

Official Transcript of Proceedings
NUCLEAR REGULATORY COMMISSION

Title: INTERVIEW OF PETER DEDON

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Pages 29

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ADDENDUM

Page	Line	Correction and Reason for Correction
18	9	"... It's a fairly informal..." should be corrected to read: "... It's a fairly formal ...". The meetings are quite formal and I mispoke in saying informal.
20	16-25	These statements are incorrect. At the time of the interview, I could not recall discussing incidents in the Tonogawa lab. However, after the interview, I remembered ^{with an R.P. Committee member} conversations about the RP committee's actions on violations in the Tonogawa lab. I was not present at the R.P. Committee meetings (9/12/95 & 5/24/94) at which the Tonogawa incidents were discussed. However, the minutes of the meetings indicate extensive discussion of action on violations in the Tonogawa lab. I insist that ^{this information} this be placed in the record.
24	7	Delete one "huge". The transcription makes it appear that I'm emphasizing the size of the lab, when I was not. I'm simply

ADDENDUM

Page Line Correction and Reason for Correction

24 7 (continued from Page 1) Stating that he has a
large lab.

8 1 "Masse to being the" should
correctly read "Masse to begin the..."

15 20 Please amend the preceding 20
lines of text to indicate that
the RPO regularly rehearsed
disaster & contamination drills with
MIT safety personnel & staff
(e.g. physical plant, etc.). The RPO
also holds regular retraining
sessions with all users. Finally, the
RPO monitors dry-run practice sessions
for experiments of a complicated nature
that involve high levels of radioisotopes
or in labeling with $[^{125}\text{I}]$.
I was misled by Mr. Glenn's vague
question (lines 24 & 25 on page 14 &
lines 1 & 2 on page 15).

16 23-25 This information is incorrect. After
17 1 the interview I recall several discussions
by RPO staff at RP committee meetings

Page 2 Date 10/27/85 Signature Peter C. Del

(continued on
Page 3)

ADDENDUM

Page Line

Correction and Reason for Correction

16 23-25) (continued from page 2)
 about incidents of security guards
 17 1) finding unlocked doors. These
 incidents were brought to the
 attention of the laboratory director
 at the RP committee. The RP
 staff is quite attentive to security
 issues in the laboratories on campus.
 My statement leads the reader to
 think that the RP staff does
 not monitor security & that
 is simply not true. The transcript
 should be amended to reflect this
 point.

25 line 25) Both may contain the phrase,
 26 line 24) "...pretty good job...". This
 should be changed to,
 "...an excellent job...". The
 transcript does not convey the
 intensity in my voice in ~~that~~
 this statement & I would
 like the transcript amended to
 reflect my intention. The RP at
 MIT is an outstanding organization.

Page 2 Date 10/23/99 Signature Peter C. Dea

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UNITED STATES OF AMERICA

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NUCLEAR REGULATORY COMMISSION

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INCIDENT INVESTIGATION TEAM

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INTERVIEW OF PETER DEDON

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MASSACHUSETTS INSTITUTE OF TECHNOLOGY

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MONDAY, OCTOBER 23, 1995

- - - - -

12:30 O'CLOCK P.M.

- - - - -

INTERVIEWERS:

JOHN GLENN, Team Leader

ALAN L. MADISON

1 P-R-O-C-E-E-D-I-N-G-S

2 (12:34 p.m.)

3 MR. GLENN: Today is October 23, 1995. The
4 time is approximately 12:34. This is an interview being
5 conducted by Dr. John Glenn, with the Incident
6 Investigation Team that is at MIT looking into a P-32
7 contamination incident.

8 We will be interviewing a Dr. Peter Dedon, who
9 is a member of the Radiation Protection Committee,
10 regarding the facts surrounding this incident and the
11 radiation protection program at MIT.

12 First, I'd like to tell you a little bit about
13 why the investigation team is here and what we're doing and
14 what the purposes are. This is a fact-finding
15 investigation. We're here to determine what happened. In
16 addition, we are being asked by the Nuclear Regulatory
17 Commission's Executive Director of Operations to determine,
18 if we can, what the probable cause of this particular
19 incident was.

20 And based on what we learn, in terms of the
21 facts and the probable causes, we will develop a lessons
22 learned section of our report, which will look at, do we
23 have recommendations as far as the MIT program, as far as
24 other licensees, and as far as the NRC's own regulatory
25 scheme, its licensing and regulations.

1 We are not the group here that is trying to
2 find fault or to take any actions. We will be sharing any
3 information we have with other parts of the NRC, including
4 Region 1, which would be responsible for any inspection and
5 compliance activities, and with our Office of
6 Investigations, which would be looking into any criminal
7 matters.

8 The reason we are interviewing you is that we
9 want to talk to people who either know about the incident
10 or know about the radiation protection program, and as part
11 of the Radiation Protection Committee, you should know
12 something about the program.

13 It is being transcribed, one, to aid us in
14 terms of the interview, so that we're not taking notes and
15 that sort of thing, and we can discuss more easily the
16 questions that we have and listen to your answers a little
17 more carefully. Also, it creates a formal record of the
18 conversation, so that when we develop our final report on
19 this incident, that we have good documentation as to the
20 basis of any facts that we quote, and if those are the
21 basis for any of our conclusions, that we have a good
22 documentary basis.

23 The transcripts are made available to you to
24 review after the session today. They will probably be
25 available tomorrow, and you can come in and review the

1 transcript. If you note any discrepancies, then there will
2 be an errata sheet, and you can note on line such-and-such,
3 I really meant to say, or I did say, or I forgot to say, if
4 you -- you know --

5 DR. DEDON: Sure.

6 MR. GLENN: -- if there's something more that
7 explains it. So that would be available for you tomorrow.

8 At the conclusion of the team's work, we will
9 issue a report. At that time, the interviews and many of
10 the documents that we collect will, in fact, become a part
11 of the public document -- public record and will be in our
12 public document room. At that time, you can request a copy
13 of the transcript if you wish.

14 DR. DEDON: Okay.

15 MR. GLENN: Also, at that time, it will be
16 available if anybody, you know, someone in the public, or
17 at MIT, wants to look at the transcripts of any of the
18 people who have been interviewed, they will be able to do
19 that.

20 DR. DEDON: Sure.

21 MR. GLENN: But no one but you will be able to
22 look at -- and the team will be allowed to look at your
23 transcript until that report --

24 DR. DEDON: Sure.

25 MR. GLENN: -- is issued.

1 DR. DEDON: Okay.

2 MR. GLENN: Okay. I am a manager with the
3 Nuclear Regulatory Commission. I have been asked to lead
4 the team, and so that's -- that's my responsibility here.
5 I normally work in our Office of Research, which is
6 responsible for developing regulations.

7 Alan, could you introduce yourself?

8 MR. MADISON: I'm Alan Madison. I'm with the
9 Nuclear Regulatory Commission out of Washington. I am in
10 the program office that has responsibility for the Incident
11 Investigation Program, and I'm a member of the team.

12 DR. DEDON: Okay.

13 MR. GLENN: And, doctor, if you could introduce
14 yourself, and tell us a little bit about what your title is
15 and your responsibilities, in particular with respect to
16 the radiation protection program.

17 DR. DEDON: Sure. My name is Peter Dedon. I'm
18 an Assistant Professor of Toxicology at MIT, and I have
19 been a member of the Radiation Protection Committee for the
20 last two years, I believe. It might be slightly longer.
21 And my role there is simply as a member of the committee,
22 one of the representatives. My area of expertise is in
23 biochemistry, so I am one of the more biologically/
24 biochemically-oriented radiation users on campus. And I
25 bring that element to the RPO, in terms of a committee

1 membership.

2 MR. GLENN: Okay. I wonder -- and perhaps the
3 best way to get started, so that we know what you know
4 about the incident itself, if you would give us a little
5 narrative, when you first heard about it, and any
6 involvement you've had in discussions about this particular
7 incident.

8 DR. DEDON: My involvement with the incident is
9 more limited than other Radiation Protection Committee
10 members. When the Radiation Protection Committee meeting
11 occurred at which the incident was discussed, I was in
12 Toulouse, France, that week for a NATO meeting. And I
13 heard about the incident when I returned.

14 I was briefed about the incident by members of
15 the Radiation Protection Office last week, brought up to
16 date on some of the details, what sorts of discussions went
17 on at the Radiation Protection Committee meeting, and that
18 is about it. So I wasn't present at the RPO meeting when
19 the incident was discussed.

20 MR. GLENN: Okay. In terms of what you were
21 told, I guess can you tell us what is your image of the
22 incident?

23 DR. DEDON: Right. Right. As I understand it,
24 there is a post-doctoral researcher in -- and I guess it's
25 now public -- Dr. Tonegawa's lab, who was working with P-32

1 on one day in August. Four days later, went back to work
2 with P-32 again, and in whatever capacity of either
3 cleaning up after an experiment, checking, working during
4 the experiment, somehow or another, determined that he had
5 detectable radiation being emitted from his body.

6 And at that point, as I understand it, the
7 incident was brought to the attention of Radiation
8 Protection Office people, and the radiation protection
9 staff then went about investigating immediately the
10 incident, doing whole body counts, urine samples, sort of
11 whole nine yards when it comes to following up on an
12 incident like this.

13 As I understand it, the quantity of material
14 with which he was contaminated, by whatever route, was low
15 enough to be handled directly by the Radiation Protection
16 Office, in terms of investigation, reporting, medical
17 surveillance, and all of these issues. And I guess that
18 has been confirmed, as far as I know, by the accounting
19 measures taken to determine how much P-32 the fellow had in
20 his body, and in terms of matching that with P-32 records
21 maintained in the lab, making sure that the two numbers --
22 what is missing and what is present are in agreement.

23 The details of exactly what happened in the
24 weeks following the actual incident are not entirely clear
25 to me, in terms of the step-by-step process used by Frank

1 Masse to being the investigations and do this -- leading up
2 through to the present investigation.

3 My knowledge of the details of when police got
4 involved, and what medical tests were actually done, are
5 quite vague, only hearsay.

6 MR. MADISON: Correct me if I'm wrong, but I
7 thought I heard you say that you had just been briefed on
8 this last week.

9 DR. DEDON: Yes, it was last week. Today is
10 Monday. I'm trying to remember the exact day when I was
11 told about the incident. It may have been late the week
12 before. It may have been late the week before, but it was
13 within the last two weeks, week and a half.

14 MR. MADISON: But you hadn't heard about the
15 event prior to that time?

16 DR. DEDON: No. No. I have been out of touch
17 with everybody, including my students, over the last --

18 MR. MADISON: When did you return from France?

19 DR. DEDON: I returned from France the end of
20 September. And, again, the exact date is escaping me. I
21 was there for a week, and it happened to be the week that
22 the committee was convened for the meeting.

23 MR. MADISON: Okay.

24 MR. GLENN: Realizing you weren't at the
25 meeting and you don't have any direct knowledge, are you

1 aware of any actions that the committee recommended and
2 that the Radiation Protection Office has taken since the
3 meeting in order to prevent a recurrence either in
4 Dr. Tonegawa's laboratory or in any other laboratory?

5 DR. DEDON: I don't know of the details of any
6 specific recommendations that the committee has made. I
7 have not had an opportunity to contact other committee
8 members. In trying to call other committee members, they
9 have simply either been out of the office or busy, as many
10 MIT folks are.

11 MR. GLENN: Could you give us a brief
12 description of what you see as your responsibility on the
13 committee and the committee's responsibility in terms of
14 radiation protection here at the university?

15 DR. DEDON: Well, there is two levels of
16 responsibility. One is to ensure that the use of
17 radioactive materials on the campus is governed properly by
18 the federal, state, and even local regulations. And, of
19 course, all of those stem from the Nuclear Regulatory
20 Commission's guidelines. So our responsibility is to make
21 sure that the letter of the law is followed, in terms of
22 all aspects of radiation.

23 MR. MADISON: How do you do that?

24 DR. DEDON: How do we do that? We -- I'm not
25 sure what you mean. Do you mean logistically how do we do

1 that? What set of rules do we --

2 MR. MADISON: How do you satisfy yourself that
3 you're meeting your responsibility?

4 DR. DEDON: I satisfy myself that I am meeting
5 my responsibility, having read through the MIT guidelines,
6 having not read all of the NRC documentation on radiation
7 protection. There isn't time enough for any one individual
8 to do that and to also keep a job as a faculty member at
9 the Institute.

10 So in that sense, I rely on Frank Masse, the
11 other RPO staff, for instances when I have questions, to
12 provide me with the details. But I do know the MIT
13 regulations regarding waste management, ordering,
14 procuring, hazardous exposure limitations, levels.

15 MR. MADISON: I guess the question is more, how
16 do you satisfy yourself that you're meeting the
17 responsibility that others, such as the Tonegawa lab, are
18 complying with the regulations that you are, as a
19 committee, enforcing?

20 DR. DEDON: Oh, I see what you mean. Well, I
21 certainly rely on the monitoring that is performed by the
22 radiation protection staff, in terms of their regular
23 assessments of the laboratory, in terms of their assessment
24 of the recordkeeping. I mean, I personally don't review
25 every user's history, except when we do our regular reviews

1 of licenses, license applications, license modifications,
2 license renewals, all of those issues. Then, we get our
3 opportunity to look at a particular laboratory situation
4 and raise questions and issues concerning limits, uses.

5 We are updated regularly of incidents that
6 occur -- you know, obviously an incident like this. Any
7 other persistent incidents are brought up for our review.
8 So I feel pretty comfortable that the Radiation Protection
9 Committee members, me specifically, that I'm getting the
10 information I need to be able to feel like I am satisfying
11 the dictates of the committee.

12 MR. GLENN: How does the committee judge that a
13 principal investigator, in fact, has set up adequate
14 controls within the laboratory to adequately safeguard and
15 control the use of radioactive material?

16 DR. DEDON: How do I judge that? In reviewing
17 the license applications, modifications, and renewals, the
18 recommendations by RPO staff in terms of shielding,
19 storage, waste disposal, procurement, safe handling*
20 instructions for, say, high levels of P-32, all of those
21 are pretty well spelled out in the documentation that comes
22 with each user's license. And it is with that information
23 that I judge whether or not it is adequate or inadequate.
24 That's about it.

25 MR. GLENN: Do these applications get into the

1 sufficient detail so that, say, in a case like occurred in
2 this incident where you know that there has been an uptake
3 by an individual, you know there's a discrepancy in the
4 inventory records that are about the same magnitude, would
5 you be looking for enough detail so that you should be able
6 to actually find out who had access to that material, and
7 also about what time it would have disappeared?

8 DR. DEDON: To have that level of detail in a
9 radioactive user's license would prevent any member of the
10 committee from ever reviewing the full set of documents
11 that we must deal with. There are some levels, some rules,
12 that are established, that are written down, obviously, in
13 the guidelines, that every user should be familiar with,
14 that are not necessarily part of an individual user's
15 license.

16 The individual documents that we reviewed
17 specified specific isotopes, the details for special
18 handling that are particular to that situation. When
19 you're working with P-32, you know you don't eat, drink, or
20 smoke in the lab. We don't need to document that in every
21 user's license. That's in the guidelines, as they're laid
22 out. So issues such as documentation of radioactive usage,
23 those are spelled out in the guidelines, in terms of how
24 people should be keeping the records in their laboratory.

25 It seems that that is a uniform rule that could

1 be applied to all users of radioisotopes and need not be
2 specifically discussed or mentioned in the license itself.

3 MR. MADISON: How do you know that they're
4 complying with that?

5 DR. DEDON: I then depend on the Radiation
6 Protection Office, in their recordkeeping, if they note
7 that there are discrepancies in terms of the recordkeeping
8 that go on in the laboratory, because I simply don't have
9 access to that information, nor do I want to have access to
10 everybody's log sheets. It is a matter of --

11 MR. MADISON: How do you know the Radiation
12 Protection Office is doing their job?

13 DR. DEDON: I have to rely on the integrity of
14 the staff members and their leadership, Mitch Galanek and
15 Frank Masse, and the group, and the system that they have
16 in place to maintain those records.

17 MR. MADISON: The Radiation Protection
18 Committee does not do audits, then, of the Radiation
19 Protection Office?

20 DR. DEDON: I have not, in my experience, have
21 I done an audit of them, no. I have not done that. And I
22 am not one of the elder members. I am one of the newer
23 members on the committee, so my experience is somewhat
24 limited.

25 MR. MADISON: All right.

1 DR. DEDON: There may have been incidents in
2 the past, or audits done, questions raised, reviews done in
3 the past, that more experienced members might be able to
4 tell you about.

5 MR. MADISON: Okay.

6 MR. GLENN: Would it be your expectation, you
7 know, in terms of, you said, the documentation and records
8 that the principal investigator keeps, would it be your
9 expectation that there would be at least a log when any
10 individual researcher takes isotopes from, say, a bulk
11 container, that there would be some kind of logging there?

12 DR. DEDON: Yes. Yes.

13 MR. GLENN: Okay.

14 DR. DEDON: I would expect that. I expect it
15 out of my labs. I believe, although I can't speak with
16 certainty, in what detail that is specified in the
17 guidelines, but I believe it has something to that effect,
18 that each use must be recorded, whether it be in a
19 laboratory notebook, whether it be on a formal log taped to
20 the refrigerator door, whatever. You know, I had my
21 specific culture in which I use radioactivity, so I may not
22 be using the right terms. But, yes, yeah, I would expect a
23 user to log it out.

24 MR. GLENN: Does the committee participate -- I
25 guess there are drills, emergency drills every once in a

1 while that the -- at MIT. Does the committee participate
2 in those?

3 DR. DEDON: In what sense? Emergency drills of
4 a general nature, in terms of --

5 MR. GLENN: Well, in terms of radiation,
6 radiation incidents, contamination incidents.

7 DR. DEDON: I have not been involved in drills,
8 rehearsals if you will, of radiation accidents as a member
9 of the committee. So I have not been involved in any of
10 those. I don't --

11 MR. MADISON: Have you been involved in the
12 evaluation of the results of any of those?

13 DR. DEDON: No.

14 MR. MADISON: Okay.

15 DR. DEDON: Now, that's -- I am trying to
16 recall going through individual meetings where the minutes
17 are -- I mean, I have all of the records from the meetings,
18 even if I can't attend. I'm trying to recall if such a
19 thing has been done, and I simply have forgotten about it.
20 I can't be certain.

21 MR. MADISON: Okay.

22 MR. GLENN: I guess another question about
23 expectations -- in terms of security of people being able
24 to get into a laboratory and get to the areas where
25 isotopes are stored, what are your expectations I guess as

1 far as building and room security?

2 DR. DEDON: I expect that rooms in which
3 radioactive materials are used are safeguarded during the
4 day, either by locking the door, or with someone present in
5 that laboratory all the time, a security individual. At
6 night, it is my expectation that all labs are locked, that
7 use radioactivity. That would be my expectation.

8 MR. GLENN: Well, would the presence of
9 researchers there in the evening, would that change it,
10 then, or would it be the same as the daytime rules? That
11 if there's someone there, it wouldn't need to be locked?

12 DR. DEDON: I -- the rule states that the door
13 should be locked at all times. Access to radioactive
14 material should be restricted at all times, day, night, any
15 time. That's my understanding of the rule. You must
16 provide some level of security to ensure that no one -- no
17 unauthorized user can get to that material. Nighttime the
18 doors have to be locked.

19 MR. GLENN: Do you know whether the Radiation
20 Safety Committee, or any other group I guess, has ever
21 audited whether that, in fact, is the situation that
22 exists?

23 DR. DEDON: I -- they haven't reported an audit
24 to me in my attendance at meetings -- it may be in the
25 minutes -- of recordkeeping on locked doors, locked

1 cabinets. I suspect that the inspector that comes to my
2 lab each week keeps a fairly close eye on things that I am
3 not always keeping an eye on. And I suspect that there are
4 -- they have looked at that, perhaps not each week, but in
5 the past, in terms of looking at their own security
6 measures.

7 MR. GLENN: Alan, do you have any more
8 questions?

9 MR. MADISON: Does the Radiation Protection
10 Committee members receive written material to review prior
11 to a meeting?

12 DR. DEDON: Oh, yes.

13 MR. MADISON: Do you receive it on a routine
14 basis to review, you know, a month in advance maybe before
15 the meeting occurs? Or is it just prior to the meeting?

16 DR. DEDON: Oh, no. I usually have on the
17 order of a week, sometimes a business week, prior to the
18 meeting. I think I can only recall one instance where I
19 got the minutes the day before the meeting, only because it
20 had been so difficult to convene the meeting, and we had to
21 have one, that we got the documentation -- the meeting was
22 established, we got the documentation, and it was up to the
23 integrity of the committee to spend some time that night
24 staying up late and reading the minutes, and that's --
25 that's the way it goes.

1 MR. MADISON: Can you describe a normal, if
2 there is a normal, committee meeting, and about how long it
3 takes?

4 DR. DEDON: The committee meetings usually take
5 longer than I like. But that's because we cover so much
6 material. They are on the order of two hours, sometimes up
7 to three hours when we get into any specific sticky issues,
8 depending on the load.

9 How they take place? It's a fairly informal
10 set of procedures. We review -- I'm trying to remember the
11 -- it is specified, an order, on each set of minutes that
12 we get.

13 MR. MADISON: Do you have an agenda?

14 DR. DEDON: Yes, there is always a very formal
15 agenda. And I'm sorry, I'm blanking out on you in terms of
16 the usual order that things are covered, in terms of the
17 lab.

18 MR. MADISON: I'm not interested that much in
19 the order but more what types of things you discuss and the
20 -- as you've mentioned, the formality or informality.

21 DR. DEDON: We usually cover specific
22 applications, modifications, and renewals, get those out of
23 the way, discuss any incidents in that. We'd have the
24 reports from the various staff members on, you know, and
25 I'm not well versed in the area, in terms of the linear

1 accelerator, and the fusion reactor, and the X-ray machines
2 on campus, and we go through that each time, any problems
3 in reports.

4 We get into any unfinished business, and then
5 bring up new business, sort of that rough order. So we
6 cover the bases in terms of radiation usage.

7 MR. MADISON: In your own lab experiences with
8 radiation protection, what does the radiation protection
9 representative normally do when they come to your lab on a
10 weekly basis?

11 DR. DEDON: A very thorough inspection.
12 Because we use Tritium and P-32, we have the swipe test
13 done throughout the laboratory. We have the Geiger counter
14 surveys done for benches everywhere. Logs are examined.
15 We also work with I-125, so we have a scintillator probe
16 survey done of the area.

17 The inspectors are looking for the usual kinds
18 of violations, food containers, coffee cups in the
19 laboratory, radioactive material. They are very scrupulous
20 about checking for radioactive material in waste baskets,
21 things that the non-lab members could come into contact
22 with at some point. They have to leave the lab to dispose
23 of them -- very careful about those issues.

24 Making sure that all of our areas are -- you
25 know, if there is a refrigerator that has radioactivity,

1 and the label is peeling off, they will get new labels,
2 those kinds of details, attention to sink labeling, and
3 those kinds of issues.

4 MR. MADISON: Do they have a meeting with you
5 once they've completed their inspection, or do they give
6 you -- do they also give you a report?

7 DR. DEDON: If there is a violation noted, I'm
8 notified immediately, both verbally -- if it's a violation
9 worthy of committee action, then I get a good slap on the
10 hand from the committee. So, yes, they do keep me well
11 informed, written and verbally, of violations. So we are
12 quite careful.

13 MR. MADISON: All right. Do you recall any
14 problems in the last -- you've been on the committee for
15 two years -- any problems with the Tonegawa lab?

16 DR. DEDON: No, not formally addressed at any
17 committee meeting in which I was in attendance. Rumors
18 always about at an institution like this. And it is not
19 through the Radiation Protection Committee that I learn my
20 rumors; it's from my graduate students and post-docs in
21 that network.

22 So, no, I cannot recall of a specific incident
23 in Professor Tonegawa's lab that came up for discussion at
24 an RPO meeting. That's not to say that it didn't occur,
25 but --

1 MR. MADISON: Have there been a number of
2 radiation contamination incidents in the last year or two?

3 DR. DEDON: Contamination incidents? In terms
4 of major spills or --

5 MR. MADISON: Spills, personal contaminations.

6 DR. DEDON: Not serious ones, no. No. I'm
7 just trying to run through the history here. I've had a
8 contamination incident in my own lab that was brought up
9 for discussion, a fairly extensive discussion. I had a
10 package from ICN -- the ICN Company arrive with a P-32
11 sample, and I forget how many CPM -- there were about 1,000
12 CPM on the outside of the carton.

13 And you wouldn't have known that it was there
14 unless you specifically took the carton apart and were
15 doing your usual checking on samples that arrive. And I
16 brought up that incident. It was noted that ICN has had a
17 history of sending contaminated samples. I organized a
18 letter to the company, written by the committee, following
19 up in great detail, and it -- that's about the most
20 detailed incident of a spill.

21 I vaguely recall spills being reported. There
22 was a spill in so-and-so's lab, all right? We got onto the
23 scene, cleaned it up, turned out to be, you know, whatever.
24 I'm hypothesizing now, you know, a few microcuries of P-32
25 were spilled on the floor. Things like that come up

1 occasionally, but not in -- you know, there is very little
2 committee action needed on something like that.

3 MR. MADISON: Can you go into a little bit of
4 how, in your own lab, you control or ensure the
5 level of inventory of radioactive material?

6 DR. DEDON: We keep a log posted in the
7 laboratory where every person who takes radioactive
8 materials from the commercial stocks logs out the quantity
9 of material they're taking, the date, the isotope, where
10 they predict it's going to go, what fraction in -- because
11 they have to have planned out their experiment -- what
12 fraction do they predict is going to go to solid waste,
13 what fraction is predicted to go to liquid waste, and then
14 we keep a running inventory of the current stock for that
15 bottle, that isolate, in terms of two millicuries remaining
16 of the stock, those kinds of things.

17 Then, each user is responsible for going to the
18 specific log sheets that are on the solid waste containers,
19 liquid waste containers, sink disposal areas, and keeping
20 track as best they can of how much of each isotope is going
21 down the drain or into the solid waste receptacle at each
22 time.

23 They are also to keep in their laboratory
24 notebooks additional records -- you know, in terms of an
25 experiment, how much material did they use, which in the

1 worst case scenario would serve as a cross-reference for
2 our own non-lab book procedures.

3 Then, when a source is completely used up, the
4 disposition of this bottle is recorded. Was it put into an
5 area for further decay with the microcurie that's left, so
6 that we can simply let it -- P-32 decay the background? Or
7 was it disposed of? Where was it disposed of, in terms of
8 the stock bottle? And then we keep all of those sheets in
9 a notebook, and that's -- that's pretty much it.

10 MR. GLENN: Well, would it be -- do you think
11 it would be detected if, say, a major fraction of the stock
12 bottle were not -- what was missing -- the logs don't
13 indicate that it was taken by a researcher, and it's just
14 not there anymore. Would this have something that would be
15 detected?

16 DR. DEDON: It's a matter of -- it's a matter
17 of scale. In a lab like mine where there are eight, nine
18 people, we routinely use a millicurie. Let's say, we're in
19 the millicurie a month ballpark, maybe more frequently -- a
20 couple of millicuries of P-32. In that sense, yes, 500
21 microcuries, all of a sudden you get to the bottom and
22 somebody is trying to do an experiment, and, you know,
23 where the hell did it go? That would make a difference.

24 If you're in a lab that is using 10, 20, 30
25 millicuries a month, I can see that a 500 microcurie loss

1 could go unnoticed, could go unnoticed.

2 MR. MADISON: Do you know right off how much --
3 how large the usage is in the Tonegawa lab?

4 DR. DEDON: It's more than mine. I'm sure of
5 that. To be honest, I couldn't recall. I couldn't recall
6 how many millicuries a month those folks are going through,
7 but he's got a huge -- huge operation. I don't even recall
8 what his license -- I think I've seen the Tonegawa license
9 come across through the committee before, and I can't even
10 recall his limit, so --

11 MR. MADISON: I don't know why I asked the
12 question. Do you, then -- how often do you review your
13 inventory levels in your own lab?

14 DR. DEDON: We are quite regular about cleaning
15 up the lab, probably monthly. I have a radiation
16 protection officer, so to speak, in my lab, assigned to the
17 task of monitoring it. When I am sitting at my desk
18 writing grants, there is somebody who is actually in the
19 lab keeping track of things and is responsible for this.
20 And he is -- on a weekly basis, goes through, makes sure
21 that the log sheets, you know, if they're not down to zero,
22 that they're properly accounted for, takes care of any
23 decaying material that we have in terms of inspecting it
24 and getting rid of it.

25 I have never sat down and taken all of our log

1 sheets and tallied up where everything is going. How does
2 our checkbook balance after four years at MIT? I have not
3 done that. We have never had a need to.

4 The incident with the Tonegawa lab does remind
5 me that it may be worth the time to review our own lab
6 practices, because the students all know about this
7 incident now. I mean, it's in the newspaper and Nature
8 magazine --

9 MR. MADISON: I'm sure.

10 DR. DEDON: -- and everything else. So it does
11 remind us, again, to double our efforts, redouble our
12 efforts, to keep good track.

13 MR. GLENN: Can you think of any subject areas
14 that we haven't discussed that would be relevant?

15 DR. DEDON: Not really. No, I suspect you --
16 you seem to have covered many of the incidents -- items
17 surrounding the incident and general practices here.

18 Just from my own perspective, I -- as a
19 committee member, I think that the staff, the radiation
20 protection staff has done a pretty good job. We have a
21 very good working relationship with the RPO staff here, and
22 I -- that's the general consensus from other colleagues,
23 not just other committee members.

24 But as compared to my experiences, say, at
25 Harvard Medical School, or the University of Rochester, or

1 the University of Minnesota, where I have sort of done my
2 time, I find that the radiation protection staff and
3 committee here are -- have a far better working
4 relationship with the users on this campus than a lot of
5 other groups. So that it's surprising that an incident
6 like this begins to raise some contentious issues about,
7 you know, who is at fault, who is supposed to be doing
8 what, where did anybody fall down on the job. So it's
9 surprising.

10 MR. GLENN: Has the committee ever actually
11 considered procedures for deterring or preventing
12 deliberate acts?

13 DR. DEDON: I can't recall when issues of
14 terrorism and sabotage have come up in a formal way at
15 committee meetings. Again, it may have been discussed, but
16 I think it has been subsumed to the issue of security and
17 how well any individual lab is able to secure its own
18 sources.

19 To be honest, if there is someone that wants to
20 do someone else harm, and they're an authorized user, they
21 can do it, and they can do it in the short term and it's
22 all retrospective analysis that allows you to say was it
23 right or wrong. You can lock the freezers with 15
24 padlocks, and if it's an authorized user, they'll get
25 through the padlocks, they'll get the stuff, and they can

1 do whatever they want with it. And we have to rely on good
2 human respect to avoid things like that.

3 I can't do a psychological assessment on all of
4 my graduate students in detail, although I know them well,
5 and I know that I will never have a problem like that in my
6 laboratory. So that's a -- that's one of those moot
7 issues. You can discuss it all you want. And if somebody
8 wants to do someone harm, they will be able to do it. They
9 will be able to bring guns on campus and shoot each other,
10 you know. It boils down to an issue like that.

11 MR. GLENN: Can you think of *anyone* else that
12 we should talk to in terms of learning about this incident
13 or about the Radiation Protection Program?

14 DR. DEDON: Well, I guess I would encourage you
15 to find another Radiation Protection Committee member who
16 was at that meeting. My -- as I say, I've been trying to
17 get hold of committee members, and I will continue to do
18 that, to get more details of what was discussed at the
19 meeting. But as you can tell, I'm not up to snuff here --

20 MR. MADISON: You've been very helpful.

21 DR. DEDON: -- with the details.

22 MR. MADISON: We appreciate your candor.

23 DR. DEDON: Well, as I say, I think the RPO
24 folks seem to have done a pretty good job, and I just base
25 that on other experiences. So --

1 MR. GLENN: Before we conclude, I did mention
2 that I'd give you a written list of the procedures for the
3 review and availability of transcripts. We discussed that
4 in the beginning. I've written a telephone number on
5 there. That's where the administrative support for the
6 team can be reached in order to arrange review of the
7 transcript. And so if you called over tomorrow morning,
8 you'd probably find out -- arrange a time to come --

9 MR. MADISON: You can also -- if you think of
10 anything else you think we should know, or anybody else we
11 should talk to, that number is good to contact us.

12 DR. DEDON: Okay.

13 MR. MADISON: And pass that information on. If
14 in the next couple of days it is not convenient to review
15 your transcript, please call soon and arrangements can be
16 made to -- for your review of the transcript at a later
17 date.

18 DR. DEDON: Sure. That's no problem. I should
19 probably be able to get to it tomorrow.

20 MR. GLENN: Okay. The time is 1:15, and we're
21 concluding the interview. Thank you.

22 (Whereupon, at 1:15 p.m., the interview was
23 concluded.)

24

C E R T I F I C A T E

This is to certify that the attached proceedings before the United States Nuclear Regulatory Commission in the matter of:

Name of Proceeding: INTERVIEW WITH PETER DEDON

Docket Number: --

Place of Proceeding: Cambridge, Massachusetts

were held as herein appears, and that this is the original transcript thereof for the file of the United States Nuclear Regulatory Commission taken by me and, thereafter reduced to typewriting by me or under the direction of the court reporting company, and that the transcript is a true and accurate record of the foregoing proceedings.

S. Dildine
Official Reporter
Neal R. Gross and Co., Inc.