



1 UNITED STATES DISTRICT COURT
2 CENTRAL DISTRICT OF CALIFORNIA
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5 JOSEPH A. THOMSON and VIRGINIA)
6 THOMSON, as individuals,)
7 Plaintiffs,)

**CERTIFIED
COPY**

8 vs.)

No. CV97-5220

9 ICN PHARMACEUTICALS, INC., a)

RAP (AJWx)

10 Delaware Corporation; NUCOR)

11 CORPORATION, a Delaware)

12 Corporation; RHONE-POULENC, INC.,)

13 a New York Corporation,)

14 Defendants.)

15 -----
16 AND RELATED CROSS-ACTIONS.)
17 -----

18
19 Deposition of KARL AMLAUER, at 221 North
20 Figueroa Street, 14th Floor, Los Angeles,
21 California, commencing at 10:47 A.M.,
22 Friday, October 1, 1999, before Marshall
23 Latiner, CSR No. 3308.
24

25 **BEN HYATT**
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ALSO PRESENT:

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25

CRAIG SCHUMACHER, VIDEOGRAPHER

BEN HYATT

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(888) 272-0022

1 THE VIDEOGRAPHER: Good morning.

2 We are on the record at 10:47 A.M.,
3 October 1st of 1999 for the videotaped deposition
4 of Karl Amlauer. We're taking this deposition at
5 221 North Figueroa in Los Angeles in the action
6 entitled "Thomson versus ICN Pharmaceuticals," Case
7 No. CV 97-5220, RAP.

8 My name is Craig Schumacher. I'm the
9 video production specialist with Ben Hyatt Court
10 Reporters located in Tarzana. This is Tape No. 1 of
11 Volume I.

12 Will counsel and all present identify
13 yourselves for the record.

14 MR. SHIMADA: Yes, John Shimada,
15 S-h-i-m-a-d-a, of Lewis, D'Amato, Brisbois &
16 Bisgaard, counsel for Defendant Nucor Corporation.

17 MR. BROWN: Bryan Brown with McCutchen,
18 Doyle, Brown & Enersen for Rhone-Poulenc, Inc.

19 MR. PATTERSON: Greg Patterson from
20 Proskauer Rose on behalf of ICN Pharmaceuticals,
21 Inc.

22 MS. SHARP: Martha Sharp with Loeb & Loeb for
23 Plaintiffs Joseph A. and Virginia Thomson.

24 MR. SHIMADA: Will you swear the witness,
25 please.

KARL AMLAUER,

1

2 having been first duly sworn, testified as
3 follows:

4

EXAMINATION

5

6 BY MR. SHIMADA:

7 Q. Mr. Amlauer, could you please state
8 your full name for the record, please, and spell
9 your last name?

10 A. Karl Amlauer, spelled A-m, as in Mary,
11 l-a-u-e-r.

12 Q. And Karl is with a K?

13 A. K.

14 Q. And Mr. Amlauer, where do you
15 presently reside?

16 A. 4232 Dundee Drive, Los Angeles, 90027.

17 Q. Mr. Amlauer, we're here today for the
18 purpose of taking your deposition under oath.

19 A. Right.

20 Q. Have you ever been deposed before?

21 A. I don't think so, not -- I don't
22 believe I have, to the best of my knowledge.

23 Q. All right.

24 Why don't I give you some ground rules
25 that will hopefully make the deposition go more

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1 smoothly and perhaps answer some questions that you
2 might have.

3 First your testimony here today is
4 given under oath as if you were in a court of law as
5 opposed to sitting here in my conference room. The
6 purpose for the deposition is to ask you questions
7 about certain events and recollections you might
8 have about those events regarding the facility on
9 Providencia Avenue formally owned by -- formally
10 operated by Isotopes Specialties Company and also
11 the activities of Research Chemical on that same
12 property.

13 A. Yes.

14 Q. A deposition is a little different
15 than a normal conversation you might have with
16 someone just sitting talking casually. Obviously
17 the first difference is that everything that is
18 being said here today is being recorded both by the
19 court reporter sitting to your left as well as by
20 the video camera and the audio tape.

21 At the conclusion of the deposition a
22 transcript, a written transcript of the deposition
23 will be prepared and you will have an opportunity to
24 review that transcript and your answers to the
25 questions that are asked you by the attorneys here

1 today and you will have an opportunity to make
2 whatever corrections you might feel are appropriate
3 to your answers.

4 But I would urge you to not rely upon
5 that ability to later correct the transcript, to do
6 your best job today because on occasion if a witness
7 makes extensive changes of a significant nature to
8 their oral testimony, their credibility can
9 sometimes be adversely affected.

10 A. Okay.

11 Q. Another difference from a normal
12 conversation is that it is important that we not
13 talk over one another, it's important that you wait
14 until I finish my questions before beginning your
15 answers and likewise I'll try to judge as to when
16 you finished your answer before asking my next
17 question.

18 It makes it easier on the court
19 reporter and it's also important because sometimes a
20 question is a little different once you've had an
21 opportunity to hear the full question than it is
22 when you first start to hear the first few phrases
23 of the question. I might be going in a slightly
24 different angle than you think I might be going when
25 you first hear the question begin.

1 Also it's important that you not
2 answer any questions that you don't understand. If
3 you don't understand a question I ask you or anyone
4 else here today asks you, please tell us that you
5 didn't understand the question and we'll do our best
6 to rephrase it in a manner that is more
7 understandable.

8 If you don't tell us that you don't
9 understand the question, everyone here today and
10 everyone who may read the deposition transcript in
11 the future will assume that you understood the
12 question.

13 Another thing I'd ask you to remember
14 is that we're asking you here today to testify to
15 the best of your recollection about events which
16 took place some time ago, and if you have any
17 recollection of the events that you're asked about,
18 we're entitled to your best recollection and we
19 would ask that you do your best to try to recall.

20 If, however, you simply have no
21 recollection whatsoever, even a vague recollection,
22 please tell us. Don't guess; don't speculate. No
23 one wants you to do that, but we would like you to
24 do your best to recall.

25 If at any time you want to take a

1 break, let us know, we'll just go off the record,
2 turn off the camera, the court reporter will stop
3 taking things down and we'll take a stretch for
4 whatever reason. Depositions can be tiring because
5 you're concentrating, so if you feel that you need
6 to take a break just let me know and we'll take a
7 break.

8 Do you have any questions before we
9 start?

10 A. Should I have brought my own lawyer?

11 Q. I don't think that that's necessary,
12 but if you have ever some concerns we can go off the
13 record and we could address those.

14 A. Sure.

15 Q. Not to be excessively personal, but
16 are you taking any medications today that you feel
17 might affect your ability to recall events in the
18 past?

19 A. No, not a thing.

20 Q. Are you presently retired?

21 A. Yes.

22 Q. What is the last employment that
23 you've held?

24 A. I worked -- well, I owned Isotope
25 Products Laboratories which is different from

1 Isotopes Specialties Company, completely different.

2 Q. The company was called Isotopes
3 Products Laboratories?

4 A. Isotope Products, I-s-o-t-o-p-e,
5 Products Laboratories.

6 Q. Where was that business based?

7 A. That was in Burbank.

8 Q. Were you the sole owner of the
9 business?

10 A. Well, it was a corporation, it was a
11 solely-owned corporation, my wife and I.

12 Q. And how long was that corporation in
13 operation?

14 A. It began in January 1967.

15 Q. And when did it conclude its
16 operations?

17 A. It didn't. I sold it.

18 Q. When did you sell it?

19 A. It was approximately -- I think that
20 the deal was concluded approximately in January or
21 February. I can't give you the exact date, because
22 I don't know it right now.

23 THE REPORTER: You start to mumble at the
24 end.

25 THE WITNESS: I'm sorry. I can't give you an

1 exact date because I don't remember the exact date.

2 By MR. SHIMADA:

3 Q. January or February of what year?

4 A. In that range, of this year, yes.

5 Q. Of this year?

6 A. Yes.

7 Q. And to whom was it sold?

8 A. It was sold to a German company,
9 Bebbig, B-e-b-b-i-g. Actually it's -- it's really
10 Ezag, E-z-a-g.

11 Q. Has that business always been located
12 in Burbank, Isotope Products Laboratories?

13 A. Actually not. It started in -- it
14 started in Hollywood for about three years and then
15 I moved to Burbank.

16 Q. What was the nature of the company's
17 business?

18 A. It was the manufacture of radiation
19 products of various types, radioactive products.

20 Q. Could you give me some examples of the
21 type of products that you manufactured?

22 A. Sure.

23 Devices or sources for gauging
24 industrial gauging for calibration of nuclear
25 instruments, for calibration of medical instruments,

1 also space science applications.

2 Q. Did you conduct those operations in
3 Hollywood also?

4 A. Oh, yes.

5 Q. What was the business address in
6 Hollywood?

7 A. Boy. It was on Citrus Avenue and I
8 don't remember the number.

9 Q. In connection with the operation on
10 Citrus Avenue, did you have to secure a license from
11 the AEC?

12 A. Well, the AEC was no longer --

13 Q. At that time.

14 A. At the time it was no longer in
15 existence. But at the time it was a license from
16 the state, the State of California which was an
17 agreement state.

18 Q. When the business moved to the Burbank
19 location -- let me start with this: What's the
20 address in Burbank?

21 A. Well, there were two, actually there
22 were two buildings in Burbank. One was at South
23 Lake Street, again I don't remember the name -- the
24 address, and then in 1973 it moved to 801 North
25 Keystone Street -- I mean, 1800, excuse me, 1800

1 North Keystone Street in Burbank. That's the
2 present operation there.

3 Q. While at South Lake Street in Burbank,
4 did the business operate under a license issued by
5 the State of California?

6 A. The same license, yes.

7 Q. And with respect to the present
8 operation on 1800 North Keystone Street, it is also
9 operating under a state license?

10 A. Yes.

11 Q. What's the state agency that issued
12 those licenses?

13 A. Well, it's Bureau of -- it's actually
14 the Health Department and it's the Bureau of
15 Radiological Health.

16 Q. Prior to starting Isotope Products
17 Laboratories, where were you employed?

18 A. Well, I worked for U.S. Nuclear until,
19 I guess, about the middle of 19 -- sometime toward
20 the end of 1966. And I don't remember. I worked
21 until just after it was acquired by ICN and probably
22 about a month after that.

23 Q. When did you first become employed by
24 U.S. Nuclear?

25 A. Well, it would have been either 1959

1 or '60, thereabouts.

2 Q. While you were employed with U.S.
3 Nuclear, were you also a shareholder of the company?

4 A. Yes.

5 Q. What positions at U.S. Nuclear did you
6 hold?

7 A. Well, I operated basically a label
8 compound department, an organic -- it was a
9 chemistry department, an organic chemistry
10 department.

11 Should I talk louder

12 MR. PATTERSON: It's okay.

13 THE WITNESS: I could speak up.

14 BY MR. SHIMADA:

15 Q. What was the nature of the operations,
16 what was the purpose of the organic chemistry
17 department?

18 A. We made radioactive chemicals for
19 biological research and medical research.

20 Q. Where was that laboratory located,
21 that department located?

22 A. Well, it was -- let's see. Excuse me
23 just a minute. Let me back off just a minute. I
24 want to get my -- there're so many things happening
25 that I have to get things straight here.

1 This is U.S. Nuclear?

2 Q. Yes.

3 A. Yes.

4 That operated at -- oh, yes, it
5 operated 801 North Lake Street also in Burbank.

6 Excuse me.

7 Q. And that was property owned by U.S.
8 Nuclear?

9 A. No, it was a leased building. I'm
10 pretty sure it was a leased building.

11 Q. That was property leased by U.S.
12 Nuclear?

13 A. Yes.

14 Q. When did you -- when you first became
15 employed by U.S. Nuclear in 1959 or 1960, what was
16 your position within the company?

17 A. Just a chemist. I ran that
18 department, I should say. I don't think we had a
19 lot of formal titles.

20 Q. Were you ever an officer of the
21 company?

22 A. I don't remember. I really don't.

23 Q. Do you recall the circumstances in
24 which the U.S. Nuclear was formed?

25 A. Oh, yes, that I do remember.

1 Q. Could you describe those for me,
2 please?

3 A. At some point, I think, all the key
4 people decided at once -- I guess it was Nucor had
5 taken over the operation and demoted the president,
6 I believe. A number of us decided that we would be
7 better off elsewhere and we submitted our
8 resignations.

9 Q. Who are these other individuals that
10 you're making reference to that submitted their
11 resignations?

12 A. People -- I'm trying to think who the
13 key people were. There were Alan Goldstein who was
14 the president there and Charles Miller who is
15 deceased, Philip Gill also deceased, and I'm really
16 not sure about the rest of them here. I'd prefer
17 not to say because I'm not at all sure.

18 Q. When U.S. Nuclear was first formed,
19 did it have a primary place of business?

20 A. It was -- actually it did, but it was
21 strictly an office operation for the -- I don't
22 know -- several months until we located property at
23 801. Basically it was an office, we rented some
24 office space in Burbank. Actually I think that I
25 rented some lab space also somewhere in Van Nuys

1 for a few months to get the operation, my operation
2 going.

3 Q. Eventually the location at 801 North
4 Lake Street was found?

5 A. Yes.

6 Q. And is that the first place -- did the
7 company begin actual operations at that location?

8 A. Actual lab operations, yes.
9 Everything was consolidated there.

10 Q. What was the nature of U.S. Nuclear's
11 business?

12 A. It was basically almost anything that
13 pertained to commercial applications of radioactivity,
14 radiation. So there were several, possibly as many
15 as half a dozen, different categories.

16 Q. Did the company sell radioactive
17 sources?

18 A. Yes.

19 Q. Did the company also sell such devices
20 as irradiators and things that used radioactive
21 sources?

22 A. Yes.

23 Q. Do you recall the company also selling
24 Geiger counters and other testing -- other
25 instruments designed to test?

1 A. It may have sold them. It did not
2 manufacture them. If it did, and I say "if it did,"
3 it was often for resale. We were not an instrument --
4 we did not manufacture instruments except for the
5 irradiators.

6 Excuse me. May I get a drink of
7 water?

8 Q. Sure.

9 Let's take a break off the record.

10 THE VIDEOGRAPHER: Off the record 10:07.

11 (Discussion off the record.)

12 MR. SHIMADA: Let's go back on the record.

13 THE VIDEOGRAPHER: Back on the record 10:08.

14 BY MR. SHIMADA:

15 Q. Prior to joining U.S. Nuclear you were
16 an employee of Isotopes Specialties Company?

17 A. That's correct.

18 Q. When did you first begin working for
19 ISC?

20 A. Isotopes Specialties? Oh, about 1951,
21 either '51 or '52. I think probably '52 is when it
22 started.

23 Q. And what were the circumstances
24 surrounding your joining the company?

25 A. Oh.

1 Actually, I -- when I got out of
2 school, let's see, 1950, I had a job for a while in
3 Santa Monica and then I answered an ad and worked
4 and was employed by a company called Technical
5 Associates in Glendale as an isotope technician.
6 And I worked there for -- I guess less than a year,
7 I guess. It was with Alan Goldstein. And the two
8 of us decided to leave Technical Associates and form
9 our own company.

10 Q. And that company was Isotopes
11 Specialties?

12 A. Yes.

13 Q. So you were a shareholder of Isotopes
14 Specialties Company?

15 A. Yes.

16 Q. It was a corporation?

17 A. Oh, yes.

18 Q. Apart from you and Mr. Goldstein, were
19 there any other founders of the company?

20 A. There are no other founders, but there
21 were other investors as things went along as we ran
22 out of money.

23 Q. You indicated that you got out of
24 school in 1950.

25 A. Uh-huh.

1 Q. What school was that?

2 A. UCLA.

3 Q. And was that undergraduate or graduate
4 school?

5 A. It was undergraduate, a Bachelor's in
6 chemistry, Bachelor of Science.

7 Q. Was there a particular branch of
8 chemistry you studied?

9 A. Well, there were no undergraduate
10 curriculums. Particularly it was chemistry, but I
11 specialized in organic chemistry.

12 Q. As part of that course work, did you
13 learn about radioactive materials?

14 A. Not really.

15 Let me rephrase that. There were a
16 couple of courses, incidents in the curriculum that
17 involved nuclear physics or atomic physics, but it
18 wasn't that pertinent to the degree itself.

19 Q. The company that you began working for
20 in Santa Monica, that was Technical Associates?

21 A. No. No.

22 That was just one of my prof's
23 ventures and they had -- he had a contract or
24 something to make some park drug. So he gave me a
25 job shoveling stuff from one barrel to another

1 barrel. That was called industrial chemistry.

2 Q. After that you began working for
3 Technical Associates?

4 A. Yes.

5 Q. What were your responsibilities as an
6 isotope technician?

7 A. I prepared -- at that time I did some
8 organic chemistry work, prepared some label
9 compounds and some radiopharmaceuticals as a
10 technician.

11 Q. Specifically what were your
12 responsibilities with respect to radioactive
13 pharmaceuticals?

14 A. Just making them.

15 Q. Was that job your first experience
16 involving regular involvement with radioactive
17 materials?

18 A. Yes.

19 Q. And you were with that company less
20 than a year?

21 A. I think so, yes.

22 Q. And when you and Mr. Goldstein decided
23 to form your own company, what was going to be the
24 business activities of that company?

25 A. About the same, similar.

1 Q. Radioactive pharmaceuticals?

2 A. Not -- actually not. I think we did
3 not get in -- when we formed Isotopes Specialties
4 and we left there, we did not -- we did not pursue
5 that line, we went more into biological and
6 industrial applications.

7 Q. Biological and industrial applications
8 of radioactive materials?

9 A. Radioactive materials.

10 Q. When the company, Isotopes Specialties,
11 was first opened, where was its business located?

12 A. It was on San Fernando Road in
13 Glendale, but I don't know the address. I don't
14 remember the address.

15 Q. Did the company conduct actual
16 business operations involving radioactive materials
17 at that address?

18 A. Yes.

19 Q. How long was the company located at
20 that address?

21 A. Probably a couple years. It would be
22 hard to me to say at this point.

23 Q. Did the company at some point in time
24 begin operations at South Main Street in Burbank?

25 A. Yes. That's -- excuse me. Go ahead.

1 Q. Did the company move its operations
2 from San Fernando Road to South Main Street?

3 A. I believe that was the second
4 building, yes.

5 Q. Do you recall when the operations on
6 South Main Street were begun?

7 A. No.

8 Q. What was the nature of the business
9 operations conducted at South Main Street?

10 A. It was the same type of operation.

11 Q. Operations involving the use of
12 radioactive materials?

13 A. Yes.

14 Q. Were radioactive sources manufactured
15 at South Main Street?

16 A. Yes, they were.

17 Q. At South Main Street, did the company
18 also have occasion to handle cobalt sources?

19 A. Probably.

20 Q. Do you recall that?

21 A. I wasn't involved in that, again in
22 that particular operation, I was in what you call
23 the organic chemistry area.

24 Q. So while at South Main Street you were
25 involved in the organic chemistry part of the

1 business?

2 A. Yes.

3 Q. Did you have any real involvement with
4 the aspect of the business involving the manufacture
5 of radioactive sources?

6 A. Now and then.

7 Q. When you would have occasion to become
8 involved with radioactive sources, what was the
9 nature of your responsibilities?

10 A. Really as a technician, as a
11 manufacturing technician.

12 Q. You would actually conduct some -- you
13 would actual perform some of the manufacturing
14 sources?

15 A. Manufacturing operations, yes.

16 Q. Do you recall how long the operations
17 at South Main Street occurred?

18 A. No.

19 Can I -- when I say "no," it was
20 several years, it was in the order of maybe two to
21 three years, I'm sure, but I don't know exactly.

22 Q. There came a point in time when the
23 operations at that location were halted?

24 A. Well, they were moved.

25 Q. They were moved to Providencia?

1 A. I think so. Providencia Street was
2 the next move.

3 Q. Do you recall what year the operations
4 were moved to Providencia?

5 A. No.

6 Q. When the operations were halted at
7 South Main Street, was that property decontaminated?

8 A. It must have been because it was
9 released.

10 Q. Did you actually observe any
11 decontamination activities at South Main Street?

12 A. No.

13 Q. Do you know, do you have an
14 understanding as to who performed the
15 decontamination activities on South Main Street?

16 A. No, I don't.

17 Q. Do you recall that there was someone
18 responsible for seeing that the South Main Street
19 property was decontaminated?

20 A. I'm sure there was, but I don't
21 remember who exactly.

22 Q. You indicated that -- is it your
23 recollection that at some point in time the property
24 was released?

25 A. I don't recollect personally that it

1 was, but by inference, essentially the fact that we
2 left the building, it had to be. It had to be, by
3 law it had to be released.

4 Q. What's your understanding as to what
5 law requires that the building be released?

6 A. Well, at that time I believe there was
7 still an Atomic Energy Commission requirement and
8 there are specific laws both in -- they were for the
9 AEC and for the NRC that followed and also for the
10 State that when a company left the premises
11 permanently it had to be decontaminated to certain
12 levels.

13 Q. How did you come to have this
14 understanding?

15 A. Well, I read the regulations.

16 Q. Do you recall what the requirements
17 were in the early 1960s for the release of a
18 facility?

19 A. You mean the levels?

20 Q. Yes.

21 A. No.

22 Q. Do you recall whether there were
23 requirements that certain decontamination procedures
24 be followed to secure the release of a facility?

25 A. I don't think that the procedures

1 themselves were -- before I proceed in this way, I
2 don't recall the procedures themselves were
3 specified in a law, only the ultimate levels. It
4 was up to the people that did the work to decide how
5 it would be done.

6 Q. Do you recall in the regulations in
7 the early 1960s specifying that certain types of
8 sampling be performed as part of the decontamination
9 process?

10 A. I think -- my opinion is that the
11 sampling would have been done by the releasing
12 agency, not specifically that we had to do the
13 sampling. We had to -- whoever did the
14 decontamination had to bring it down to the levels,
15 so they would have to sample, but the sampling
16 itself as a formal procedure, a requirement, would
17 have probably been done by the agency to verify.

18 Q. Is that --

19 A. Monitoring or sampling or whatever was
20 required.

21 Q. Is that something you recall or is
22 that something that you're speculating about?

23 A. I'm not speculating.

24 Q. Is it your recollection that there was
25 some --

1 A. But I can't -- I'm sorry. Excuse me.

2 Q. Do you have a recollection that there
3 was some regulation that indicated that the agency
4 would also conduct sampling prior to release of a
5 facility?

6 A. I don't know that the regulation at
7 that time actually said the sampling would be taken.
8 I do know that monitoring -- what you call
9 monitoring of the facility was performed by the
10 agency and whether they took samples or monitored or
11 simply radiation levels, I couldn't tell you.

12 Q. Did someone ever tell you that the
13 Main Street facility had been released?

14 A. I don't recall that anybody told me
15 specifically that it had been.

16 Q. Do you recall ever seeing any
17 documentation indicating that Main Street had been
18 released by the AEC?

19 A. No.

20 Q. When the operations were moved to
21 Providencia, what were your job duties?

22 A. You mean during the move or after we
23 moved?

24 Q. Let's start with during the move. Did
25 you have responsibilities during the move?

1 A. No, I didn't.

2 It is really a blank. I don't
3 remember how we got over there, all I remember is
4 being over there and it's strange to say I don't
5 recall details of that.

6 Q. All right.

7 Once you were at Providencia, what was
8 the nature of your responsibilities?

9 A. It was also at that point primarily in
10 the label compound business, we set up a department.

11 Q. You're saying -- what kind of compound
12 again?

13 A. Label compounds which are basically
14 radioactive organic compounds that are used
15 primarily in biological research. Primarily it was
16 isotopes of carbon and hydrogen.

17 Q. That would be such things as C 14 --

18 A. Correct.

19 Q. -- and tritium?

20 A. That's right.

21 At that time I believe it was
22 primarily C 14.

23 Q. Do you recall part of the Providencia
24 facility being referred to as the C 14 lab?

25 A. Yes.

1 Q. Is that where most of your personal
2 work activities occurred?

3 A. Yes.

4 Q. While at the Providencia facility, did
5 you ever do any work involving radioactive sources?

6 A. Probably.

7 At that time the C 14 of that
8 business, the label compound business, had grown
9 quite a bit and I was responsible for that whole
10 operation and that occupied almost all my time.

11 Q. Do you recall having any significant
12 involvement with the radioactive source side of the
13 business?

14 A. Not particularly, no.

15 Q. Do you recall when it was that Nucor
16 acquired Isotopes Specialties?

17 A. No, I don't recall exactly when. It
18 was probably, to the best of my knowledge, in the
19 late -- sometime in the late fifties.

20 Q. Do you recall that Isotopes
21 Specialties would receive radioactive waste from
22 customers for purposes of ultimate disposal?

23 A. Yes, that was part of the business.

24 Q. And do you recall who any of those
25 customers were?

1 A. No. Well, at Isotopes Specialties,
2 no.

3 Q. Why do you qualify the answer that
4 way?

5 A. Well, I qualify it only because I was
6 thinking of further back -- at Isotopes Specialties
7 at what, at Providencia?

8 Q. At Providencia?

9 A. No, I don't recall.

10 I was thinking of Main Street that I
11 think we did some disposal work from Cal Tech, for
12 instance, C 14 wastes from Cal Tech. But I don't
13 remember the nature of the disposal operations at
14 Providencia.

15 Q. Do you recall the Providencia facility
16 also receiving C 14 wastes from Cal Tech?

17 A. No.

18 Q. Do you recall Isotopes Specialties
19 receiving waste at Providencia from Hughes?

20 A. No.

21 Q. Do you recall the receipt of any such
22 waste from Truesdail Laboratories?

23 A. No.

24 Q. Do you recall receiving any such waste
25 from Richfield?

1 A. No.

2 Q. While m at Providencia were you aware
3 of the pool in which cobalt was stored?

4 A. There was a pool there, yes.

5 Q. On occasion did you have an
6 opportunity to actually see the pool?

7 A. I saw it, yes.

8 Q. And that pool was used to store
9 cobalt?

10 A. I believe so, yes.

11 Q. Do you recall how deep the pool was?

12 A. No.

13 Q. Do you recall how wide it was?

14 A. Like so or something. Probably as
15 wide as this table.

16 Q. About as wide as this table?

17 A. Yes, something like this. It's not
18 like a swimming pool.

19 Q. About four-and-a-half-five-feet wide?

20 A. Something like that. That's just an
21 impression.

22 Q. Do you recall, was there any means by
23 which additional water could be introduced into the
24 pool?

25 A. Additional water?

1 Q. Yes.

2 A. I don't understand the question.

3 Q. For instance, was there like a faucet
4 or some valve that you could turn to put more water
5 into the pool?

6 A. I don't know.

7 Q. Do you recall was there someone
8 primarily responsible for the operations of that
9 pool?

10 A. I'm sure there was. I don't remember
11 who he was, though.

12 Q. Do you recall when operations at the
13 Providencia facility ceased?

14 A. You mean when we -- well, do you mean
15 when it ceased or when we left?

16 Q. It's your recollection that there were
17 some operations that continued to occur after you
18 left?

19 A. Oh, yes.

20 Q. Now, besides yourself who left the
21 company to join or form U.S. Nuclear?

22 A. Well, the three people that I recall
23 were Al Goldstein, Philip Gill and Charles Miller.
24 And some other people I think actually came later.
25 I just don't remember any more than that. Richard

1 Donelson, I'm not sure when he actually came on
2 board.

3 Q. Do you have any understanding as to
4 when the operations at Isotopes Specialties finally
5 ended?

6 A. No.
7 I'm sorry. You mean after we left?

8 Q. Yes.

9 A. After we left the company, no, I
10 don't.

11 Oh, excuse me. Let me interject. The
12 other person, of course, was Joe Shepherd. I
13 believe he was part of the operation.

14 Q. By "other person" --

15 A. By when we all left, I think he was
16 part of that group.

17 Q. So Mr. Shepherd was also -- also left
18 with you and Mr. Goldstein and Mr. Gill and
19 Mr. Miller?

20 A. I believe so.

21 Q. Did you ever personally observe any
22 decontamination work at the Providencia facility?

23 A. No.

24 Q. Were you ever told by anyone that the
25 Providencia facility had been decontaminated?

1 A. No.

2 Q. Do you recall ever seeing any
3 documents that would indicate that any
4 decontamination work had taken place at the
5 Providencia facility?

6 A. No.

7 Q. Have you ever been told that the
8 Providencia facility had been released by the AEC or
9 any other governmental agency?

10 A. No.

11 Q. Have you ever seen any documents that
12 indicated that the Providencia facility had been
13 released by the AEC or any other agency?

14 A. Excuse me. What was the difference
15 between the two questions again? What was the first
16 one?

17 Q. One was what do you recall being told
18 and one is whether you have seen any documents?

19 A. No, I didn't see any. Excuse me.

20 Q. Did you hold any -- were you an
21 officer of U.S. Nuclear?

22 A. Probably.

23 Q. Do you have some recollection of
24 holding some position as an officer?

25 A. Not really.

1 Q. Was Mr. Goldstein the president of
2 U.S. Nuclear?

3 A. Yes. That I'm sure.

4 Q. Do you recall that there came a point
5 in time at which U.S. Nuclear purchased various
6 assets of Isotopes Specialties?

7 A. It's possible, but I cannot -- now
8 that you mentioned it, it's possible and I can't --
9 I can't tell you any more than that.

10 Q. Has anyone ever told you that U.S.
11 Nuclear agreed with Isotopes Specialties that U.S.
12 Nuclear would decontaminate the Providencia
13 facility?

14 MR. PATTERSON: Objection. Misstates the
15 facts.

16 BY MR. SHIMADA:

17 Q. Has anyone ever told you words
18 something like that?

19 A. Would you repeat the question?

20 Q. Sure.

21 Has anyone ever told you that U.S.
22 Nuclear agreed with Isotopes Specialties that U.S.
23 Nuclear would decontaminate the Providencia
24 facility?

25 A. I don't remember anybody ever telling

1 me that.

2 Q. Do you recall anyone ever telling you
3 that U.S. Nuclear had made agreements with anyone
4 regarding decontamination work at the Providencia
5 facility?

6 A. No, not at all.

7 Q. When is the last time you've actually
8 been at Providencia property?

9 A. I don't believe I was there, ever
10 there. I've seen the building, but I've never
11 actually been there since I left, since we left.

12 Q. As part of this deposition you were
13 served with a subpoena that asked you to produce
14 certain documents if you had any.

15 A. Right.

16 Q. Were you able to locate any documents?

17 A. There were no documents, I have no
18 documents of any kind. I read that over and go,
19 "Oh, my God." I don't have any of that stuff, no.

20 MR. SHIMADA: Just for the record, I'll ask
21 the reporter to mark as Exhibit No. 1 a copy of the
22 subpoena along with the description of the documents
23 that were the subject of the subpoena.

24 (Defendant's Exhibit No. 1

25 was marked for identification and is

1 annexed hereto.)

2 BY MR. SHIMADA:

3 Q. You've conducted a search for whatever
4 documents you might have that relate do that time
5 frame and weren't able to find anything?

6 A. I have nothing, because the whole
7 thing was sold. All documents -- the only thing
8 that I have -- this is No. 8, "All documents
9 referring or relating to" -- it says "relating to
10 any communications between you and any attorney" and
11 so forth.

12 I have notes of some telephone
13 conversations.

14 Q. That was actually going to be
15 another --

16 A. Okay.

17 Q. -- another topic of questioning.

18 And that is prior to today have you
19 had any communications with anyone regarding this
20 lawsuit.

21 A. Yes.

22 Q. And you're looking at a steno pad.
23 Are those the notes you've taken --

24 A. That's how I take -- keep my daily --
25 when I got drenched with something.

1 Q. When was the first time you were ever
2 contacted by someone regarding this lawsuit?

3 A. I think it was actually about six
4 months ago. I'm sorry. I did not -- I should have
5 done my homework a little bit better. That was the
6 first conversation.

7 Let's see if it's here. Do you want
8 to -- let's see. "5-18, Daniel Frescas from ICN."

9 Q. 5-18 of this year?

10 A. Yes.

11 Q. What was the name?

12 A. Dan Fresca or Fresco; "Fresca
13 representing ICN."

14 Q. That's a telephone call you received?

15 A. Yes.

16 I'm trying -- I don't know -- let's
17 see. Actually I think there was something even
18 prior to that. I don't know if he was ICN or U.S.
19 Nuclear or -- I mean, excuse me, Nucor. Excuse me.

20 Q. What did the two of you discuss,
21 according to your notes?

22 A. I think there were some questions
23 about my participation and what I knew about it,
24 more along the lines that we've talked about here,
25 but pretty casual.

1 Q. Do your notes show any earlier contact
2 prior to the May 18 of this year?

3 A. That's what I'm looking for and this
4 thing doesn't go back that far and frankly I have a
5 recollection of somebody contacting me regarding --

6 Q. What's your recollection of that
7 earlier contact?

8 A. The recollection was, and I believe
9 the person was representing Nucor, asking me what I
10 knew about that -- what I knew about what happened
11 after we left Providencia and I have to tell him I
12 just didn't know anything, I did not recollect
13 anything at that point what happened to the
14 operation after that.

15 Q. Do you recall how -- do you recall
16 exactly when you received this earlier
17 communication?

18 A. No, I can't tell you.

19 Q. Was it sometime this year?

20 A. If it was, it was earlier this year,
21 very early this year, and it could have been last
22 year, it could have been actually last year. That's
23 why it's not on here. I may not have taken notes on
24 it.

25 Q. With respect to the May 18

1 conversation, were you asked about your
2 recollections of what happen at the Providencia
3 facility after you left?

4 A. Yes, the same type, same line of
5 questioning The same line of questioning.

6 Q. Are there any other subjects that were
7 discussed?

8 A. No.

9 Q. Any other contacts you've had with
10 someone regarding this lawsuit following May 18?

11 A. Yes.

12 I'm just looking here. I'm sorry I
13 did not summarize this. I have you here on 9-2.

14 Q. Any communications between May 18 and
15 9-2?

16 A. I would have to look again. Dō you
17 want to go on? Would you like to stop? Whatever
18 you like to do.

19 MR. SHIMADA: Why don't we go off the record
20 and give you a chance to thumb through your notes.

21 THE WITNESS: I think there was something.

22 MR. SHIMADA: Let's go off the record.

23 THE VIDEOGRAPHER: Off the record 10:54.

24 (Recess.)

25 MR. SHIMADA: We'll go back on the record.

1 THE VIDEOGRAPHER: Back on the record 11:02.

2 BY MR. SHIMADA:

3 Q. Mr. Amlauer, off the record you had an
4 opportunity to review your notes further for any
5 additional communications you received regarding
6 this litigation.

7 A. Uh-huh.

8 Q. Off the record you indicated you
9 identified one more communication you've received?

10 A. Yes.

11 On 9 -- outside of your own which is
12 an 8th of August communication from Dan Frescas,
13 another one 9-23 in which he questioned me along the
14 same lines here asking me if U.S. Nuclear ever
15 operated on Providencia and now I think the
16 implication of that was did we actually do
17 operations as opposed to decon, and he asked me if I
18 had any knowledge of decon and I said no, I didn't.

19 Q. Did U.S. Nuclear conduct any
20 operations at Providencia?

21 A. Yes, after we left. And the answer to
22 that was no. I mean, after we left, we left. I
23 mean, we formed U.S. Nuclear and we were out of
24 there.

25 Q. One question I forgot to ask you is

1 your date of birth.

2 A. February 26, 1926.

3 Q. Mr. Amlauer, I am going to show you a
4 document. Just for the record, it bears production
5 No. 000115, entitled "U.S. Nuclear - Stock." A copy
6 of it is being placed in front of you.

7 Have you ever seen this document
8 before?

9 A. No, I haven't seen this.

10 Q. This appears to be a listing, at least
11 at some point in time, of the shareholders of U.S.
12 Nuclear?

13 A. Yes.

14 Q. Do you recall the individuals listed
15 here as being shareholders of U.S. Nuclear?

16 A. I don't recall one way or the other.
17 Based on this list I don't have any reason to
18 question it.

19 Q. Mr. Goldstein was the president of
20 U.S. Nuclear?

21 A. Yes.

22 Q. Did Mr. Miller hold any positions
23 within the company as an officer?

24 A. Possibly.

25 Q. Do you have a recollection of him

1 doing so?

2 A. As being -- say it again, please.

3 Q. As being an officer.

4 A. He may have been.

5 Q. Mr. Miller is deceased?

6 A. Yes.

7 Q. Mr. Gill is also deceased?

8 A. Yes.

9 Q. Marvin Solomon, do you know where

10 Mr. Solomon is?

11 A. Where? I'm sorry. Do I know where he

12 is?

13 Q. Yes.

14 A. He's around. I don't know where he

15 is. Last seen he was in San Marino.

16 Q. Do you know where Mr. Shepherd is?

17 A. Yes. He's with JL Shepherd and

18 Associates in Sun Valley.

19 Q. Do you know where Roy Paul is?

20 A. Probably deceased because he was a

21 pretty old man at the time.

22 Q. Eileen Hess?

23 A. She I believe still lives in the area.

24 Q. Do you recall what her role was within

25 U.S. Nuclear?

1 A. She worked for me. She was in the
2 label compound business we were in.

3 Q. Ray Ballard?

4 A. I believe he's deceased.

5 Q. Clara Prehoda?

6 A. She has moved out of the area. I
7 believe she's still alive. I believe she's in
8 Washington, somewhere up north, Oregon or
9 Washington, thereabouts.

10 Q. Do you recall what her role was within
11 U.S. Nuclear?

12 A. She was a secretarial type,
13 administrative type. She didn't do any lab work.

14 Q. Bruce Ault?

15 A. Bruce had some sort of a position with
16 the company. We're talking about U.S. Nuclear -- at
17 U.S. Nuclear?

18 Q. Yes.

19 A. Yes.

20 I don't remember actually what he did.
21 He may have run the environmental -- there was an
22 environmental laboratory there. He may have been
23 operating that.

24 Q. What did the environmental laboratory
25 do?

1 A. Analyze samples of this and that.
2 Q. Don Collins?
3 A. Don Collins never actually worked for
4 the company. I'm not sure why he stock.
5 Q. Who is Don Collins?
6 A. Don Collins had his own organization.
7 He worked for a company called Landswerk Electrometer.
8 I don't know why he has -- I have no idea -- that's
9 a surprise to me. I didn't realize he had stock.
10 Q. What about Bert Fishman?
11 A. Bert Fishman was a radiochemist and
12 worked for the company.
13 Q. Al Ferguson?
14 A. I think Al was the instrument man for
15 the company.
16 Q. What do you mean by "instrument man"?
17 A. I believe what he did was make sure
18 that the instruments were operating properly. He
19 was an instrument tech or an instrument engineer, if
20 you want to call it that.
21 Q. Marion Henson?
22 A. I don't know. Her name is not
23 familiar. And Gladys Hogin is not familiar.
24 Q. Gerald Gill?
25 A. Gerald Gill was Phil Gill's son. Why

1 he had stock I have no idea.

2 MR. SHIMADA: I'll ask the reporter to mark
3 this as Exhibit 2 to the deposition.

4 (Defendant's Exhibit No. 2
5 was marked for identification and is
6 annexed hereto.)

7 BY MR. SHIMADA:

8 Q. Do you recall being a director of
9 Isotopes Specialties?

10 A. I don't recall. It's always possible.
11 This was forties years ago, 50 years ago.

12 Q. While with Isotopes Specialties, were
13 you on the isotopes committee?

14 A. Possibly, yes; very likely.

15 Q. What was the purpose of that
16 committee?

17 A. Oh, to make sure that the regulations
18 were carried out properly and the operation was done
19 safely. It was probably a requirement by law to
20 have an isotope committee at that time.

21 Q. Were you familiar with the nature of
22 the operations at the Providencia property by
23 Research Chemicals?

24 A. Yes, pretty much.

25 Q. Did you have an opportunity to on

1 occasion observe their operations?

2 A. I don't remember really observing the
3 operations, but I do know what they did. They had a
4 separate section in the building on Providencia. As
5 I recall, it was divided the long way and they were
6 on one side of a wall and we were on the other side
7 of the wall.

8 Q. What do you recall about the nature of
9 Research Chemicals' operations?

10 A. They separated -- they worked with
11 nonradioactive materials and they separated rare
12 earths for resale. They purified rare earths for
13 resale.

14 Q. What are rare earths?

15 A. They're a category of elements that
16 are in the same group and they're call rare because --
17 not that they're rare, they're just hard to isolate.
18 And they're materials like cerium -- cerium is not
19 one of them -- ytterbium. They're a group of
20 elements that are related and that are used in
21 various operations like in the nuclear industry.

22 Q. Is thorium a rare earth?

23 A. It's not considered a rare earth,
24 specifically.

25 Q. Do you recall Research Chemicals doing

1 work with thorium?

2 A. No.

3 Q. Do you recall Research Chemicals ever
4 using any portion of the Isotopes Specialties side
5 of the property?

6 A. I do not recall that they did.

7 Q. Have you ever spoken with Richard
8 Donelson regarding any decontamination work that
9 might have been conducted at the Providencia
10 facility?

11 A. No, I haven't; no. Not that I recall.
12 Can I put in a clarification here --

13 Q. Sure?

14 A. -- about the issue.

15 The one time that I actually was aware
16 of that was through JL Shepherd, that he reminded me
17 that -- he didn't remind me, but he told me that
18 they had a contract to decon Providencia, that U.S.
19 Nuclear did, and that was the first time I was
20 actually aware of it. So we'll get that.

21 Q. So Mr. Shepherd told you that U.S.
22 Nuclear had agreed to decontaminate --

23 A. Decon, yes.

24 Q. -- to decontaminate Providencia?

25 A. Right.

1 Q. When did you have this conversation
2 with Mr. Shepherd?

3 A. It was within a year, last year, when
4 these phone calls started to come, I talked to him.

5 Q. Is that conversation the first time
6 you became aware that U.S. Nuclear had made such an
7 agreement?

8 A. Yes. To my recollection.

9 Q. Did Mr. Shepherd -- how did the
10 subject of that agreement come up; did he bring it
11 up?

12 A. I'm trying -- I don't remember.
13 Something triggered it, but I don't remember what.
14 I really don't.

15 Q. Did Mr. Shepherd tell you that he had
16 any involvement in decontamination work at
17 Providencia?

18 A. We didn't get into that. I did not
19 ask him. I just said that I was surprised to sit
20 here again.

21 Q. Did Mr. Shepherd hold any positions
22 within U.S. Nuclear?

23 A. Yes.

24 He was -- I don't know what his
25 position was. I'm sorry. He was nominally head of

1 the industrial operation there. I believe the
2 irradiator manufacturing group.

3 Q. Why do you say "nominally the head
4 of"?

5 A. Well, because I don't know exactly
6 what his title was. But he -- when I say
7 "nominally," he did run that operation.

8 Q. Mr. Shepherd told you that U.S.
9 Nuclear had agreed to decontaminate the Providencia
10 property?

11 A. I think his words were "they had a
12 contract to do so."

13 Q. Did he tell you whom that contract was
14 with?

15 A. I don't recall.

16 Q. Have you spoken with any other persons
17 in the last couple of years about the Providencia
18 facility other than the people we've already talked
19 about?

20 A. I may have discussed it briefly with
21 Donelson, but I don't recall the nature. I'm not
22 even sure, frankly I'm not even sure that we
23 discussed it, but he would have been the only one.

24 MR. SHIMADA: I don't have any other
25 questions for you at this time.

1 MR. PATTERSON: What time is it?

2 MS. SHARP: 11:25.

3 MR. PATTERSON: I'll go.

4 THE WITNESS: Are you we going off the
5 record?

6 MR. PATTERSON: Let's go off the record.

7 MR. SHIMADA: Let's go off the record.

8 THE VIDEOGRAPHER: Off the record at 11:20.

9 (Discussion off the record.)

10 THE VIDEOGRAPHER: Back on the record 11:24.

11

12 EXAMINATION

13 BY MR. PATTERSON:

14 Q. Good morning, Mr. Amlauer.

15 As you know, my name is Greg
16 Patterson. I'm with the law firm of Proskauer Rose
17 and we represent ICN Pharmaceuticals in this matter?

18 A. All right.

19 Q. I'm going to ask some questions
20 regarding your testimony earlier today, so I might
21 bounce around a little bit.

22 A. Sure.

23 Q. But I'll try not to get too confusing.

24 You had have testified that you had
25 started a business called Isotopes Products Lab; is

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1 that correct?

2 A. Isotope Products Laboratories, yes.

3 Q. And the first location was on Citrus

4 Avenue in Hollywood?

5 A. Yes.

6 Q. And then at some point you left that

7 location?

8 A. Yes.

9 Q. Did the Citrus Avenue -- strike that.

10 Did Isotopes Products Laboratories --

11 A. Excuse me. It's Isotope, not

12 Isotopes.

13 Q. Isotope?

14 A. Yes. Strike the S on that. Just for

15 the record.

16 Q. Did the State of California issue a

17 license to Isotope Products Labs --

18 A. Yes.

19 Q. Let me finish.

20 A. I'm sorry. Excuse me.

21 Q. It's all right.

22 -- to operate at Citrus Avenue?

23 A. Yes, they did.

24 Q. What type of license was that?

25 A. It was basically called a radioactive

1 materials license which allowed me to process and --
2 process certain radioactive materials at certain
3 levels for -- to resale to licensed users.

4 Q. When you left the Citrus Avenue
5 property, was there some kind of decontamination
6 procedures that occurred at Citrus Avenue?

7 A. Yes.

8 Q. Were you involved in those
9 decontamination --

10 A. Yes, I think I was.

11 Q. -- procedures?

12 Again, sir, it's very difficult for
13 the court reporter to take down our testimony
14 accurately, so I'd ask that you wait until I finish
15 my question and then I'll try very hard not to jump
16 on you.

17 A. Okay.

18 Q. He's going to get really angry with me
19 if we don't stop.

20 A. All right.

21 Q. Could you describe the procedures
22 utilized by you at Citrus Avenue to decontaminate
23 that property?

24 A. I don't think there was anything
25 special except scrubbing down. It was a tile floor.

1 It was a restricted area -- not a restricted area,
2 it was a small area in a larger building, quite
3 isolated. As I recall, and this is quite a while
4 ago, it's over 30 as years ago --

5 Q. I understand.

6 A. -- it was one of these tile flores and
7 it was really primarily just scrubbing it down and
8 cleaning some drains. It was not a particularly
9 special operation. There was nothing elaborate.

10 Q. Did you do that work yourself?

11 A. A good part of it, yes.

12 Q. When you say "scrubbing down," what
13 did you -- you're talking about scrubbing down the
14 tile floor?

15 A. Yes.

16 Q. What did you use the scrub floor?

17 A. God, I don't know. Probably steel
18 wool.

19 Q. Steel wool?

20 A. Probably.

21 Q. And water?

22 A. Yes.

23 Q. Did you use any kind of cleansing
24 agent or chemicals to clean the floor?

25 A. Possibly. Possibly.

1 Q. Do you remember taking any surveys of
2 your building before you cleaned it up, surveys to
3 determine if there was radioactive contamination?

4 A. Well, I think it was just part of the
5 process. It's not something -- yes, you surveyed it
6 and you look and there are certain areas, yes,
7 that's how you decon, you took general surveys and
8 you say, "Oh, there are some hot spots here and
9 there are some hot spots there," and you proceed to
10 clean them up.

11 Q. That clean up procedure was generally
12 just scrubbing down --

13 A. Primarily as I recall it there, yes.

14 Q. Do you recall having to remove any
15 walls or portions of the floor?

16 A. No. No.

17 It may have been possible to have to
18 remove some tiles.

19 Q. Was this done with some oversight by a
20 California state agency?

21 A. I don't think they came until after it
22 was done, but again I can't be sure of that. There
23 may have been a couple of visits. Basically there
24 were probably a couple of visits where they came out
25 and did they own surveys and say, "Hey, you missed a

1 spot."

2 Q. Do you have a particular memory of
3 that occurring?

4 A. Not specifically, no.

5 Q. Do you remember who from the State of
6 California came out to your facility?

7 A. Not there, no.

8 Q. Did you prepare some kind of
9 notification or report to submit to the state agency
10 requesting closure allowing the property to be
11 released?

12 A. Probably, but I don't recall exactly
13 what it was.

14 Q. When you say "probably," why do you
15 say "probably"?

16 A. Because I really don't remember.

17 Q. That's fine. It's a long time ago.

18 A. It's been a long time ago and I just
19 don't remember.

20 Q. Is it your recollection that the
21 general practice would have been to notify the --
22 let's back up for a minute.

23 What California agency was providing
24 oversight?

25 A. It's the Department of Health

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1 actually, but the Department of -- the Division of
2 Radiological Health.

3 Q. Is it your understanding that you
4 would have to notify the Department of Health if you
5 wished to move your operations?

6 A. Yes.

7 Q. And is it your understanding that they
8 would have required you to decontaminate the
9 facility that you were leaving before you left?

10 A. That's correct.

11 Q. How would the Department of Health
12 Services be notified?

13 A. I think -- I'd have to say I think,
14 because I don't recall. Generally, hey, I make a
15 phone call and say, "Hey, look, I'm going to leave
16 and I'm going to decon it," and there may have been
17 some forms, but I don't recall the forms.

18 Q. And then at some point the Department
19 of Health Services, would they come out to the
20 property and conduct their own survey?

21 A. Oh, yes.

22 Q. And did they do that at Citrus Avenue
23 insofar as you recall?

24 A. Yes.

25 Q. Would they approve at some point your

1 moving your facility somewhere else?

2 A. Well, that's a separate issue.

3 Q. Okay.

4 A. They would issue -- I'm sure there's
5 something somewhere in writing that they officially
6 said you are okay and you can vacate the premises
7 and the premises are okay to sell or to release or
8 whatever. But the moving into the next facility is
9 another issue in itself.

10 Q. We've heard a lot in talking to
11 persons who were involve in these facilities way
12 back when the term "release for unrestricted use."

13 Do you have an understanding of what
14 that means?

15 A. It means that it could be used by
16 anybody for any purpose.

17 Q. When you say "when it can be used,"
18 you're referring to the property?

19 A. The property itself is like any other
20 piece of property.

21 Q. Do you recall the levels that you were
22 required to clean up to at the Citrus Avenue
23 property?

24 A. No.

25 They have changed and I don't recall

1 what they were. I don't know the numbers. I don't
2 have the faintest idea any more.

3 Q. Do you know when California became an
4 agreement state?

5 A. Well, it had to be prior to 1967.

6 Q. You don't have any knowledge?

7 A. But I don't remember when. It would
8 have to be between 1960 -- somewhere between 1960
9 and 1967, I believe is when the change took place.

10 Q. Okay.

11 And then you moved to -- I'm trying to
12 read my handwriting -- 1800 North Keystone?

13 A. No.

14 Q. Where do you move to after Citrus?

15 A. There was a small building on Lake
16 Street, I leased a small property on Lake Street.

17 Q. All right.

18 At some point did you vacate the Lake
19 Street property?

20 A. Yes, probably around 1973.

21 Q. Did you have to go through a
22 decontamination procedure at Lake Street?

23 A. Yes, I did.

24 Q. Could you strike the procedure that
25 you utilize at the Lake Street property in 1973?

1 A. Pretty much the same thing, but it was
2 a little more physical, because I remember we
3 actually had to remove some tiles and clean some of
4 the concrete. At that time we used these square
5 tiles rather than sheet material, and because of all
6 the washing procedures some materials had leaked
7 into the cracks and contaminated the cement, so we
8 actually had to -- actually had to remove some of
9 the cement in the area that was lined, you could see
10 the lines, you just had to actually saw them out,
11 grind them out.

12 Q. Did you personally --

13 A. I was involved in that.

14 Q. You were involved in the actual
15 cleaning of the facility?

16 A. You bet.

17 Q. Just so I have an understanding, the
18 same kind -- when you talk about the same kind of
19 process, you would have conducted a survey of the
20 property first?

21 A. Well, yes.

22 Yes, you conduct a survey of the
23 property. I don't know that we would have done the
24 whole property. We would have looked to see
25 where what you call the hot areas were and you start

1 with the hottest areas first and you work your way
2 down until you get to that -- what you call a
3 release level, whatever it was. The hottest stuff
4 is the easiest, it's when you got down to the --

5 Q. The hottest areas are the easiest?

6 A. Yes.

7 Because you know where you can easily
8 find them. As you get down towards what you call
9 background levels, it gets harder and harder to
10 distinguish between what is background and what is
11 not background.

12 Q. I see.

13 What kind of instruments did you use
14 to survey the Lake Street property?

15 A. Primarily Geiger counters, sensitive
16 Geigers, special Geiger counters for that work.

17 Q. Did you also wash down portions of
18 this facility?

19 A. Oh, yes.

20 Q. And do you recall what you used to
21 wash down the facility?

22 A. No.

23 There are special what you call decon
24 agents, chelating agents, that you normally use for
25 that and that's probably what we --

1 THE REPORTER: What was that term?

2 THE WITNESS: C-h-e-l-a-t-i-n-g, chelating
3 agents that actually combine with the radioactive
4 materials and hold them so that they can be
5 easily -- prevent them from recontaminating.

6 BY MR. PATTERSON:

7 Q. What did you do with the water that
8 collected when you were walking down?

9 A. It depends on the levels. Mostly it
10 would be soaked up on something, put in cans for
11 disposal into a radioactive site. Again, that was
12 a matter of degree. If it was low enough, it would
13 go down the drain, acceptable levels to dispose of
14 via the sewer system.

15 Q. Okay.

16 And did the Department of Health
17 Services also do some sort of their own survey of
18 the Lake Street property?

19 A. Yes.

20 Q. Do you remember who from the
21 Department of Health Services conducted that survey?

22 A. Yes, I do. It was Al Ferguson who had
23 actually worked for U.S. Nuclear at one time.

24 Q. Al Ferguson?

25 A. Yes. And Bruce Ault.

1 Q. Bruce Ault?

2 A. They both had left the company at one
3 point and worked for -- began to work for the state.

4 Q. I see.

5 Do you remember what the levels were
6 that you were required to meet in 1973?

7 A. I don't even remember what they are
8 now except they're lower.

9 Q. Let me ask you this: Do you remember
10 whether the levels were -- in 1973 were more
11 stringent than they were in -- at the time you left
12 the Citrus Avenue property?

13 A. I don't recall.

14 They've had a couple changes and I
15 just don't recall the timing on it. I can't help
16 you on that. It's easy probably to find the
17 information if you need it.

18 Q. During the time that you were --
19 strike that.

20 Was decontaminating these facilities
21 considered a dangerous activity?

22 A. No, not at those levels. I wouldn't
23 consider it dangerous, no.

24 Q. With respect to the Lake Street
25 property, do you remember writing any kind of report

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1 that was submitted to the Department of Health
2 Services showing the levels that you had cleaned up
3 to?

4 A. Not really.

5 That was fairly formal because it was
6 the state -- it was their obligation to establish
7 and document it. They have to take the final survey
8 and it was for their records and they did the final.

9 Q. So it was your understanding --

10 A. We have kept some informal numbers to
11 track our work, but I don't believe -- I say I don't
12 believe that we were required to submit any formal
13 information to them. They had to do their own final
14 survey and that was the basis they will release it
15 and that would be for the record.

16 Q. Just so I understand it, it was your
17 understanding it was your obligation to
18 decontaminate the property and notify --

19 A. And we --

20 Q. Let me finish, sir.

21 A. Sorry.

22 Q. -- and notify the Department of
23 Health Services; that was your obligation?

24 A. Yes.

25 Q. And then it's your understanding that

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1 it was the Department of Health Services obligation
2 to then come out and conduct its own survey to
3 independently determine whether the property could
4 be released; is that correct?

5 A. That is correct.

6 Q. Here's a question that I've been dying
7 to ask. I haven't been able to ask too many
8 questions yet.

9 What is an isotope; can you describe
10 it?

11 A. Well, it's better to describe isotopes
12 which are different forms of same element that are
13 chemically -- the elements are chemically the same
14 but differ in their weights because they have a
15 different number of neutrons in the nucleus, but
16 they behave just like -- like radioactive table salt
17 is an isotope of sodium or an isotope of chlorine,
18 they're chemically the same, but they may be
19 radioactive or they may be heavier. People ask me
20 that at cocktail parties always.

21 Q. I believe you testified that you
22 graduated in 1950 from UCLA?

23 A. Yes.

24 Q. At that time what was the -- this
25 industry involved with manufacturing products with

1 radioactive isotopes, was it kind of a new industry?

2 A. Yes.

3 I think it started probably in the
4 late forties and at that time there were only two
5 companies that were involved in commercial
6 operations.

7 Q. So you were something of a pioneer in
8 this field?

9 A. Sort of; sort of.

10 Q. With respect to Isotopes Specialties,
11 was it your testimony that it first operated on San
12 Fernando Boulevard?

13 A. Yes.

14 Q. And was there a license issued to
15 Isotopes Specialties --

16 A. Yes.

17 Q. -- for that property, San Fernando?

18 A. Yes.

19 Q. Do you recall what those licenses
20 were?

21 A. Well, it was issued at the time by
22 the Atomic Energy Commission and what the scope of
23 it was I have no idea. It was the same lines to
24 process and distribute radioactive materials.

25 Q. The purpose of the need for the

1 license was so the AEC could keep track where
2 radioactive materials were located?

3 A. More than that. It's to make sure
4 that people use them safely and that they're
5 qualified to use them. They usually incorporate
6 people's experience, that they're people specific
7 rather than -- and facilities specific.

8 Q. So the license is both people specific
9 and facilities specific?

10 A. Yes.

11 Q. At some point Isotopes Specialties
12 left San Fernando Boulevard?

13 A. Yes.

14 Q. Do you recall what year that was?

15 A. No.

16 Q. Was the Atomic Energy Commission still
17 providing oversight at the time you left?

18 A. Yes, I think probably through Main
19 Street. Even then I'm not sure who was responsible
20 at that point.

21 Q. Do you know whether the San Fernando
22 facility was decontaminated?

23 A. I'm sure it was, but I don't know
24 for -- you know, I can't remember for sure. It had
25 to be. By inference again the AEC would not have

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1 released it had it not been decontaminated.

2 Q. Would they have allowed ISC -- let me
3 back up.

4 Did ISC have its license transferred
5 from San Fernando to Main Street?

6 A. Yes, I believe so.

7 Q. Would the AEC have allowed the
8 transfer if the San Fernando property had not been
9 decontaminated to their satisfaction?

10 A. No, no way.

11 Q. You don't have any personal memory of
12 San Fernando being decontaminated?

13 A. No.

14 Q. Do you know who at ISC at that time
15 when you were operating at San Fernando, whom do you
16 think likely would have had responsibility for
17 making sure that that facility was decontaminated?

18 A. I was probably involved in it. Like I
19 say, it just been so long ago. Probably Al
20 Goldstein and myself and maybe a couple of other
21 people, but I don't remember who they were. When we
22 left I don't even remember how many people were
23 working there.

24 Q. Was there somebody primarily in charge
25 of, let's say, making sure that applications for

1 licenses were completed?

2 A. That was Goldstein.

3 Q. Mr. Goldstein?

4 A. Mr. Goldstein.

5 Q. Referring now to the Providencia
6 Street property during the time that ISC operate
7 there and before you left --

8 A. Yes.

9 Q. -- can you give me a sense or an
10 understanding of how much radioactive material would
11 actually be stored and utilized on site; is it a
12 suitcaseful?

13 A. You can't --

14 Q. Is there a way for me to get an image
15 of how much materials were stored on site?

16 A. All I could say would be depending on
17 what the isotope was. I mean, there were a number
18 of different isotopes in my own department. If I
19 told you it was a curie or so, I don't know what
20 that would mean.

21 Q. Not a heck of a lot?

22 A. It doesn't mean a lot because most of
23 these things aren't judged by weight which is really
24 irrelevant. Most of the time the weight is
25 irrelevant. It's the amount of what you call the

1 activity level. And I would have to just say that
2 in my department it was probably an intermediate
3 level.

4 Q. Let me ask you --

5 A. Low curie level.

6 Q. How much space do you use to store
7 these materials; could you give me a sense of
8 dimensions?

9 A. In general they were --

10 Q. For the materials you used.

11 A. Oh.

12 I'm trying to remember there at that
13 point. I suppose the laboratory that I occupied was
14 probably about twice the size of this room.

15 Q. Your laboratory was?

16 A. That particular laboratory was
17 maybe -- maybe one-and-a-half times or two times,
18 but, you know, it's been a long time, but something
19 in that order. It wasn't ten times as big or
20 smaller, but it was probably bigger than this room.

21 Generally the activity was processed
22 all over, I mean, on bench tops and hoods and stored
23 in specific lockers of various kinds.

24 Q. Specific what, sir?

25 A. Lockers.

1 Q. Lockers?

2 A. Yes.

3 Q. How large were the lockers

4 A. I have no idea.

5 It doesn't take much. I mean, you can
6 put a lot of stuff in a small space. The stuff that
7 I worked with was not what you call externally
8 radiating. It's radioactive but the radiation is
9 so weak that you don't need -- for instance, it
10 doesn't require lead shielding for the most part.

11 Q. I see.

12 A. I don't know the meaning of the
13 question really. Basically it was kept in drawers.

14 Q. Okay.

15 In response to some questions
16 regarding decontamination of a facility, you said
17 something to the effect that the procedures for
18 decontamination, I think, were not specified in the
19 law or the regulations; is that correct?

20 A. I think that's true. They don't tell
21 you how to do it.

22 Q. Again I'm referring back in the 1950s,
23 1960s.

24 A. I don't recall any directives. The
25 only directive is hey, thou shalt decontaminate, but

1 they don't tell you how to do it. It's your
2 problem, it's the licensee's problem.

3 Q. Do you keep in regular contact with
4 any of the former employees of Isotopes Specialties
5 or U.S. Nuclear?

6 A. There aren't any.

7 Q. I'm sorry.

8 A. There aren't any except Al Goldstein
9 and I haven't talked to him for years.

10 Q. Do you keep in regular contact with
11 Mr. Donelson?

12 A. No, I'm sorry, excuse me. Donelson,
13 we see Donelson maybe once every six months to a
14 year. It's pretty social. And Shepherd I have seen
15 at weddings, his weddings.

16 Q. You were asked some questions -
17 regarding U.S. Nuclear's purchase of certain assets
18 of Isotopes Specialties and you said it was
19 possible?

20 A. Yes.

21 Because having brought up the issue,
22 it sounds familiar that something was purchased.

23 Q. You have some general memory that U.S.
24 Nuclear purchased something from Isotopes
25 Specialties?

1 A. Only in the sense it came up here that
2 hey, wait a minute that they may have. And I don't
3 remember what physical assets that may have been.
4 It may have been some equipment.

5 Q. You just -- I'm sorry. Go ahead.

6 A. Possibly customers lists. It's hard
7 to say. I couldn't tell you.

8 Q. At that time who at U.S. Nuclear would
9 likely have been responsible or involved in that
10 kind of purchase?

11 A. Well, that would have been Al --
12 Mr. Goldstein.

13 Q. Do you recall how many people worked
14 at Research Chemicals?

15 A. I really don't. There were two -- two
16 principals that I knew. One was Gene Cleaver and
17 I've forgotten the other fellow's name. I just
18 don't remember it.

19 Q. Was it a smaller operation than
20 Isotopes Specialties?

21 A. I think so.

22 Q. And I believe you testified you
23 thought that Gene Cleaver had a moved to --

24 A. Somewhere in --

25 Q. Michigan?

1 A. -- Michigan or Wisconsin or someplace.

2 MR. BROWN: Objection. Foundation.

3 MR. PATTERSON: I'm just going through my
4 notes here just to see if there are any other
5 questions.

6 That's it for me.

7 MS. SHARP: Do you want to go ahead?

8 MR. BROWN: I have nothing right now.

9 MS. SHARP: Can we take like a five minute
10 break?

11 MR. SHIMADA: Let's go off the record.

12 THE VIDEOGRAPHER: This is the end of Tape
13 No. 1. We're going off the record. The time is
14 11:53.

15 (The luncheon recess was taken
16 at 11:53 A.M.)

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APPEARANCE OF COUNSEL:

(P.M. SESSION)

JOHN SHIMADA, ESQ.

BRYAN K. BROWN, ESQ.

GREGORY J. PATTERSON, ESQ.

MARTHA SHARP, ESQ.

ALSO PRESENT:

CRAIG SCHUMACHER, VIDEOGRAPHER

REPORTED BY:

MARSHALL LATINER, CSR. No. 3308

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(The deposition of KARL AMLAUER
was reconvened at 12:40 P.M.)

KARL AMLAUER
having been previously duly sworn, testified
further as follows.

THE VIDEOGRAPHER: This is the beginning of
Tape No. 2. We're back on the record at 12:40.

THE WITNESS: You had asked me about whether
the agency has specific decon procedures and they
don't, they don't tell you how to do anything.

However, if the procedure you want to
use is outside the scope of your license, which it
could be, then you have to go back and say, "Look,
this is what I want to do and this is what I propose
to do and how I propose to do it."

And then the regulatory people look at
it, and say, "Okay, you can do it," and they give you
an amendment or then they say, "Well, we want you to
do certain other things like wear respirators," or
something like that.

And then you could do it and they
issue an amendment to do that. It's not always,
but -- if it's not covered, like I say, if what you

1 want to do is not covered in your safety procedures,
2 for instance, then you have to go back and tell them
3 what you intend to do and get their approval. But
4 that's sort of rare.

5

6 EXAMINATION (CONTINUING)

7 BY MR. PATTERSON:

8 Q. Can you give me an idea of what sort
9 of decontamination procedures might be outside of a
10 license?

11 A. Like checking out a concrete wall or
12 something where you got, let's say, dust generation.
13 Let's say if you have to chip activity out off of a
14 concrete wall and you have to jackhammer it or grind
15 it or something, that would not be within the scope
16 of your license and then you have to say, "We want
17 to do this procedure and we're going to wear certain
18 clothes and certain respirators and we're going to
19 seal off the room," and all that kind of stuff.

20 And then they give you an amendment to
21 do that operation, but you, the licensee, determines
22 ultimately what they want to do and how they're
23 going to do it.

24 Q. I see.

25 A. The NRC -- if not -- the NRC or the

1 State, depending, may ask you to modify it and then
2 they approve it, but they don't tell you how to do
3 it.

4 Q. I see.

5 A. You always tell them what you want to
6 do.

7 Q. Are there any other procedures you
8 could think of now that would generally outline the
9 scope of --

10 A. All kinds of stuff. If you want to --
11 for instance, if you want to use an amount of
12 activity for routine operations that are outside
13 your limits, then you have to go back and say, "I
14 want to amend my license to use another curie,
15 whatever it is, of activity." So you're always
16 governed by your license.

17 Q. Would the license typically have
18 operating procedures in it?

19 A. By reference.

20 Q. By reference?

21 A. Your own safety procedures.

22 I can't tell you how it was way back.

23 I know that in my time we had safety manuals and
24 operating manuals and they are incorporated into the
25 license. But I don't know how it was done way back.

1 Q. During the instances where you, you
2 were involved in decontaminating facilities, did you
3 ever seek an amendment to your license to conduct
4 certain activities involved for decontamination?

5 A. It's possible, yes. It's quite
6 possible. It's possible.

7 Q. It's possible?

8 A. But I can't remember specifically.
9 Not at those companies. Not at those companies. At
10 my own company I had to go -- we had to go and ask
11 for amendments for certain operations. But I don't
12 think that was pertinent -- necessarily true before.
13 I mean, I'm talking about Providencia or Main
14 Street. I don't remember how things were handled
15 then.

16 Q. You made a reference to "your
17 companies." Are you referring to the times that
18 your decontamination facilities were operated by
19 your company?

20 A. Not other facilities, just when we had
21 an operation of any kind that exceeded our own
22 license restrictions, we have to go and ask for what
23 you call an amendment to do a certain operation,
24 whether it was more activity or a different type of
25 operation, if it was not covered in the original.

1 procedures, and then they would issue an amendment
2 to do that.

3 Q. Okay.

4 When the Citrus Avenue property was
5 decontaminated, do you remember needing to seek an
6 amendment to your license to conduct --

7 A. I just want remember.

8 Q. Let me finish.

9 -- to conduct the decontamination
10 facilities at that site?

11 A. I just don't remember how it was
12 handled.

13 Q. Do you have any memory of seeking an
14 amendment with respect to the Lake Street property
15 when you were doing decontamination at Lake Street?

16 A. I don't remember specifically whether
17 we did or didn't.

18 Q. In those instances where you
19 personally were involved in decontamination, were
20 you ever required by the Atomic Energy Commission or
21 Department of Health Services to take subsurface
22 boring samples?

23 A. Not boring samples, no. I don't even
24 remember having taken any surface samples, you know
25 , of the vegetation and all that at that time.

1 Q. Do you remember taking any wipe
2 samples?

3 A. Wipe samples, yes. That was routine.

4 Q. And did you also take readings with a
5 Geiger counter or some other instrument?

6 A. Yes. Yes

7 MR. PATTERSON: Thank you.

8 THE WITNESS: Okay.

9

10 EXAMINATION

11 BY MS. SHARP:

12 Q. Mr. Amlauer, I'm Martha Sharp.

13 A. Right.

14 Q. I represent the plaintiffs, Joseph A
15 and Virginia Thomson, in this matter. They're the
16 current owners of the Providencia property.

17 Now, you previously testified you
18 worked for Isotopes Specialties Company --

19 A. Yes.

20 Q. -- which I am going to call ISC --

21 A. Sure.

22 Q. -- from approximately 1952 to 1959; is
23 that right?

24 A. Yes.

25 Q. And of those years, approximately two

1 years Isotopes Specialties Company operated on San
2 Fernando Road, more or less, and for two years it
3 operated on South Main Street?

4 A. More or less.

5 Q. More or less.

6 So then from approximately 1956
7 through 1959 you worked at the Providencia site?

8 A. Uh-huh.

9 Q. What were Isotopes Specialties
10 Company's product lines, in other words, what did
11 you manufacture?

12 A. Well --

13 MR. SHIMADA: At which facility?

14 MS. SHARP: At Providencia.

15 THE WITNESS: One of the lines was what we
16 call label compounds. One of the lines was a
17 product collection of what you call sealed sources.

18 BY MS. SHARP:

19 Q. Product --

20 A. Sealed, as in sealing a can or
21 something, sealed source, which was various little
22 packages of radioactive material that are welded
23 shut and are used for gauging and -- primarily for
24 gauging purposes.

25 Q. And primarily what kind of

1 radioactivity -- active materials were in the sealed
2 sources?

3 A. Well, many kinds. I don't remember
4 the extent at that point, but probably half a dozen
5 different nuclei including cesium 137 and cobalt 60
6 and barium 133. As I said, C 14 was not considered
7 a sealed source -- they were not sealed sources.
8 And I don't know what else. But certainly that
9 wasn't -- it was not limited to those. Strontium
10 90. Those would be the primary.

11 Q. Sealed sources?

12 A. Sealed source, yes.

13 Q. Besides label compounds and sealed
14 sources, what else did you manufacture?

15 A. Well, I think that was -- they did
16 manufacture these what are called irradiators which
17 were these devices that hold radioactive material or
18 that hold sealed sources and are designed to perform
19 radiation experiments on tissues and things like
20 that. And they are called that, irradiators. They
21 also I believe offered some services like waste
22 disposal and film badge services and so on.

23 Q. What is a film badge service?

24 A. That's a little gadget that you
25 measure, that you use to wear to evaluate how much

1 dose you receive during an operation, during your
2 operations.

3 Q. Are you ever aware of any time when
4 you worked at Isotopes Specialties Company that any
5 employee had an overexposure of the film badge
6 dosage?

7 A. I wasn't aware.

8 Q. What's that?

9 A. I'm not aware.

10 It doesn't mean that there wasn't any,
11 I jut don't --I was not -- in my department it was
12 not an issue because you couldn't get exposed that
13 way. So I really was not aware of any overexposures
14 if they existed.

15 MS. SHARP: I am going to ask the court
16 reporter to mark this as Exhibit -- what are we on,
17 3?

18 MR. SHIMADA: Yes.

19 MS. SHARP: -- as exhibit No. 3.

20 (Defendant's Exhibit No. 3
21 was marked for identification and is
22 annexed hereto.)

23 BY MS. SHARP:

24 Q. Would you look at this document,
25 please?

1 A. (Witness complies.)

2 Q. Have you ever seen this document
3 before?

4 A. Not really.

5 Q. This document describes some over-
6 exposures to employees as reported on film badges.

7 How would an employee have an over-
8 exposure reported on a film badge?

9 A. If you worked in a certain field, as
10 in a certain radiation field, for more than a
11 certain amount of time, you could -- you could be
12 overexposed. The over -- the exposures are -- as of
13 now you can only get, let's say, five rem per year.
14 It was more then, but this is as an example. That's
15 your limit. And it's usually interpreted in terms
16 of quarterly exposures.

17 So if you don't monitor -- if you're
18 working, let's say, in a high-level radiation field
19 and if you're not careful and you don't monitor
20 yourself by other means, like a Geiger counter, you
21 could exceed that quarterly dose and that would mean
22 you were technically -- technically overexposed. It
23 doesn't mean you're hurt, but it means that you're
24 technically -- you exceeded the administrative
25 limits and that's a violation.

1 Q. And would you be exposed to these
2 isotopes due to the nature of the radioactive
3 materials, in other words, they emit radioactive
4 gamma or alpha rays and you are exposed to those
5 things?

6 A. The only external exposure would be
7 the gamma-emitting like cobalt 60, for instance, and
8 that's very penetrating gamma radiations, and it is
9 possible if you don't monitor your work as you go
10 along to be in a field where you could get over that
11 particular quarterly limits.

12 Some companies set weekly limits
13 actually. We did set weekly limits and that's our
14 own administrative limits. But if by some chance
15 you did not -- let's say an employee did not monitor
16 himself as he went along, he could exceed the
17 technical or the administrative limits set by the
18 NRC.

19 The other kind of exposure which is
20 not apparently covered here, although I haven't read
21 it, is an internal exposure in which you would
22 actually ingest something like an alpha -- like
23 alpha-emitting -- like radium -- radium is a bad
24 example, but there are certain alpha-emitters which
25 are perfectly innocuous as long as you don't you

1 breathe them. And you also can get overexposed.
2 But this is strictly I think from exposure to your
3 cesium or cobalt 60.

4 Q. Using cesium or cobalt 60 as an
5 example, these isotopes emit -- is it possible that
6 the emissions would also penetrate walls, ceilings,
7 floors?

8 A. Oh, they do.

9 Q. They do?

10 A. Oh, yes.

11 They do penetrate because the nature
12 of their -- of the radiation, it's attenuated
13 incrementally, and so there's always a risk when you
14 use that. But keep in mind that that is only
15 associated with the isotope itself and once you
16 remove the isotope the radiation is gone.

17 Q. Because it's not emitting?

18 A. No, it's emitting, but it's emitting
19 someplace else or you put it in a shield so it
20 can't -- you put it behind a lot of lead and then
21 you can't detect whatever it is because it's so low.

22 Q. Okay.

23 I am going do ask the reporter to mark
24 this as Exhibit 4.

25 (Defendant's Exhibit No. 4

1 was marked for identification and is
2 annexed hereto.)

3 BY MS. SHARP:

4 Q. Have you ever seen this document
5 before?

6 A. Possibly I did. It says "radioactive
7 material license." This is an application for one.

8 Q. Yes.

9 In block No. 2 it indicates
10 "department to use byproduct material C 14
11 production department."

12 A. That's interesting.

13 Q. Is that the department that you worked
14 in?

15 A. Yes, it is.

16 But we never used that stuff. I'm
17 sorry. We used, except as noted here, carbon 14.
18 Things that were dealt with in that department are
19 only carbon 14, possibly a little sulfur and the
20 hydrogen 3 there which is tritium actually for your
21 information, hydrogen -- item B down there, hydrogen
22 3, which we refer to as tritium.

23 Where was this? Let's see. Isotope
24 Specialties.

25 Incidentally, let me just point out,

1 that this is an application to use that amount, it
2 does not necessarily mean that that amount was ever
3 on the premises.

4 Q. Okay.

5 Now, in section 6 that you're
6 referring to where it's describing the isotopes and
7 the curies you're allowed, the first thing it says
8 is "atomic No. 3 through 83."

9 A. Yes.

10 That covers all the radioactive
11 materials of that nature without -- so that you
12 don't have to list every one. There are hundreds
13 that might be in that category. And they're
14 considered a total, I think -- well, it refers to C
15 processing. It doesn't see if that's each or total.

16 Q. The 1.5 curies, you mean?

17 A. Yes.

18 It doesn't say each so I assume that
19 means the total.

20 Q. So Isotopes Specialties Company was
21 licensed to have a total of 1.5 curies of atomic
22 No. A through 83?

23 A. Yes, with the exceptions noted below
24 which are quite a bit larger.

25 Q. Yes.

1 A. That's correct.

2 MR. SHIMADA: Objection. Mischaracterizes
3 the testimony. He is he said it was an application.

4 THE WITNESS: Well, it's an application,
5 presumably it was approved. We don't know.

6 MR. SHIMADA: Lacks foundation.

7 THE WITNESS: What is the date on this thing?

8 BY MS. SHARP:

9 Q. In your department you testified you
10 used carbon 14, sulfur 35 and hydrogen 3, also known
11 at tritium?

12 A. Yes.

13 Q. First with carbon 14, this application
14 is for ten curies total.

15 A. Yes.

16 Q. Do you ever recall there being ten
17 curies of carbon 14 at Isotopes Specialties Company
18 on Providencia Street?

19 A. Probably not.

20 And I say "probably not," because you
21 wouldn't want get that close to your limit, for one
22 thing, and it was probably a few curies, I would
23 guess -- I would guess it's probably maybe three to
24 four curies at any one time that were there. I
25 mean, it kept going in and out, you brought stuff in

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1 and you processed it and you shipped it out. But I
2 don't think there was more than a few curies.

3 Q. And the sulfur 35, 25 curies, do you
4 ever recall there being 25 curies at one time?

5 A. The amount of processing of that
6 stuff, I don't know what they had in mind, maybe to
7 actually manufacture -- that's maybe what they had
8 in mind when they applied for it, I didn't apply for
9 it. But the amount of sulfur 35 compounds that were
10 there at one time I assume were probably no more one
11 thousandth of that amount, maybe 2500 millicuries or
12 so, a millicurie being a thousandth of a curie.

13 Q. Do you recall if Isotopes Specialties
14 Company used cobalt 60?

15 A. Oh, I'm sure they did, yes. Oh, yes.

16 Q. They did?

17 A. Cobalt 60 because it was a product
18 that they put in his irradiators.

19 Q. Did they use cesium 137?

20 A. I believe so at that time. This was
21 in Providencia?

22 Q. On Providencia Street?

23 A. Oh, yes. Because it was already being
24 used in Main Street so I'm sure they did.

25 Q. Did they use iridium?

1 A. Possibly.

2 Q. Possible; yes or no, to your
3 knowledge?

4 A. I'll tell you, I would have to say, if
5 you want a yes or no, I would have to say yes.

6 Q. Did they use krypton?

7 A. Yes.

8 Q. Did they use polonium?

9 A. Yes.

10 Q. Okay.

11 You previously discussed with John and
12 with Greg different areas of Isotopes Specialties
13 Company.

14 A. Yes.

15 Q. And what I'd like to do is give you a
16 map of the facility.

17 A. Memories, memories here.

18 (Defendant's Exhibit No. 5
19 was marked for identification and is
20 annexed hereto.)

21 Q. Do you recall this document?

22 A. Yes.

23 There's a building in the back there
24 I don't remember, I believe. I don't know. What is
25 C? What is this thing? Does anybody know?

1 Q. On the legend it indicates "C and L
2 are locations where waste is processed and/or
3 stored."

4 A. Okay.

5 That may have been a fenced enclosure.
6 I don't remember it, but that's probably what it
7 was.

8 Q. Now, on this map first you talked
9 about Research Chemicals and Isotopes Specialties
10 sharing the same building but separate sides.

11 Could you draw on the map where
12 Research Chemicals operated?

13 MR. BROWN: Objection. Lacks foundation.
14 Mischaracterizes the earlier testimony.

15 BY MS. SHARP:

16 Q. Can you draw on the map --

17 A. I can only draw what I think was true.

18 Q. Okay.

19 A. I don't know if this -- is this a
20 fence? Does anybody know? Is this an actual fence
21 structure here?

22 Q. I believe that is a fence. I don't
23 know. This is a map from Atomic Energy Commission,
24 I believe?

25 A. This is an awfully long skinny

1 building, you know. Because as I recall, they
2 were -- they were really completely separate,
3 although there was maybe some access, they were just
4 a completely separate operation. Because their
5 operation was nonradioactive and they had no
6 license, to the best of my knowledge, to handle this
7 stuff.

8 So they were -- they were either
9 here or -- see, this may not be a scaled map so this
10 building may not be as skinny as it looks. I would
11 have said more they were out here someplace, you
12 know. But they were isolated. We shared the
13 building and maybe some information and stuff like
14 that and some consulting with them.

15 Q. To your knowledge, did they store any
16 radioactive materials on their part of the building?

17 A. No.

18 MR. BROWN: Objection. Misstates the
19 testimony. He said they didn't deal with
20 radioactive materials.

21 THE WITNESS: I would have to say they did
22 not because they would not have been licensed to
23 store such stuff.

24 MS. SHARP: Okay.

25 Q. Can you draw on the map where the

1 carbon 14 lab was?

2 A. Not really.

3 I think -- forget this. I'm going to
4 put this over here because that's the way I remember
5 it and I am going to put C 14 here, down here. This
6 is really not a very good map, I don't think. We
7 were in a room -- nothing personal, but it just
8 isn't.

9 Q. It's not personal to me. I didn't
10 draw it.

11 A. I think we were -- you know, because
12 there were offices and stuff here.

13 Q. Can you put an O there for office?

14 A. (Witness complies.)

15 Q. They you go.

16 A. I'll just put "office" there. Who
17 knows? We were up here someplace --

18 Q. The C 14 lab?

19 A. -- just to get on with it.

20 I think there was this pool here. And
21 then the rest of it was operational shops and stuff.
22 They say "office" here. But that means the whole
23 thing. I think the offices were really down here.

24 Q. Okay.

25 Now, were any radioactive materials

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1 kept in the offices?

2 A. Oh, no.

3 Q. Going to the C 14 lab, did you store
4 radioactive materials in the C 14 lab?

5 A. Oh, yes.

6 Q. You described storing them in lockers?

7 A. Well, drawers or cabinets.

8 Q. Drawers or cabinets.

9 Do you recall where in the C 14 lab
10 they were?

11 A. No, not really.

12 They were various places depending on
13 what it was. And there was not -- I would not say
14 that there was at that point really a truly -- there
15 was stuff that you call work in process and there
16 were things that were finished goods, it would be --
17 and they were probably over in one -- I don't
18 remember where it would be, but they were probably
19 in one section of finish goods ready to sell.

20 And we would categorize them on card
21 files, we didn't have computers in those days, and
22 so on. But the stuff for resale or the finished
23 goods were probably in one section of drawers and
24 cabinets and the rest of it was really distributed
25 through the lab areas depending on what -- and, of

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1 course, you have your starting materials, too, which
2 were stored someplace else in the lab.

3 Q. Your what materials?

4 A. Starting materials --

5 Q. Raw materials?

6 A. -- which were raw materials which you
7 used which was barium carbonate that we usually
8 brought in and maybe some intermediates that were
9 used in the process that were in a different place.
10 But they would be distributed in the lab, they
11 weren't outside the lab, they were specifically in
12 that room.

13 Q. When you were using raw materials in
14 the lab, how did you handle them?

15 A. How? Carefully. What do you want?

16 Well, that's -- that operation is a
17 very complex operation and I don't know what to tell
18 you except that some of the activity was actually in
19 gaseous form and would be -- would be actually
20 manipulated in what you call vacuum systems and
21 eventually it would be converted to some solid form
22 and then it would be handled either in a hood or
23 what you call a glove box or on a bench top
24 depending on the nature or how much. It looked like
25 an ordinary laboratory operation to anybody walking

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1 in because it was.

2 Q. How did you get the gas from the
3 vacuum container?

4 A. Basically you converted it to a solid
5 material or a liquid material by absorbing it in
6 this closed vacuum system into a reagent which
7 actually reacted with it. Like if you take carbon
8 dioxide -- do you want me to describe this some
9 more? I'd be happy to.

10 Q. Sure.

11 A. The starting material for C 14 is
12 barium carbonate which is obtained by irradiation of
13 barium nitrite on the radioreactor. And the reactor
14 people who do that supply it to us as barium
15 carbonate which is an insoluble compound. And this
16 is converted maybe into hundreds of different
17 radioactive substances. The first step most of the
18 time is to put it in this vacuum line.

19 Q. How did you get it from its raw
20 state into the vacuum line; did it come in a tube?

21 A. It comes in a -- it comes in a little
22 -- actually it came in a little bottle with a screw
23 cap on it. In a glove box, you open the box in a --

24 Q. In the glove box?

25 A. In the glove box you open the thing up

1 and you take a spatula and you weigh onto it the
2 balance in the box and you weigh it onto a piece of
3 paper and you put that into a container and then the
4 container goes onto the vacuum line.

5 Q. What kind of precautions did you have
6 in the event that the material you put on spatula
7 spilled on the floor?

8 A. Well, it was in a glove box, it was in
9 a glove box at that time, so it couldn't spill on
10 the floor. It might spill on the floor of the glove
11 box but it was still contained.

12 Q. What was in the glove box; was it
13 lined?

14 A. No. Lined with what?

15 It would be just a trans -- well, I
16 don't know. It would be a stainless steel with a
17 glass window in plastic. In those days I think they
18 were just steel boxes with a glass window on the
19 front with glove ports, but it was hermetically
20 sealed.

21 Q. And if something spill in the glove
22 box, what happened to that?

23 A. You picked it up and put it back in
24 the bottle, scraped it up in the glove box. Yes,
25 that was all done in the glove box. Usually if you

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1 did the work right, you'd work in a tray in the
2 glove box and if it spilled it spilled in the tray
3 and you'd take a little brush and brush it back into
4 the bottle.

5 Q. Was there ever a time when all of
6 these spilled materials -- did you ever witness any
7 materials spilled in the glove box?

8 A. Sure.

9 I did so myself sometimes a few times.

10 Q. Would when the materials were spilled
11 in the glove box, do you ever recall a time when not
12 all of the materials were scraped back into the
13 container?

14 A. Well, the glove box was not -- yes,
15 there's always some residual material and that's why
16 you work in a glove box. Eventually you do what you
17 call decon operation in the box itself. You do
18 something outside. But it was always a contained --
19 at that stage it was always contained so that you
20 could do a lot of things, you could wash it, you
21 could wet it down.

22 Q. And then what happened to the water
23 after you washed it?

24 A. In that case it would be soaked up on
25 towels and the towels would go into a container

1 which was a waste container and that would be sealed
2 and that would go into a waste -- shipped out as
3 radioactive waste.

4 Q. Were there any drains in the glove
5 box?

6 A. No.

7 Q. Were there any drains in the C 14 lab?

8 A. Yes.

9 Q. Do you ever recall a time when you
10 were washing out the glove box and some of the water
11 escaped into the drain?

12 A. No, that would not have been possible.

13 Q. Were the floors in the C 14 lab washed
14 down regularly?

15 A. Possibly. I can't recall. I think
16 so.

17 Q. And is it --

18 A. Generally it's with the stuff -- when
19 it was done, you'd put into a bucket and the
20 procedure -- I don't know what it was like then.
21 Generally you assayed it. You can assay the bucket
22 contents and decide whether it was safe to put down
23 the drain or not.

24 Q. So you would test the water in the
25 bucket?

1 A. Yes.

2 MR. SHIMADA: Mr. Amlauer, in the past
3 several minutes you've started to use the words
4 "possibly" and "probably" --

5 THE WITNESS: Okay. Do you want me to quit
6 that?

7 MR. SHIMADA: -- and those types of words in
8 your answers. And it's -- we all want you to
9 testify as to what remember.

10 THE WITNESS: Okay.

11 MR. SHIMADA: When you use words like that, it
12 starts to become unclear whether or not you remember
13 or what you're speculating about.

14 THE WITNESS: Then I would have to say the
15 cases I said possibly, then I would have to say no.

16 BY MS. SHARP:

17 Q. What case was that?

18 A. I don't know. Whatever case you
19 asked. I don't remember at this point. Should we
20 review it?

21 MR. SHIMADA: That's why it's important to
22 testify based on your recollect.

23 THE WITNESS: Yes. You're right. Sure.
24 Okay.

25 MR. SHIMADA: Frankly, the answers can be

1 yes, no, I don't recall.

2 THE WITNESS: Okay. That's fine.

3 MR. SHIMADA: So I just ask that you watch
4 using those words.

5 THE WITNESS: I shall.

6 MR. SHIMADA: Later on it might get difficult
7 to decide or to determine whether your testimony is
8 really based on what you recall or what you're just
9 reconstructing based on what you know now.

10 THE WITNESS: What I know now, what I know
11 for sure is that I don't -- I don't know how -- what
12 happened to -- I don't know for sure what happened
13 to the floor washings because I don't remember
14 seeing that.

15 MS. SHARP: Okay. That's fair.

16 Q. Do you ever recall any of the sources,
17 the raw materials kept in the drawers breaking, in
18 other words, the tubes they were kept in breaking so
19 the raw materials were just laying in the drawer?

20 A. No.

21 Q. Do you ever recall raw materials being
22 spilled on the floor?

23 A. Yes.

24 Q. And then what would happen?

25 A. Basically depending on what it was or

1 how valuable it was, because some of these things
2 were very valuable, you would try to recover it by
3 adding some water in a syringe and you pick it up
4 and put it back in the bottle. If it was not very
5 much material or it was not valuable or not worth
6 saving, then you would probably -- excuse me, then
7 you would put it -- take it up on wet toweling and
8 the toweling would then be radioactive waste which
9 would go into a bucket and be disposed of as
10 radioactive waste and whatever facilities were
11 designed to take back.

12 Q. Was there any kind of covering on the
13 floor or was it a bare floor?

14 A. Well, it was generally -- well, it was
15 covered, yes, but usually with tile. Basically it
16 was not a bare cement floor.

17 MR. SHIMADA: Are we talking about the C 14
18 lab?

19 MS. SHARP: The C 14 lab we're still talking
20 about.

21 THE WITNESS: The C 14 lab, that was had a
22 tiled floor.

23 BY MS. SHARP:

24 Q. A tiled floor in the C 14 lab?

25 A. Yes.

1 Q. When you talk about a material that is
2 worth recovering, what kind of material are you
3 talking about?

4 A. Well, in the case of the C 14, it
5 could be, let's say, radioactive sugar, for
6 instance, like glucose, which after you put -- let's
7 say you carried it through six synthetic steps and
8 you got a lot invested in it plus the value of the
9 starting material which is very expensive, the stuff
10 that you spilled could have been worth \$2,000.
11 Well, you don't put that down the drain, you make a
12 special effort to recover it and apply some various
13 techniques.

14 Q. Did you ever witness any materials
15 going down the drain?

16 A. No. Not -- not -- not accidentally.

17 Q. How about on purpose?

18 A. On purpose, if you wanted to use your
19 bucket and it was below the levels, yes, it was
20 perfectly legal.

21 Q. And you would just pour it down the
22 drain?

23 A. Yes, after monitoring.

24 Q. Do you recall what levels were --

25 A. No.

1 Q. -- legal to dump it down the drain?

2 A. No.

3 Q. You do not?

4 A. No.

5 Q. Do you recall what type of materials
6 generally were allowed to be dumped down the drain
7 if the levels were adequate?

8 A. Every one of these -- everything in
9 this, including 3 to 83, has a limit which is
10 defined in the regulations that can be disposed of
11 via the sewer.

12 MS. SHARP: Let the record reflect the
13 witness is referring to Exhibit 4, section 6.

14 THE WITNESS: Yes.

15 BY MS. SHARP:

16 Q. So all of the elements in section 6
17 have certain levels where you could pour them down
18 the drain?

19 A. Yes.

20 Q. And you have seen them poured down the
21 drain?

22 A. I didn't say I had seen them poured
23 the drain. Well, I said I saw -- I have seen on
24 occasions washings go down the drain after they've
25 been monitored, yes.

1 Q. You were describing previously the
2 process in the C 14 production lab and we had gotten
3 to the point where something was put in the vacuum;
4 what happened after that?

5 A. Depending on what you want to do with
6 it, what compound you want to make, on the vacuum
7 line you would allow this -- I'm sorry. Let me back
8 off.

9 The barium carbonate that I described
10 that was insoluble, the first step in most cases was
11 to actually generate radioactive carbon dioxide gas
12 and you have a little system on the vacuum line that
13 allows you to drip acid on the barium carbonate and
14 release carbon dioxide which is all enclosed in the
15 vacuum line.

16 Q. What happened to the emissions from
17 the vacuum?

18 A. There is none; there are none.

19 Q. So it's just a vacuumed room where you
20 do --

21 A. No. No. It's basically a bunch of
22 tubes with stop boxes and things on them that are --
23 it's a rack.

24 Q. Like a reactor chamber?

25 A. That's part it of it, yes, but there

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1 ways -- there are tubes that lead here and there.
2 If I'd none that's what you want, I would draw you a
3 picture of one. It would be much easier if I could
4 draw or something.

5 Anyhow, basically you end up with
6 carbon dioxide that is in this -- in these glass
7 tubes and it's contained because it's sealed, it's a
8 sealed system. It's called a sealed system. At
9 that point, the next step in general is to, let's
10 say, for example, is to absorb the CO2 in a reagent
11 of sodium hydroxide which converts it to sodium
12 carbonate, typical reaction. It could be done all
13 in this sealed system.

14 And then again depending on what you
15 want to do with that you go someplace else with it.

16 Q. Now, the sealed system, did it ever
17 have to be cleaned?

18 A. No. Oh, yes. Yes.

19 Q. How was it cleaned?

20 A. It doesn't have to be cleaned very
21 often. Basically once you absorbed the stuff, there
22 is nothing in it any more except some material that
23 may have been absorbed on the glass, but you don't
24 care about that really. You're in the stop box.
25 There's grease in the little stop box there.

1 Q. So the material that absorbed on the
2 glass, did any of contain radioactive --

3 A. Yes. But it would be frankly trivial.

4 Q. What did you do with that; did you
5 wash it out?

6 A. Well, you'd wash it out, the grease,
7 with some solvent and you'd take a rag or towel and
8 you put the towel in the radioactive waste.

9 Q. And when you were washing the tubes or
10 the reactor out, were there instances where any
11 water ever spilled on the floor?

12 A. No. No. We didn't use water.

13 Q. You used solvent?

14 A. Solvent.

15 But this was dry. In general you
16 didn't use a liquid water, you'd moisten a towel, so
17 it was always -- there was no free liquid.

18 Q. Did the towels ever fall on the floor?

19 A. I don't know.

20 Q. You don't know; okay.

21 And after the chemical was put through
22 this reaction, then what happened to it; how did you
23 get it out of these tubes?

24 A. Well, that's just the procedural thing
25 depending on what you wanted to do with it. I'm

1 trying to think of some of the reactions. You would
2 convert this -- for instance, one thing you would
3 convert this to a material like acetic acid in
4 sodium form and it would be in a liquid and you'd
5 take -- then you'd take the liquid and offer the
6 tube in a container and you could evaporate that
7 liquid off and it leaves the solid sodium acetate
8 and that's the product that would be sold.

9 Q. Did you ever see the liquid spilled on
10 the floor?

11 A. Yes.

12 Q. What would happen to it?

13 A. Like I said before, if it was valuable
14 enough to retain, it would be recovered from the
15 floor, and if it wasn't, it would be soaked up on
16 towels and thrown in the garbage, radioactive
17 garbage.

18 Q. Or would it ever be put into water and
19 dumped down the drain if it met the levels?

20 A. Well, there would always be some
21 residual on the floor that would have to be mopped
22 up eventually.

23 Q. What would happen to the mop water?

24 A. It would be put in a bucket and
25 monitored and then go down the drain.

1 Q. When you were using gas materials in
2 the C 14 lab, did the gas ever escape into the
3 atmosphere?

4 A. Possibly -- well, excuse me. I tried
5 to think of an incident that was pretty good.

6 Had it done that, it would have just
7 dissipated. I mean, CO2 becomes part of the
8 atmosphere and it's gone.

9 Q. Did you ever see that happen?

10 A. Yes.

11 Q. How many times?

12 A. Once or twice.

13 Q. Once or twice?

14 A. Yes.

15 Q. And in the gas there was carbon 14?

16 A. Yes.

17 Q. Which is radioactive?

18 A. Yes.

19 Q. And could that carbon 14 have
20 penetrated the ceiling, floors, walls?

21 A. Well, it would become -- because the
22 room itself was exhausted -- there are certain --
23 there was certain -- what's the word I want to use?
24 -- requirements to ventilate the room. There were
25 hoods in the room and they have to exhaust the room

1 continually. So if there was a release of gas in
2 the room, it would eventually be drawn out through
3 the hoods and exhausted into the atmosphere.

4 Q. So the hoods led outside the building
5 into the atmosphere?

6 A. Yes, they were stacked outside and the
7 CO2 could become part of the atmosphere and mingle
8 with the other natural CO2, radioactive CO2 which is
9 already there.

10 Q. I see.

11 Did you use liquid raw materials in
12 the C 14 lab?

13 A. Well, you wouldn't call them raw. At
14 that point they would be liquid in process.

15 Q. It was after they went through this
16 process?

17 A. Yes.

18 If they were volatile, if they were
19 inherently volatile like alcohol or acetone or
20 something like that and radioactive, they would be
21 always handling this vacuum system. That was a
22 whole technique, I mean, there were books written on
23 that particular discipline.

24 Q. Did you ever use powdered raw
25 materials?

1 A. Well, like I say, yes, initially, oh,
2 sure.

3 Q. Did any of these powders ever spill
4 onto the floor?

5 A. Yes. Once in a while.

6 Q. And what happened to them?

7 A. Just like I say, if you -- you might
8 elect to, if it was valuable, you might actually
9 dissolve them right on the floor with a little water
10 or solvent and pick them up in a little syringe and
11 you'd continue to do that until can't -- until
12 what's left isn't worth recovering and then do the
13 mopping operation.

14 These things happen, sure.

15 Q. Okay.

16 Moving to a different part of the
17 facility, you drew the location of the pool on the
18 map.

19 A. Yes, I sort remember it was up in that
20 area somewheres.

21 Q. And you previously testified the pool
22 was approximately four to five feet wide?

23 A. As best as I could remember.

24 Q. And you don't remember the depth?

25 A. No, but it was deep.

1 Q. What was the purpose of the pool?

2 A. The purpose of the pool was to store
3 highly intense radioactive material, but in sealed
4 form, like cobalt 60 or cesium, that have already
5 been sealed in -- hermetically sealed in capsules.
6 And water, it's a neat cheap way to store certain
7 types of radioactive materials like power plants do.
8 They put their fuel cells underwater because the
9 water, if it's deep enough, it provides very good
10 radiation protection.

11 Q. And what types of materials did
12 Isotopes Specialties Company store in this pool?

13 A. The only ones that I know of for sure
14 were cobalt 60.

15 Q. Cobalt 60?

16 A. Yes.

17 Q. And do you know how much cobalt 60 was
18 stored in the pool at one time?

19 A. No.

20 But it was certain many curies. I
21 mean, I don't know exactly, but it was certainly
22 many curies.

23 Q. 10,000 curies?

24 A. Well, your license was only applied
25 for 5,000 so hopefully not. I couldn't tell you. I

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1 would have to say I don't know.

2 Q. Fair enough.

3 Was the pool ever drained, to your
4 knowledge?

5 A. I don't remember if it was drained or
6 recycled. I don't remember it ever being
7 specifically drained, no.

8 Q. Do you know if the pool had a filter?

9 A. I don't know.

10 Q. Do you ever know if the water level of
11 the pool decreased?

12 A. I would have to say it didn't.

13 Q. It did not?

14 A. Yes.

15 Q. Do you know if the pool was ever
16 cleaned?

17 A. I don't know.

18 Q. Was there a drain near the pool?

19 A. I don't know.

20 Q. These sources that were stored in the
21 pool, you said they were stored in capsuled
22 containers.

23 A. Yes.

24 Q. Is there any way that the -- do you
25 ever recall any of the sources leaking in the pool?

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1 A. Yes, there was one, one leakage
2 problem, yes.

3 Q. Can you describe that incident?

4 A. I think a pig fell into the pool.

5 Q. A pig?

6 A. Which is a lead storage container
7 actually.

8 Q. Not a farm animal?

9 A. Not a real farm animal.

10 Q. Okay.

11 A. We call them pigs.

12 Pigs are lead -- usually lead, lead or
13 steel storage containers. One did fall in --

14 THE REPORTER: Pigs are usually?

15 THE WITNESS: Lead -- usually what they are
16 are lead-filled steel containers, stainless steel
17 containers with a cavity in them to store the
18 activity. And one of them did accidentally fall in
19 a pool and fell in one of the sources and ruptured
20 it.

21 BY MS. SHARP:

22 Q. What happened? The pig falls in; what
23 happens to everything in the pig?

24 A. Well, the pig, that was just an
25 empty --

1 Q. It was empty?

2 A. It was just empty. It was a pig, but
3 the source that it fell on would be.

4 Q. What happened to the sources it fell
5 on?

6 A. We had a couple of them rupture.

7 Q. Do you know what --

8 A. No, I don't know if they -- I'm sorry.
9 I don't think they ruptured, but they were damaged.
10 I don't know that they leaked or not. They were
11 damaged.

12 Q. You know they were damaged, but you
13 don't know that they leak?

14 A. No.

15 Q. Do you know what was in these sources?

16 A. Certainly cobalt 60.

17 Q. Cobalt 60?

18 A. Usually the cobalt 60 in itself is --
19 it's not a powder, it's a slug of cobalt metal.

20 Q. A what?

21 A. It's a slug, it's a piece, it's a like
22 a raw --

23 Q. Like a bullet?

24 A. Like a bullet, sort of like a bullet
25 of solid cobalt metal. So in general when we talk

1 about releases, even if the capsule ruptured, there
2 might be some leakage, it would be a not small --
3 the release, the actual release of the cobalt would
4 be small because most of it is in this very hard
5 pellet.

6 Q. And do you recall any other sources
7 besides cobalt being stored in the pool?

8 A. No, I don't.

9 Q. Was cesium stored in the pool?

10 A. I don't know.

11 Q. Where was the cesium stored?

12 A. I don't know.

13 Q. So in --

14 A. I don't mean to say that it was not
15 stored in the pool. I just don't -- the only thing I
16 know -- you asked me what I know for sure and what I
17 know for sure is cobalt.

18 Q. Fair enough.

19 And were all of the cobalt sources in
20 the pool in these capsulated forms?

21 A. Yes.

22 Q. Was there any other type of cobalt
23 source stored on the Providencia property?

24 A. I have to say I don't know and I think
25 I have to let it go at that because I just don't --

1 I don't know how we got the cobalt -- how the cobalt
2 was brought into the facility from the manufacturer
3 of the cobalt 60.

4 Q. Was the water in the pool ever tested?

5 A. I don't know. I don't know for sure.

6 Q. Do you know if the water in the pool
7 ever evaporated?

8 A. The answer is no.

9 Well, natural evaporation, but the
10 cobalt is not volatile, so the -- there would be no
11 -- the water itself could evaporate without any
12 release of activity.

13 Q. And do you have any knowledge of what
14 happened to this pool after Isotopes Specialties
15 Company vacated the site?

16 A. No.

17 Q. So we've talked about the pool and the
18 carbon 14 facility. What else was inside the
19 building, besides the offices, of course?

20 A. Of course there were offices.

21 Q. Right.

22 A. Of course, like I say, there were two
23 buildings.

24 Q. Talking about the first building where
25 the carbon 14 lab is --

1 A. They had some laboratory operations
2 and probably some glove boxes and hoods scattered
3 around there, but I cannot remember anything about
4 them.

5 Q. Were any radioactive materials stored
6 in this other area that you know of?

7 A. I believe so.

8 Q. What types of materials were stored
9 here?

10 A. I don't know.

11 Q. Do you know how they --

12 A. Specifically I don't. I just don't
13 know.

14 Q. That's fine.

15 Do you know how they were stored? In
16 other words, the cobalt was in the pool, your things
17 were the drawer.

18 A. Well, other things that were, let's
19 say, lesser activity would be stored depending on
20 what they were, that was most of the industrial
21 things or what we call these gamma emitting
22 isotopes, would be stored in lead shields or pigs as
23 I call them.

24 Q. Where are the pigs kept?

25 A. I don't know.

1 Q. Are the pigs a free-standing device on
2 the floor?

3 A. They're free-standing and some of them
4 can be, you know, no bigger than this and some of
5 them are, you know, like this big depending -- they
6 could be anyplace.

7 Q. Do you ever recall a pig leaking?

8 A. No.

9 Q. Besides --

10 A. By that I mean they don't leak; in
11 general they don't.

12 Q. Besides the pig that fell in the pool,
13 do you recall any other pig incidents --

14 A. No.

15 Q. -- where pigs were dropped and opened?

16 A. No.

17 Q. It's all right.

18 A. I'm sorry about that.

19 Q. Do you know what kind of manufacturing
20 was conducted in the other part of the first
21 building?

22 A. Yes.

23 Again, other kinds of raw materials
24 were placed in -- pellets of raw material were
25 placed in stainless steel capsules and welded shut

1 and that was the nature of the business, of the
2 source business basically.

3 Q. So you would -- they would take the
4 raw material and encapsulate it?

5 A. Yes.

6 Q. And where did they do this; did they
7 do it on a workbench?

8 A. No.

9 That would have been done either in
10 hoods or what you call boxes or possibly even a
11 shielded glove box which is a device that is
12 shielded with lead, but it has holes in it for
13 gloves, or maybe what you call manipulators. You've
14 seen these -- manipulators -- I don't know if they
15 had -- I don't remember those, but they may have had
16 something like that.

17 MR. BROWN: Martha, could you clarify who
18 they is?

19 THE REPORTER: I can't hear you.

20 MR. BROWN: I was asking Martha if she would
21 clarify who they are.

22 MS. SHARP: I'm talking about the workers.

23 THE WITNESS: The workers you mean now.

24 MR. BROWN: Which workers?

25 MS. SHARP: In Isotopes Specialties Company.

1 Q. Now when these sources were encapsulated
2 in these glove boxes, do you ever recall any of the
3 materials being spilled?

4 A. No, but I did not work in that area
5 and I wasn't particularly privy to that.

6 Q. Now, on this map there is an area
7 called "yard."

8 A. Yes.

9 Q. What is your understanding of what was
10 the yard used for?

11 A. Well, as I recall, sort of a parking
12 lot. All this is fencing. I just don't remember it
13 being there, but apparently this was a fenced area
14 in which waste drums were stored.

15 Q. Do you remember that waste drums were
16 stored there or not?

17 A. No, I don't remember at all.

18 Q. You don't recall?

19 A. I don't recall it.

20 I don't recall that fenced yard at
21 all. I do recall the building in back, but I don't
22 recall the fenced yard.

23 Q. To your knowledge, where was the waste
24 stored?

25 A. I don't know. Only from seeing this I

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1 have to presume that it was here.

2 Q. But you have no knowledge?

3 A. I have no knowledge.

4 Q. Previously you indicated that Isotopes
5 Specialties Company had a license or they had a
6 service where they would collect waste.

7 A. Yes.

8 Q. Do you know where -- did they collect
9 the waste and put it on the Providencia property?

10 A. Well, if they collected it, they would
11 store it there, yes, and then prepare it to ship
12 out.

13 Q. Do you know where it was stored?

14 A. No.

15 Q. Do you know how it was stored, in what
16 kind of containers?

17 A. Some of it was stored in -- what you
18 call basically 55-gallon steel drums.

19 Q. And some of it was stored?

20 A. Possibly depending on what it was.

21 I'm sorry?

22 Q. No possibly.

23 A. Sorry.

24 Q. Some of it was stored --

25 A. I'll tell you the practice of the

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1 time, depending on the nature of the activity, was
2 to store it in cardboard containers.

3 Q. Was this the practice of, Isotopes
4 Specialties Company, to your knowledge?

5 A. Depending on the activity levels or on
6 the nature -- excuse me, depending on the type of
7 activity.

8 Q. Did you see these cardboard boxes of
9 waste on the Providencia property?

10 A. No.

11 Q. So you're talking about the practices
12 in the industry in general?

13 A. Yes, in general.

14 Q. But you never saw these on the
15 Providencia property?

16 A. That's right.

17 Q. Did you ever see the 55- gallon drums
18 on the Providencia property?

19 A. No, I can't remember.

20 Q. Now, on the map there's a back
21 building you were talking about.

22 A. Yes.

23 Q. What kind of operations took place in
24 the back building?

25 A. I don't know. I'm sorry.

1 Q. Was the back building used by Isotopes
2 Specialties Company?

3 A. Yes.

4 Q. Was it by Research Chemicals Company?

5 A. I don't know.

6 Q. You don't know?

7 A. No.

8 Q. Were you responsible for purchasing
9 any radioactive materials for Isotopes Specialties
10 Company?

11 A. I purchased what I needed in my
12 operation. Basically I requisitioned, I don't
13 remember who purchased, but I actually -- I would
14 decide I need so much C 14 for the next three months
15 or six months and I would put a requisition in.
16 That's the extent of my responsibility at that time.

17 Q. And where would these materials come
18 from?

19 A. They would come from -- I'm trying to
20 remember -- they would come from a commercial
21 reactor. I believe at that time a lot of it came
22 from Canada.

23 Q. A commercial reactor, you mean like
24 Chernobyl?

25 A. Not Chernobyl, no; hopefully not

1 Chernobyl.

2 Q. I don't know what you mean.

3 A. It came from a reactor which was a
4 reactor that was specifically built to produce
5 radioactive materials.

6 Q. Okay.

7 And how would these sources arrive at
8 Providencia; what kind of packaging were they in?

9 A. Well, again it depends on -- if it was
10 C 14, it would come in a cardboard and inside the
11 box would be a can and inside the can would be a
12 bottle. There is no shielding required for C 14
13 because the emissions don't get out of the box.

14 Q. But for cobalt, say, there would be
15 shielding required?

16 A. In a lead cask or pig, yes.

17 Q. The materials that came to your
18 department, did you ever unpack them?

19 A. If it was my stuff, yes.

20 Q. And what would you do with the packing
21 materials?

22 A. The packing material, if the bottle
23 was impact, and it always was, you would routinely
24 take a Geiger counter and monitor the packing
25 material just to make sure that there was nothing

1 wrong and if it was okay it goes in the regular
2 trash.

3 Q. And if it wasn't okay?

4 A. If it wasn't, it would go in the
5 radioactive trash.

6 Q. And is it your --

7 A. I don't remember any ever going -- I
8 say if. I say I don't remember any activity ever
9 having in that time to have to dispose of something
10 in the radioactive trash.

11 Q. So all of the things you unpacked
12 could go into the normal trash, the packing
13 materials themselves?

14 A. Yes.

15 Q. Did you ever receive any of the
16 materials for the other departments?

17 A. No.

18 Q. So only for your department?

19 A. Just for my department.

20 Q. And you received carbon 14; what else
21 did you receive?

22 A. The only other one I remember is
23 sulfur, some sulfur, sulfur 35.

24 I'll tell you. I'm going to back off
25 because I don't even remember that. C 14 was the

1 primary thing, for the record here.

2 Q. Do you have any knowledge of a
3 complaint made in February of 1959 alleging illegal
4 and unfair practices in disposal of radioactive
5 liquid waste down the drain made against Isotopes
6 Specialties Company?

7 A. No. By whom?

8 MS. SHARP: I am going to ask that this
9 document be Exhibit 6.

10 (Defendant's Exhibit No. 6
11 was marked for identification and is
12 annexed hereto.)

13 THE WITNESS: Do I have to read all this?

14 BY MS. SHARP:

15 Q. No, just take a look at it.

16 A. No, I have no knowledge of this at
17 all.

18 Q. You have no knowledge of this
19 complaint?

20 A. No, it did not come to my attention.
21 It this to keep?

22 Q. If you would like to -- if you don't
23 want it --

24 A. No, no, no. I'll read it in my
25 leisure.

1 Q. They're describing that Isotope
2 Specialties Company allegedly illegally dumped
3 materials down the drain.

4 A. Uh-huh.

5 Q. To your knowledge, would that be they
6 were dumping materials that were over the levels we
7 were talking about before?

8 A. That would be the only way it would be
9 illegal, because there are limits. So that implies
10 that they were over the limit, yes.

11 Q. Did you ever witness --

12 A. No. I'm sorry.

13 Q. Did you ever witness materials over
14 the limit being dumped down the drain?

15 A. I did not.

16 Q. Okay.

17 Mark this Exhibit 7, please.

18 (Defendant's Exhibit No. 7
19 was marked for identification and is
20 annexed hereto.)

21 BY MS. SHARP:

22 Q. Have you ever seen this document
23 before?

24 A. No.

25 Q. What is your understanding that this

1 document is?

2 A. My understanding is this is a document
3 here -- I'm trying to interpret what it is. Because
4 things were done differently.

5 MR. SHIMADA: It lacks foundation.

6 MS. SHARP: You don't need to interpret it.

7 Q. In the document it references "948
8 containers of radioactive waste that were dumped in
9 the ocean."

10 A. That was I guess our statement of what
11 we actually dumped in the ocean. That's what this
12 is, for the record.

13 Q. Did you ever see these 948 containers
14 of waste?

15 A. No.

16 Q. Of the constituents that are listed
17 here, we know that Isotopes used cobalt 60.

18 A. Yes.

19 Q. Did they use antimony 124?

20 A. I guess they did if that's what it
21 says.

22 Q. Do you know they did or not?

23 A. No, i don't know. I can't quarrel
24 with anything here because...

25 Q. Of these materials listed, can you

1 read for us the ones you know that Isotopes
2 Specialties Company used?

3 A. For sure cobalt 60, strontium 90,
4 polonium 210, cesium, radium, krypton 85, carbon 14,
5 of course, silver 110, yes, iron 55, yes, hydrogen.

6 You know, those are all -- those I
7 would have to say for sure.

8 Q. Okay.

9 Are you aware of an area in the
10 facility called "the hot cell area"?

11 A. No, not specifically. Although I know
12 there was one, I don't know where it was.

13 Q. Do you know what was done in that
14 area?

15 A. It would have been encapsulation by
16 encapsulating and putting raw pellets in the steel
17 containers and welding then.

18 Q. So that's where Isotopes Specialties
19 Company manufactured their sources?

20 A. Their industrial sources, yes.

21 Q. In that area were there highly
22 radioactive materials used?

23 A. If they were --

24 Q. Compared to the carbon 14.

25 A. Oh, yes, if they were in a hot cell,

1 it would be considered high level.

2 Q. Was the floor tiled in this area also?

3 A. I don't know.

4 Q. You don't know.

5 Who were your primary customers at
6 Isotopes Specialties Company?

7 A. Well, are you talking about everybody
8 or just my department? My department -- well, my
9 department would be mostly university laboratories --
10 university departments like the biology department
11 or the medical department and so forth. The
12 industrial users would be people like Shell Oil and
13 people that manufacture gauges, thickness gauges for
14 steel and so forth, industrial use. Some people like
15 TRW would be customers.

16 Typically, I'm talking typically. I
17 don't know specifically at that point who our
18 customers were. I couldn't tell you. Basically
19 they were either university medical schools or
20 commercial companies and including, of course, the
21 Department of Energy or the government labs
22 themselves would have been customers.

23 Q. During your employment with ISC, do
24 you ever recall a time where there were any kind of
25 accidents or spills at the site where you had to

1 notify the Atomic Energy Commission?

2 A. Yes, but I don't remember it
3 specifically what they were.

4 Q. Do you remember what kind of materials
5 were involved?

6 A. No.

7 Q. Do you remember approximately when
8 this was?

9 A. No.

10 Q. Do you remember if it was a spill of a
11 material?

12 A. Well, I can't tell you whether it was
13 a spill or release. I have no idea. It was
14 something.

15 Q. What is the difference between a spill
16 and a release?

17 A. Well, if it was gaseous -- for
18 instance, it was gaseous above a certain limit it
19 would be a release. I mean, spill implies a liquid.
20 You know, the release -- I'll tell you, the
21 distinction is sort of fuzzy, so, you know.

22 Q. Yes.

23 A. I have my own ideas about it, how I
24 refer it to it, but basically they're certainly
25 interchangeable.

1 Q. But you do recall one instance where
2 the Atomic Energy Commission had to be notified?

3 A. Not any specific incident. I do
4 recall there was at least one.

5 Q. At least one; okay.

6 Did you notify the Atomic Energy
7 Commission personally?

8 A. Not I, no.

9 Actually the person -- well, I'm
10 sorry. Go ahead.

11 Q. Do you know who did?

12 A. Whoever was the safety officer at the
13 time. The regulation safety officer would have done
14 the notification.

15 Q. As part of your duties with the
16 isotope committee, were you required to inspect the
17 facility?

18 A. That wasn't part of the job
19 particularly.

20 Q. Did you ever inspect the facility?

21 A. I don't remember.

22 Q. Approximately how many employees were
23 there at Isotopes Specialties?

24 A. Well, I'd have to speculate. I don't
25 know.

1 Q. No speculation.

2 A. No speculation. I don't know.

3 MS. SHARP: I ask this document be No. 8.

4 (Defendant's Exhibit No. 8

5 was marked for identification and is

6 annexed hereto.)

7 BY MS. SHARP:

8 Q. Do you recognize this document?

9 A. Not specifically, I know what it is,

10 but I don't recognize -- it doesn't -- I don't

11 remember it specifically.

12 Q. What is it?

13 A. It's basically a -- our operational --

14 they call it administrative procedures, but our

15 operational procedures -- their operational

16 procedures at the time.

17 Q. Isotopes Specialties Company?

18 A. Especially how we deal -- it's part of

19 the license, it's incorporated -- it should be

20 incorporated by reference from the license.

21 Q. This is what you were referring to

22 previously when you were speaking of the license

23 with Mr. Patterson?

24 A. Yes.

25 Q. To your knowledge, were these

1 procedures followed in Isotopes Specialties Company?

2 A. I followed mine.

3 Q. Did other people follow them?

4 A. I don't know.

5 Q. You don't know?

6 A. I don't know.

7 Q. Do you know if anyone was ever
8 reprimanded for not following the procedures?

9 A. I don't know.

10 Q. Fair enough.

11 MR. SHIMADA: For the record, the
12 document contains other pages beyond just the
13 administrative procedures?

14 MS. SHARP: Does it?

15 Q. To your knowledge, did Isotopes
16 Specialties Company contract with an outside company
17 to haul the waste off the Providencia site?

18 A. Yes.

19 Q. And do you know what that company was?

20 A. No.

21 Q. You testified previously that you were
22 one of the founders of Isotopes Specialties Company?

23 A. Yes.

24 MS. SHARP: I have no further questions.

25 MR. SHIMADA: I do, but I'd like to take a

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1 short break first.

2 MS. SHARP: Sure.

3 THE VIDEOGRAPHER: Off the record 1:48.

4 (Discussion off the record.)

5 THE VIDEOGRAPHER: Back on the record 1:53.

6

7

REEXAMINATION

8 BY MR. SHIMADA:

9 Q. Mr. Amlauer, I want to take you back
10 to the Lake Street facility --

11 A. Yes.

12 Q. -- that you formally had.

13 As I recall your testimony, you
14 personally engaged in various activities intended to
15 decontaminate that property; correct?

16 A. Yes.

17 Q. In fact, you had the occasion to take
18 a piece of some sort of steel wool or similar
19 material and actually tried to scrub the floors?

20 A. More than, yes.

21 Q. What was the purpose of scrubbing the
22 floors?

23 A. To remove any residual contamination.

24 Q. And you recall there being a need to
25 do more than just scrubbing the floors with steel

1 wool?

2 A. In that particular case where the
3 cracks in the tile had leaked, had leaked into the
4 concrete, that had to be removed, that had to be
5 ground out.

6 Q. Do you recall the tiles first being
7 removed before doing the grinding?

8 A. Well, they were removed after -- after
9 they were themselves deconned, but the tiles themselves
10 I believe went into radioactive waste. I don't
11 think there was much attempt to decon them.

12 Q. So as you recall the procedures, the
13 tiles were first removed and put in the radioactive
14 waste?

15 A. That's right.

16 Q. And then the concrete floor underneath
17 the tiles was surveyed to see if there were any hot
18 spots?

19 A. Yes.

20 Q. And in fact you discovered contamination
21 on the concrete?

22 A. Yes.

23 Q. Do you recall, did you first try to
24 scrub it by hand?

25 A. I think we probably tried to, yes.

1 Q. Do you recall doing that?

2 A. I don't recall specifically doing

3 that.

4 Q. Do you recall at some point deciding

5 to actually grind out the --

6 A. Oh, yes.

7 Q. -- concrete?

8 A. Sorry. Excuse me.

9 Q. What did you use?

10 A. We used a -- actually what worked very

11 well was -- since you could see where the activity

12 was -- actually see it because it corresponded to

13 the lines that were left when you move the tile, you

14 had this square pattern, and wherever there was a

15 square pattern, in some cases there was -- you could

16 detect radioactivity with a Geiger counter

17 corresponding to the line.

18 So we took a skill saw with an

19 abrasive blade and just -- I think we had a vacuum

20 cleaner of some sort to get the dust and just went

21 down there and skinned it out.

22 Q. Do you recall actually having to

23 remove concrete below the surface of the concrete,

24 actually cut into the concrete?

25 A. I think there were a couple of places

1 that had to be actually chiseled.

2 Q. Do you recall how deep you went at the
3 deepest?

4 A. Not there, no.

5 Q. Why do you say "not there"?

6 A. Well, I was thinking somewhere vaguely
7 in the area of some drain lines we had to chisel
8 out.

9 Q. That was at Lake Street?

10 A. Yes.

11 Q. Let's talk about the grinding first.

12 What did you do with the concrete dust
13 that was generated by the grinding; how did you
14 dispose of that?

15 A. Well, it was basically radioactive
16 waste at that point and it was in a bag and what was
17 in a bag would have been gone into radioactive --
18 standard radioactive waste, would be treated as
19 radioactive -- it was treated as radioactive waste.

20 Q. Do you recall the grinding as being a
21 fairly time-consuming process?

22 A. Uh-huh.

23 Q. Is that a "yes"?

24 A. Yes.

25 Q. Was it a lot of work?

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1 A. Yes. Very educational.

2 Q. Do you recall having to get your
3 license amended to permit that grinding?

4 A. I don't remember.

5 Q. Do you recall consulting with anyone
6 from the State of California -- let me back up.

7 At that point in time was the State of
8 California -- had the State of California issued the
9 license under which the Lake Street facility was
10 operating?

11 A. Oh, yes, it was under California
12 licensure, yes.

13 Q. Do you recall discussing with any
14 representative of the State how best to remove that
15 contamination before you actually started grinding
16 it?

17 A. I don't remember. I don't mean that
18 it didn't happen, but I don't remember one way or
19 the other.

20 Q. Do you recall any other places in the
21 facility that you actually had to grind out
22 concrete?

23 A. No.

24 Q. Now, I believe you testified that
25 there was some -- a place near a drain that you had

1 to actually chip out concrete?

2 A. Yes.

3 Q. Where was that drain?

4 A. I don't remember.

5 Q. You determined that there was

6 contamination there by use of a Geiger counter or

7 similar instrument?

8 A. Yes.

9 Q. And do you recall why it was that you

10 had to chip out the concrete?

11 A. Because it was contaminated.

12 Q. The concrete was -- the concrete --

13 more than just the surface of the concrete was

14 contaminated?

15 A. Yes.

16 It may -- it may have been -- I have

17 to say "may" in that it leaked into the junction of

18 the drain and may have parted and so some of it got

19 down in the crack there or the concrete itself was

20 cracked in the vicinity. And once that happens, it

21 gets down in there and has to be chiseled.

22 Q. Is that work you did yourself?

23 A. With a friend. I believe it was with

24 Donelson, I believe. I forget, but I think it was

25 Donelson that helped me.

1 Q. Was Mr. Donelson employed by your
2 company at one time?

3 A. As a consultant

4 MR. PATTERSON: I'm sorry?

5 THE WITNESS: I believe that it was a
6 consultant. I don't believe he was hired as an
7 employer, I believe he was a consultant.

8 BY MR. SHIMADA:

9 Q. He had a strong arm?

10 A. Actually, I'd say -- I have to revise
11 that. I think the guy that I actually worked with
12 was -- was an employee who is no longer -- who is no
13 longer here, he's no longer in the area. I think he
14 and I did -- Marsh. Yes, forget what I said about
15 Donelson. I think it was Marsh.

16 Q. It was necessary, though, to actually
17 chip out that concrete in order to decontaminate
18 that area?

19 A. That's right. Yes.

20 Q. Were there any other portions of the
21 Lake Street facility that had just a concrete floor
22 as opposed to a tile-over-concrete floor?

23 A. No, it was all tiled, with the tile.

24 Q. So when you said earlier when you
25 described that you were scrubbing floors, you're

1 talking about scrubbing tile floors?

2 A. Yes.

3 Concrete, there is no point in
4 scrubbing concrete because once that's in there it's
5 in there.

6 Q. So you wouldn't use scrubbing concrete
7 as being an effective way of decontaminating?

8 A. No.

9 MR. SHIMADA: I don't have any other
10 questions. Thank you.

11 MR. BROWN: I have a couple of questions.

12

13 EXAMINATION

14 BY MR. BROWN:

15 Q. Mr. Amlauer --

16 A. Yes, sir.

17 Q. -- my name is Bryan Brown and you
18 probably don't remember that, but I represent
19 Rhone-Poulenc.

20 A. I never -- I did not talk to you on
21 the phone at all.

22 Q. No, you didn't.

23 First of all before I begin, may I see
24 Exhibit 5 which was the map that you had marked on.

25 A. (Witness complies.)

1 Q. While you were an employee of ISC at
2 the Providencia property, did ISC have any kind of
3 security to prevent nonemployees of ISC from
4 entering the property?

5 A. Not that I know of, no. I'm sure not.

6 Q. So anybody off the street could come
7 in?

8 A. Well, they came in the front office,
9 yes. They couldn't walk into the lab, no.

10 Q. So there was some kind of security?

11 A. There would be a security, not
12 necessarily a person, but a barrier, yes, like "no
13 admittance" and that kind of thing, a locked -- I
14 believe a locked gate or door. You couldn't walk in
15 because there was a secretary there, the usual --
16 standard precaution.

17 Q. So there was a locked door?

18 A. Yes.

19 Q. Was this locked door separate from
20 Research Chemicals' operations?

21 A. Yes.

22 Q. Were employees of Research Chemicals
23 allowed to conduct any of their activities on ISC's
24 portion of the property?

25 A. Not that I know of.

1 Q. I am going to switch gears a little
2 bit.

3 You testified earlier that ISC had
4 stored some waste and prepared it for disposal; that
5 was one of their services at the Providencia
6 property?

7 A. Yes.

8 Q. Do you have any knowledge whether any
9 of this waste contained thorium?

10 A. No

11 MR. BROWN: That's all I have.

12 THE WITNESS: Okay.

13

14

REEEXAMINATION

15 BY MS. SHARP:

16 Q. Could you just clarify no, it did not
17 contain thorium or no, you have no knowledge?

18 A. I have no knowledge.

19 Q. I just have one more question for you.

20 A. Sure.

21 Q. When you were just talking with
22 Mr. Shimada about the Lake Street facility and the
23 tiled floors and how the radioactive materials went
24 between the tiles and onto the concrete --

25 A. Yes.

1 Q. -- do you have any knowledge of that
2 happening in the carbon 14 lab where there were
3 tiled floors?

4 A. No.

5 Q. When you spilled the materials on the
6 floor and then you either recovered them or you
7 toweled them up and poured the stuff down the drain,
8 is it likely that that penetrated the tile?

9 A. Not likely.

10 MR. SHIMADA: Objection. It calls for
11 speculation.

12 THE WITNESS: It wouldn't penetrate the tile.
13 Could I just make a general statement?

14 BY MS. SHARP:

15 Q. Yes.

16 A. It would depend on the quality of the
17 tile floor.

18 Q. What was the quality of this tile
19 floor, as you recall?

20 A. It was good. It was good. It didn't
21 get a lot of wear and tear. In the industrial area
22 I think possibly you have trucks and things and big
23 heavy shields, but in the carbon 14 it was light
24 duty.

25 Q. What was the quality of the grout?

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1 A. Well, as I recall it was good.

2 MS. SHARP: I have no further questions.

3 MR. SHIMADA: I have some tile questions.

4

5

REEXAMINATION

6 BY MR. SHIMADA:

7 Q. The Lake Street property that we have
8 been talking about and you indicated that the tile
9 had to be removed from the floor, was that ceramic
10 tile?

11 A. No, no. It was standard. At that
12 time it was called asbestos tile.

13 Q. What we think of as linoleum?

14 A. No.

15 It was these nine-inch squares.
16 That's not linoleum. Linoleum I consider as
17 continuous sheet. Specifically asbestos tile. We
18 had two kinds of tile. There was vinyl tile and
19 there was asbestos tile. And we went with -- it was
20 cheap asbestos tile at the time.

21 Q. So the tile you're referring to
22 removing at Lake Street was asbestos tile?

23 A. Yes.

24 Q. Did you -- now, you testified that
25 upon removing the tile you surveyed the concrete

1 underlying that tile and determined that there were
2 hot spots along -- that corresponded to the --

3 A. Junctures.

4 Q. -- junctions between the floor tiles?

5 A. In some places, yes.

6 Q. Why was it that you decided to remove
7 the tiles?

8 A. Well, they were radioactive enough and
9 when enough -- being asbestos tile, which is not
10 very good stuff as it turns out and nobody uses it
11 any more, but it has a certain porosity and it's
12 really you can't -- you can't decon it to the point
13 where you could throw it in the regular trash. So
14 we decided to scoop it up and throw it out in the
15 radioactive trash.

16 Q. Now, the tile --

17 A. Sometimes you just make a
18 determination that it -- and maybe it's on the edge
19 but we're not going to do that, we're going to play
20 it safe and you just put it in the radioactive
21 trash.

22 Q. There was no grouting between these
23 asbestos tiles?

24 A. There may have been. I think that was
25 the problem at one time and then it shrunk back and

1 exposed the concrete.

2 Q. The tiles in the C 14 lab, what were
3 they made out of?

4 A. Probably the same thing but I don't
5 know. But at that time, you know, this is 1959, I
6 don't think they had vinyl tiles.

7 Q. Do you recall them as being something
8 other than --

9 A. As a matter of fact, I would have to
10 back off. I'm not even sure it was -- I think it
11 was tile. Maybe I should stop, back off and say I
12 don't even remember.

13 Q. Let's start from basics.

14 Do you have a recollection of there
15 being tile on the floors at the C 14 lab?

16 A. Not really. I don't remember seeing
17 black-and-white tile or red-and-purple tile, if
18 that's what you mean, no.

19 Q. Regardless of the color, do you recall
20 there being any tile?

21 A. I don't recall. Being honest with you
22 I think I just assumed it.

23 I just wanted to say that it must have
24 been covered with something, because remember that
25 was one thing nobody ever did was work on bare

1 concrete, you just didn't do that.

2 Q. But what that something was, you don't
3 recall at this point.

4 I think I'm done with my tile
5 questions.

6 A. Okay.

7 MR. SHIMADA: Let's go off the record.

8 (Discussion off the record.)

9 MR. SHIMADA: Back on the record.

10 THE VIDEOGRAPHER: Back on the record 2:10.

11 MR. SHIMADA: It's been stipulated that once
12 the reporter prepares the transcript of this
13 deposition, it will be sent -- the original of the
14 transcript will be sent directly to Mr. Amlauer and
15 that upon doing so the reporter will be relieved of
16 his responsibilities for the transcript.

17 It's also been agreed that the
18 reporter will actually hold onto the original
19 transcript until the 27th of this month, the month
20 of October, due to the fact that Mr. Amlauer will
21 be traveling.

22 It's been further stipulated that once
23 Mr. Amlauer receives the transcript, he may review,
24 correct and sign the transcript under penalty of
25 perjury and that he shall have ten days from his

1 receipt of the transcript to do that.

2 It's also been agreed that the
3 reporter will provide an envelope for Mr. Amlauer's
4 use to send the signed original transcript back to
5 my office. I'll notify counsel of any changes that
6 might be made by Mr. Amlauer.

7 And if for some reason there is some
8 need for the transcript to be used in some
9 proceeding and the original transcript is not yet
10 available, it has been stipulated that a certified
11 copy may be used for all purposes as if reviewed and
12 corrected and signed by Mr. Amlauer.

13 MS. SHARP: So stipulated.

14 MR. PATTERSON: So stipulated.

15 MR. BROWN: So stipulated.

16 MR. SHIMADA: Thank you, Mr. Amlauer.

17 THE VIDEOGRAPHER: This concludes today's
18 proceedings. The total number of videotapes used
19 was two. We're going off the record. The time is
20 2:12.

21 (TIME NOTED: 2:12 P.M.)

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I declare under penalty of perjury
under the laws of the State of California
that the foregoing is true and correct.

Executed on _____, 1999,
at _____, California.

SIGNATURE OF THE WITNESS

1 STATE OF CALIFORNIA)

2) ss:

3 COUNTY OF LOS ANGELES)

4

5 I, MARSHALL LATINER, C.S.R. NO. 3308, do
6 hereby certify:

7 That the foregoing deposition of
8 was taken before me at the time and place
9 therein set forth, at which time the
10 witness was put under oath by me;

11 That the testimony of the witness and all
12 objections made at the time of the examination
13 were recorded stenographically by me, were
14 thereafter transcribed under my direction and
15 supervision and that the foregoing is a true
16 record of same.

17 I further certify that I am neither counsel
18 for nor related to any party to said action, nor
19 in any way interested in the outcome thereof.

20 IN WITNESS WHEREOF, I have subscribed my name
21 this 14th day of October, 1999.

22

23

24

25



MARSHALL LATINER, C.S.R. NO. 3308

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1 DEFENDANT'S EXHIBITS

2 KARL AMLAUER

3

4 NUMBER	DESCRIPTION	IDENTIFIED
5 1	6 Six-page document entitled 7 "Subpoena in a Civil Case," 8 dated September 21, 1999	37
9 2	10 One-page document labeled 11 "U.S. Nuclear-Stock"	47
12 3	13 Seven-page memorandum, dated 14 May 4, 1961, from Donald E. 15 Warner to L.R. Rogers, Subject: 16 Nuclear Corporation of America, 17 Inc., Burbank, California; 18 License No. 4-580-6 - Reported 19 Overexposures	85
20 4	21 One-page document labeled 22 "Atomic Energy Commission 23 Application for Byproduct 24 Material License"	88
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DEFENDANT'S EXHIBITS (CONTINUED)

KARL AMLAUER

NUMBER	DESCRIPTION	IDENTIFIED
5	One-page document labeled "Nuclear Corporation of America Isotopes Specialties Company Division" consisting of a map of the facility	93
6	22-page memorandum, dated November 25, 1959, from Lester R. Rogers to Marvin M. Mann, Subject: Isotope Specialties Company, License No. 4-580-7	130
7	Two-page letter, dated January 19, 1961, from J. D. Vaden to James R. Mason, with attachments	131

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KARL AMLAUER

NUMBER	DESCRIPTION	IDENTIFIED
8	27-page document labeled "Isotopes Specialties Company, Inc. Administrative Procedures," dated August 20, 1958	137