I ask you a question?
18 : Is that a -- is that a -- is
19 that a silly question? Why don't we have any records?

20
21 The question had was
22 well, why don't we have any records.

23 I want you to
24 amplify. Are you talking about badges and getting
25 records from Mallinckrodt or from GSI?

0098

1 : GSI should have the same
2 thing if they had the whole --
3 : But -- but were you asking
4 about those?

5 : Any -- any of them.
6 : Okay.
7 : No. I didn't ask -- I only
8 went for -- wanted them for Mallinckrodt.

9 . I'm -- right. And -- but
10 when the -- the monitor -- when you were told that
11 there were three high badge readings that was at
12 Mallinckrodt; is that right?

13 : Yes.
14 : Okay. Very good.
15 : I never worked for GSI.
16 Right.

17 : Well, I didn't work -- I was
18 out there. I was in the plant and so forth.
19 : Right.
20 : Not the way these guys were.

21 : Okay.
22 : Any other questions?
23 : Restate my question, would
24 you?

25 : Well, Terry asked the

0099

1 question why aren't there any badges, and --
2 Why aren't there any records?

3 : -- or records? Any comment

4 on that?

5 : Why would somebody burn our
6 records, Why would somebody do that? Because
7 they had nothing else to do, or did they have a wienie
8 roast? I don't know.

9 MR. HINNEFELD: Well, from our standpoint
10 we -- I don't know. You know, I can't comment.

11 : We understand that, sir. But
12 I think it's a valid point if you could think about
13 it.

14 MR. HINNEFELD: In -- in this situation,
15 you know, where the company, the -- the employing
16 company is not around anymore a lot of times records
17 disappear in those situations. And so that's one --
18 that's one thing. When there is a continuing concern
19 for instance at the DOE site that started in the '50s
20 and is still running today, the Savannah River site in
21 South Carolina, there is the continuing concern they
22 generally will have the records that go pretty much
23 all the way back. But when you have a company like
24 this that doesn't exist anymore or even a company that
25 exists, but the work they did was a group that's so
0100

1 far removed from the company today, it's -- it's
2 sometimes very difficult to track those down if they
3 even exist. So I don't know why that is. But it --
4 it doesn't just -- it didn't just happen here. It
5 happens elsewhere as well.

6 : We have a gentleman who may
7 be able to share some information on the GSI records.

8 : My name is ! I
9 was the last one that worked for GSI at the Granite
10 City plant. The records and the file cabinets was all
11 taken out, and the records all taken out and burned
12 small amount at a time to make sure they all burned
13 up. I had checks in there that I only made 42 cents
14 an hour, and I wanted to keep them. And they wouldn't
15 let me keep them. They said throw them in that
16 furnace. He stood there and made me throw them in
17 there.

18 And the only records that went to the St.
19 Louis office was a file -- three file cabinets. One
20 of them had little bitty cards in them. Every time
21 that you went to the dispensary -- when you was hired

22 in there the card was made out, and every time you
23 went to the dispensary, you got a headache, or -- or
24 hurt or anything it went -- that card was in that file
25 cabinet that went over to St. Louis. And two other
0101

1 file cabinets that just had papers in them.

2 And then the guy that was talking about
3 the film, they shipped it back to St. Louis and sold
4 it back to some film company over there at the end of
5 the -- when we was cleaning all everything up. When I
6 left there in 1973 from General Steel the two Betatron
7 cameras was still in there. And I went for Marget
8 (phonetic) Service Company in the same plant. And I
9 left there in -- what was it -- '83. And the -- the
10 film -- the cameras was still in there. There was no
11 film there.

12 And when I went to work for this other
13 company they built a square concrete pit inside the
14 Betatron and they put PVC transformers and the oil.
15 When they blew up they brought them over there and we
16 stored them. And when they got a truckload of them we
17 loaded them up and they went down south some place.
18 And when we loaded -- when we -- they came in there
19 they had the clothes that the men wore over there at
20 the main plant at Granite City Steel. They had
21 clothes they'd put on and wear. When we came over to
22 where we was at we wore our own street clothes and
23 unloaded them cars and trucks and loaded them back up
24 with our same street clothes on.

25 That may have answered
0102

1 where a lot of the records went for General Steel. I
2 guess the one piece that would be kind of interesting
3 to know is what happened to that government property.
4 Those two Betatrons belonged to the United States
5 government. You'd think there'd be a paper trail on
6 that somewhere, but we haven't been able to find any
7 yet. They're all serialized I'm sure. So something
8 that emits radiation like that would probably be
9 something that ought to be traced. Just a thought,
10 just a comment. Anybody else?

11 . This is again.
12 I have a couple of thoughts that are kind of
13 disjointed. One, the people that worked in radiation
14 went to the hospital I think it was once a month for a

15 blood test. They'd basically checked our clotting
16 time. Number two, there is no 11 Building on your
17 map. It's kind of a standing joke for those of us
18 that are older. 11 Building was pretty commonly known
19 as the local watering hole. So when it came time to
20 build a new building past 10 it became 12 because the
21 communications would have been -- been horrible.

22 And one -- one thing that nobody said
23 anything about and it may be because it was before
24 most of your time, the small source cobalt 60 that was
25 used in Building Number 6 at the end of the building
0103

1 was lost. And of course, everybody was very
2 concerned, and we began checking through the plant.
3 And one of our sand sources was zirconate. And
4 zirconate in its own right is radioactive. And we
5 began to theorize that the pill must have got in the
6 sand system and in the mills was chewed up into small
7 pieces and was scattered throughout the plant. But it
8 was really this zirconium I think silicate.

9 As it turned out we found it using a
10 Geiger counter out of an airplane down in
11 Brooklyn/Lovejoy. Somebody had gone into that
12 building and it looked like a fishing cork and they
13 put it in their pocket and took it home. I don't know
14 what happened to them, but they were exposed to low --
15 low dose, less than one curie of cobalt 60.

16 And I think it's kind of interesting in
17 today's world that we're so worried about junk coming
18 into our country that's radioactive. You know, if an
19 airplane and a Geiger counter could pick that up,
20 we're probably pretty safe if they're trying to find
21 out about all these shipping containers that come in.

22 Any other comments? Are we
23 wrapping it up? any final comments you'd
24 like to share with us?

25 : Not tonight.

0104

1 . Not tonight. NIOSH, any
2 questions regarding some of the comments? We
3 definitely appreciate your time and look forward to
4 tomorrow.

5 MR. HINNEFELD: I can't think of any. I
6 can't think of any questions right now. But I -- I
7 certainly want to thank everybody for coming and thank

8 you for your time, spending time with us and sharing
9 your experiences with us tonight. We can hang around
10 if anybody has anything they'd like to say or -- or
11 ask that you didn't want to ask in front of the crowd.
12 You know, we'll be here. We can hang around for a
13 while. We're not going anywhere tonight. So that's
14 it. Just I want to say thanks to everybody. Thanks
15 to you and for arranging all this and all the
16 reporting. That will be very helpful.

17
18 (Whereupon, the worker outreach meeting
19 was concluded.)
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0105

1 CERTIFICATE PAGE
2

I, , Court Reporter, do
3 hereby certify that this GSI Worker Outreach Meeting
was transcribed by me to the best of my ability.
4

I further certify that I am neither attorney
5 nor counsel for nor related nor employed by any of the
parties to the action in which this is taken; further,
6 that I am not a relative or employee of any attorney
or counsel employed by the parties hereto or
7 financially interested in this action.

8 IN WITNESS WHEREOF, I have hereunto set my
hand and seal this 7th day of August, 2006.
9
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12 _____
[Court Reporter]
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