

ORIGINAL

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1 UNITED STATES OF AMERICA
2 NUCLEAR REGULATORY COMMISSION

3 ***

4 1992 ALL AGREEMENT STATES MEETING

5 ***

6
7 Sheraton Baltimore North Hotel
8 903 Dulaney Valley Road
9 Ballroom C
10 Towson, Maryland 21204

11
12 Monday, October 26th, 1992
13

14 The All Agreement States Meeting met, pursuant to
15 notice, at 1:18 o'clock p.m., Vandy L. Miller, Chairman,
16 Assistant Director for State Agreements Program, Office of
17 State Programs, presiding.
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19
20
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24
25

1 ALL AGREEMENT STATES MEETING PARTICIPANTS:

2

3 Carl Kammerer, NRC/OSP

4 Vandy Miller, NRC/OSP

5 Lloyd Bolling, NRC/OSP

6 Stuart Levin, PA

7 Terry Strong, WA

8 Roland Fletcher, MD

9 Stan Marshall, NV

10 Donna Ross, NY

11 Robert Doda, NRC/RSAO, Region IV

12 Aubrey Godwin, AZ

13 James Lynch, NRC/RSAO, Region III

14 Joel Lubenau, NRC/Commissioner De Planque's Office

15 Harold Borchert, NE

16 Carl Trump, MD

17 Ray Paris, OR

18 Robin Haden, NC

19 Alan Jacobson, MD

20 Tom Ferguson, MD

21 Richard Ratliff, TX

22 William Morris, U.S. Navy/NAVSEADET RASO

23 C.D. Rao, TX

24 Michael Henry, LA

25 Bob Kulikowski, NY

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4 Charles Flynn, MD
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8 Don Flater, IA
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13 Nathaniel Owrutsky, MD
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P R O C E E D I N G S

[1:18 p.m.]

OPENING REMARKS

MR. MILLER: Well, I must say this again, good afternoon.

FROM THE FLOOR: Good afternoon.

MR. MILLER: Oh, I love it.

You know, it's amazing the perspective you get from up here. I did not know they were going to make the podium and the area here so high, because I feel way a way from you. But I want you to know that all of you look very good sitting out there just waiting to get good information this week. Look at Mr. Anderson over there. He's just smiling. Glad to have you to be with us today by the way.

Well, this is our annual All Agreement State Meeting. I would like to welcome you all to this annual meeting. For those of you who do not know me, I am Vandy Miller, the Assistant Director of State Agreement Program and the Chair for this meeting.

I am excited to have this meeting here in the great State of Maryland, which just happens to be my home state now that I've given up West Virginia. I want to thank the Maryland Radiation Control Staff and Roland Fletcher in particular, for all their assistance in hosting this meeting. I would also like to thank my own staff member,

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1 Lloyd Bolling, who seems to pull this meeting off every
2 year, year after year, in a very fine fashion.

3 Now, we have a full agenda for the next few days,
4 and I know we will be accomplishing a lot of worth while and
5 fruitful discussions. On Wednesday we will hear from Hugh
6 Thompson, our Deputy Executive Director, as our keynote
7 speaker. I look forward to him being with us. Besides the
8 meeting here, this is also a great opportunity to meet and
9 discuss among yourselves and with the NRC staff, areas of
10 concern and interest. You have to make the most of the
11 opportunities you have.

12 Now, I would like to introduce Susan Weirman,
13 Acting Director for the Air and Radiation Management
14 Administration, State of Maryland. She has been employed
15 there since 1981. Ms. Weirman has worked in air pollution
16 control since 1977, and was Deputy Director of the Air
17 Management Administration for four years before becoming
18 Acting Director. She has more than 10 years experience with
19 local and state government in three states. Ms. Weirman
20 received a Masters in Urban Planning Degree from the
21 University of Washington in '74. She is a board member and
22 former Chair of the South Atlantic Section of the Air and
23 Waste Management Association and an active supporter of her
24 son's soccer team. She has some words of welcome for us at
25 this time. Ms. Weirman.

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1 [Applause.]

2 WELCOME

3 MS. WEIRMAN: Thank you, Mr. Miller. I
4 congratulate you on your new home. Maryland is a wonderful
5 state. I have lived here longer now than almost any other
6 state I have lived in. The only other state I've lived in
7 longer is Oregon. Is Oregon here today?

8 MR. PARIS: Yes.

9 MS. WEIRMAN: All right. Well, that's where I
10 started.

11 MR. PARIS: You should come back.

12 MS. WEIRMAN: I don't have much to say today. I
13 don't know much about what you do and I'm very interested to
14 learn, and I'm happy to be here today on behalf of the
15 Secretary. He asked me to welcome you to Baltimore and to
16 Maryland. We became the 23rd Agreement State in 1971. And
17 I think, from what I have seen so far, the Agreement State
18 process is a model that is -- would be a good model for many
19 media to follow. It's a very good mechanism for
20 Federal/State cooperation to protect the public health and
21 safety. And I think Maryland's commitment to this program
22 is evidenced by the fact that when we faced a budget crisis,
23 which we continue to face, and have faced for the last
24 couple of years, the Department of the Environment had to be
25 reorganized, and the Secretary moved the entire Radiological

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1 Health Program into the Air management Administration, and
2 called it the Air and Radiation Management Administration,
3 and did not choose to lay-off anybody from the Radiological
4 Health Program. So, that program moved over to us intact,
5 and we're very happy to have them with us.

6 I think that, as the Agreement States are added,
7 each new Agreement State is a benefit to us all, as
8 taxpayers of the Federal Government because it saves the NRC
9 staff and fiscal costs that they would otherwise have to
10 expend; but it also benefits the states. And one of the
11 greatest benefits to us, of course, is the training that the
12 NRC provides, and this is a part of that today.

13 I think that we can't underestimate the importance
14 of both the cooperation between the NRC and the states in
15 formulating standards, and the compatibility of the state
16 standards. We strive, in Maryland to maintain
17 compatibility, and we're committed to working together with
18 the NRC and with you other states to continue the ongoing
19 improvement of the cooperative partnership. I think the
20 exchange of ideas and sharing of problems and solutions
21 among the states and between the states in the NRC that will
22 take place this week is a very important part of maintaining
23 and improving our partnership.

24 I hope that you have a chance while you're here to
25 see some of Baltimore. You are here in Towson, which is

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1 where I live, and it's a very nice place. It's the County
2 Seat of the County of Baltimore. And, if you go downtown,
3 Baltimore, which is not very far away, I hope you have a
4 positive impression of Baltimore. We don't know what our
5 press is like elsewhere. You may hear about a lot of things
6 that aren't too pleasant. But, really, downtown Baltimore
7 is a very nice place. The Inner Harbor is something that
8 you should see if you haven't been there. There are a lot
9 of things. Fort McHenry, and the National Aquarium, and
10 U.S. Constellation is down in the Harbor, you can go tour
11 that. And you have to eat crab cakes while you are here.
12 You can't leave Maryland without eating crab cakes. I don't
13 know if you've been here before -- but -- one thing -- one
14 of my goals lately, if I can ever get away from the soccer
15 games, is to go see a movie called "A River Runs Through
16 It," which is now playing at the Senator Theatre on Charles
17 Street, which is one of the finest big screen theatres left,
18 I think. So, if you have that on your list of things to do
19 too, you might take off some evening and take a ride down
20 there in a cab. It's not very far.

21 Welcome to Baltimore, welcome to Maryland. And I
22 wish you a good meeting and productive discussions.

23 [Applause.]

24 MR. MILLER: We certainly want to thank Ms.
25 Weirman for those welcoming remarks.

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1 I now know why Roland was so sure that we were
2 going to hold this meeting in the State of Maryland. When
3 Carl and I visited his office, he took us to this little
4 restaurant that looked like it was a dock where they
5 off-load things, and we went in, and I'll tell you, these
6 crab cakes was about like that. They were the most
7 delicious crab cakes we have ever had. So, if there was any
8 question whether we were going to hold out meeting in
9 Maryland or not after having those crab cakes, I was
10 positive Carl was going to give the okay sign. So, that's
11 why he was pretty cocky about us knowing that we were going
12 to meet in Maryland was because of those crab cakes Roland,
13 thank you.

14 Now, we're going to call on our director at this
15 time to come up. I want you all to know, if you weren't at
16 that Southern Energy Board this morning, you didn't know
17 that he's already worked about five hours today. I was back
18 in Rockville working those same equal hours, while you all
19 were having a good time up here relaxing for the morning.
20 So, if we leave early, you all must stay until the meeting
21 is over for the day, because we've already had out eight
22 hours.

23 But, anyway, I really want to tell you something
24 different about our fellow American that I have not told you
25 before. But I understand that all of you all know that he

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1 went to a small high school called Lodi, L-O-D-I. And for
2 you all who don't know where Lodi High School is, it's in
3 Lodi, California. Now, you all did not know that. Now,
4 something else you did not know -- that -- you know,
5 everybody knows that he was a former professional athlete,
6 but you didn't know where he got his start playing football.
7 And that was this little small school called the College of
8 the Pacific, and this is a Methodist school, and this is
9 where he formulated all of these great qualities that he
10 exhibits as a director in NRC.

11 Now, you know that we wanted to get a winning team
12 in Washington, so they allowed him to go out and play for
13 the 49ers for a couple years as a linebacker in the pro
14 ranks, and then the Redskins decided boy, we need Carl
15 Kammerer, we need a strong defensive end, so they traded for
16 Carl and brought him for Washington where he played for the
17 next six years as defensive end. And he really taught
18 defensive backs and linebackers and anyone else that had a
19 desire to play and how to really do it the right way. And,
20 in fact, the way that they were playing Sunday, they may
21 call on him before the season is over.

22 [Laughter.]

23 MR. MILLER: But, I'll take a win anyway we can
24 get it at this time.

25 So, let's -- now that I've told you what I wanted

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1 you to know about our great American, now I'm going to tell
2 you something else that you all might not know. Ever since
3 we've been under the new organization, he has learned more
4 about what I'm supposed to do that I thought I could hide
5 things, but I can't hide anything from him anymore. He
6 knows more about what I'm supposed to do than I know myself,
7 and that can be kind of uneasy for me. But I just have to
8 work that much harder now that he knows what I'm supposed to
9 do.

10 But, in seriousness though, he's got some good
11 points that he wants to share with you. And I hope he
12 doesn't steal all my thunder, because I have 45 minutes to
13 follow him. Without further ado, Carl Kammerer.

14 [Applause.]

15 OFFICE OF STATE PROGRAMS PERSPECTIVE

16 MR. KAMMERER: It's incredible the kinds of things
17 that this man says. I was wondering where is this leading
18 please? What is the relevance of all of this ancient
19 history, and where is it leading? I missed the tie. But,
20 I'm tickled to be here again this year. It's always a
21 highlight. I look forward to this particular gathering.

22 Susan mentioned a couple of things that, by your
23 presence, and by your regulating what you do regulate, you
24 save the NRC something on the order of 260 FTE, and
25 something approximating \$13 million. So, you represent an

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1 excellent cadre of experience and ability and the rest of
2 that good stuff. So, we're tickled to have you here.

3 That crab place, by the way, is called Jimmy's.
4 It's an awesome crab place down the road here. Roland will
5 give you directions to it I'm sure.

6 Welcome to all. This is the fifth Agreement State
7 meeting that I've been associated with. It was started back
8 in Kentucky a few years ago. I want to welcome Maine, that
9 is Clough Toppan, alive and well and doing all that good
10 stuff that he's supposed to be doing here.

11 Today I want to mention about four or five
12 different areas -- just touch on a few things. Our
13 partnership, talking about the reorganization, coming from
14 the Commission office, coming under the Executive Director
15 for Operations, the Chief Staff Office and the NRC, early
16 and substantive involvements by the states, some of our
17 review findings and training, and will just touch on
18 compatibility. Compatibility is an item of serious interest
19 to us all. The Commission hasn't finished its deliberation
20 at this point. And so, while we were hopeful that the
21 Commission would have concluded that and we'd be ready to go
22 into a dialogue about what it is, where we ought to be
23 going, what it ought to look like, we're not going to be
24 able to do that at this point.

25 It's been 30 years since Kentucky was the first

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1 agreement state, California and Mississippi along with them.
2 And the main job of protecting public health and safety has
3 been accomplished all these years. And our commitment to
4 you is that state programs will continue to foster this
5 unique partnership that we have.

6 Under the reorganization, it became effective in
7 November of last year, and I had the first briefing of the
8 executive director in December of that same year. And as a
9 lead-on to that, in order to -- one of the strong pluses we
10 get out of this, being under the executive director for
11 operations is the following fact -- that we periodically
12 meet with Hugh Thompson, who'll you'll hear from on
13 Wednesday morning. And that meeting taking place -- it was
14 once monthly, and now it's once about every 60 days -- has
15 the directors of research, has the director of Nuclear
16 Material Safety and Safeguards, has the director of
17 Inspection and Enforcement, has the director of State
18 Programs, Hugh Thompson, and representing the regions, Dr.
19 John Montgomery from Region IV. So, we have about an
20 hour's-type -- an hour meeting in which we say what's on our
21 plate that we ought to be thinking about, including the
22 Agreement States. So, that has worked extremely well. We
23 didn't have that before. But, I will say to you too that
24 it's not just being a part of the executive director's
25 staff, but in the transmission of this reorganization. I

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1 still have the authority, if I choose to, to go directly to
2 the Commission.

3 Okay. Concerning the earlier and substantive
4 involvement of the Agreement States, clearly, we're
5 continuing to work in that. You know that since '88 it has
6 been a part of our strategic plan, and only until the
7 Commission bought into it did all of the offices within the
8 Commission then buy into it. And this periodic meeting that
9 we have internally continues to underscore the importance of
10 early involvement by the states.

11 Thursday we've got a full schedule throughout the
12 week. But, on Thursday, some very exciting topics and
13 medical issues particularly will be discussed.

14 And I would want to make a series of announcements
15 here now concerning personnel. We've identified a person in
16 our office who would be the key coordinator of all of the
17 things that come under early and substantive involvement.
18 And that person is Maria Lopez-Otin, who stands back here.
19 She will stand so she can be seen. And I want you to get to
20 know her as the week goes on.

21 You also see a fellow back there dressed in his
22 proper gray trousers and his proper blue jacket. That's a
23 signification that this is an Agreement State person --
24 anybody wearing gray trousers and blue jackets belong to the
25 Agreement State Programs Office. So, check around and see

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1 who you are. I notice that Wayne Kerr has got his gray and
2 his blue on too. Joel Lubenau, with the Commissioner, Gail
3 De Planque's office. And I'm also happy to note that just
4 this past week we have found his replacement, and you all
5 know who she is, that is Cardelia Maupin. Cardelia, would
6 you stand so we can say howdy.

7 MS. MAUPIN: Howdy.

8 MR. KAMMERER: There you go. Follow instructions,
9 as it were.

10 All right. The current status. Obviously there
11 are 29 Agreement States; 19 are adequate and compatible.
12 There are five states that currently enjoy adequacy, and
13 five that have the compatibility finding withheld.

14 I've talked before about the importance of all of
15 us doing a better job so that everybody is the adequate and
16 compatible. And we would like obviously to see that. You
17 know the strength of my commitment or training, because I
18 believe there is a very strong nexus between the quality
19 training and quality programs, and that you all have the
20 talent and can get it done, and we're here to work with you
21 to assure that whatever we can do to have every program be
22 both adequate and compatible would be exciting.

23 Just on the training. When I first came to the
24 NRC, or rather to this office, as its director, we had 178
25 -- something on the order of 178 state personnel trained.

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1 Two years ago that number was increased to 350, through some
2 economies of holding training sessions in less-costly places
3 and other combinations of things, including getting some
4 additional funds from the agency. So, two years ago, as I
5 say, that was 350. And I'm shocked to tell you today that
6 that number is 472. We have achieved that by additional
7 dollars in our budget again, and utilizing other office's
8 budgets. I hope that nobody here reports that back to NMSS
9 and to Research, but, that's what we do. One such example
10 is a highly-successful meeting we had in -- where did we go?
11 Mobile, Alabama. Mobile, Alabama -- former Arizona's state
12 for radiographers certification. And, in that case, NRC
13 learned some things, and we heeded what we learned. And,
14 thanks to Steve Collins and a group staying up to 1:30 at
15 night and producing the next morning -- a group of states
16 folks -- producing the next morning, some elements around
17 which one could formulate a rule that makes some sense to
18 all of us, and the obvious bottomline being obtained is
19 greater protection of public health and safety. So, hats
20 off to that, and a good job done by all.

21 Dr. John Glenn and Vandy chaired this particular
22 workshop, and so they worked hand and glove, state program,
23 with Nuclear Materials Safety and Safeguards. Bob Bernero
24 was there personally, and it was an excellent meeting.

25 So, we're continuing to -- when I sign the letter

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1 going back to you, hopefully not as long in between the time
2 we've had the exit interview to the point we in fact get the
3 letter codifying that report. Hopefully we're going to be
4 able to shorten that down. Well, welcome, Mary. So, I'm
5 going to continue to phone the director first, and then your
6 boss and then your bosses boss, and give them the results of
7 that review. And, in cases where warranted, obviously,
8 we'll talk to the chief executive officer for your state,
9 the Governor.

10 Another such exciting moment we had was one of our
11 own, Jack McGurck, last year did the total quality
12 management training. He did both a pilot to see whether or
13 not we could do that for agreement state managers. And that
14 was pulled off, and he did an outstanding job. We very much
15 appreciate that because here, again, is a way in which we
16 are able to save considerable money. Instead of advertising
17 to have this done, that is a contract of some sort, and
18 going through that kind of a process, we found Jack McGurck
19 who teaches that kind of course in California, an who is
20 willing to come to teach it for us, and did so at just the
21 travel and per diem cost. So, we were able to put on that
22 kind of training and save additional dollars, which means
23 we're able to train for other subjects additional agreement
24 state people.

25 So, in keeping with our partnership theme, we're

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1 still looking for opportunities to cut the costs and to
2 share and to stretch out the training monies to provide more
3 for Agreement State personnel. And that then concludes my
4 remarks. And towards the end of the week, I'll be happy to
5 take any questions that you have. I'm delighted to be here.
6 So good to see these smiling faces, and let's dig in.

7 [Applause.]

8 TRAINING AND OPERATIONS

9 MR. MILLER: Now, let me have the other staff
10 members of the NRC to quickly stand. Because it's important
11 that we have as many of the NRC staff attend these annual
12 meetings. That gives you an opportunity to meet one on one.
13 So, I know we have all our Agreement State Officers here,
14 and we have some members from the other program offices
15 here. So, if they all will stand at this moment so you can
16 see them, I would appreciate it.

17 Starting over here on this side.

18 MR. DODA: Bob Doda, Region IV.

19 MR. McGRATH: John McGrath, Region I.

20 MR. HORNER: Jack Horner, Region I.

21 MR. LYNCH: Jim Lynch, Region III.

22 MR. SOLLENBERGER: Dennis Sollenberger, State
23 Programs.

24 MS. HARRIS: Carol Harris, Region I.

25 MR. LUBENAU: Joe Lubenau, State Commissioner,

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1 Gail de Planque's Office.

2 MS. JONES: Cynthia Jones, NMSS

3 MR. WOODRUFF: Rick Woodruff, Region II.

4 MR. BOLLING: Lloyd Bolling, Headquarters, State
5 Programs.

6 MR. MEYERS: Jim Meyers, State Programs.

7 MS. SCHNEIDER: Kathy Schneider, Headquarters,
8 State Programs.

9 MR. MILLER: Cardelia, you can announce yourself
10 again too.

11 MS. MAUPIN: Cardelila Maupin from State Programs.

12 MR. MILLER: And we have outside our budgeteer,
13 who is Brenda Hill, and our secretary for the Agreement
14 States side of the house, Debra Reyes. Let's have them both
15 to stick their heads in the door there, because they're the
16 ones that really get the work done for us. And we're so
17 happy to have both of them to be here to get you registered
18 in and et cetera.

19 This is Brenda Hill, and this is Debra Reyes.

20 [Applause.]

21 MR. MILLER: Dick Blanton, didn't I see his head
22 there? Step inside. Okay. So, that's all of the members
23 of the NRC that's here with us today. But there will be
24 other NRC staff members coming during the week. So, when
25 they're here, be sure that you catch them, especially those

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1 staff members from Low Level Waste, because I know you have
2 a lot of good questions to ask all of the ones that will be
3 attending from the Low Level Waste Management Division.

4 Okay. Now we can kick off a little bit of
5 discussion on operations in general, and a little bit about
6 training, which Carl has covered some of it already.

7 [Slide.]

8 MR. MILLER: So, I'd like to use about the next 30
9 minutes to kind of give you an overview of where I see
10 things in state programs, and in Agreement States in
11 particular.

12 [Slide.]

13 MR. MILLER: Now, time is not going to permit me
14 to cover all of these topics in detail. But, you remember
15 last year I showed you a list of things I wanted to discuss
16 with you and did not get through all of them. But I did
17 talk to you on an individual basis during the week, so if I
18 miss covering some of this material, I will be here all
19 week, and we can have lunch, or have a breakfast and
20 continue to pursue some of these topics, based on your
21 interest.

22 So, let's first look at some comments about
23 training a little bit further here.

24 [Slide.]

25 MR. MILLER: Carl has already covered pretty much

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1 that first slide there, but I do want to point out to you
2 that, in the next slide shows the workshop. This is the
3 area where I am particularly happy about. And if you have
4 been to one of the workshops this year, you know I have
5 started each one of the workshops talking about the various
6 ones that we've been able to put on for you during the
7 year. Now, I would say that, out of all the years that we've
8 been doing workshop, this is probably our bumper crop here
9 this year that we've put on for you.

10 Now, our consultant, everyone probably remembers
11 Jerry Parker. He certainly was directly responsible for our
12 fee workshop. He was also responsible for the regulation
13 workshop. And he is a consultant to our office for about 90
14 days of a year, so we have to use those 90-days in our best
15 interest. And, therefore, we were not able to have him to
16 be with us here this week. But he did manage to meet with
17 you during the CRCPD meeting which was held in Orlando,
18 Florida last May. And he certainly discussed these two
19 workshops with you. And, hopefully, shortly, you're going
20 to see a NUREG that he's preparing at the moment that would
21 incorporate both of his workshops in one NUREG and would be
22 for your use.

23 Needless to say, we had very successful
24 radiography certification workshop. And that was a real
25 good one because out of that one, you now have been given

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1 the first draft of a certification package.

2 And needless to say, when we were in Atlanta for
3 the Medical Issues Workshop, once we -- we listed that there
4 are states out there that have good things to add, and once
5 we recognize that, that workshop really did go well; but it
6 did start off kind of shaky. But it did end up on a very
7 good note thanks to Tom Hill and his staff down there in
8 Atlanta. And you know every year we do the Low Level Waste
9 workshop right in Rockville.

10 Now, the next one there is one that I'm very
11 pleased with this year, and that was that Uranium Mills
12 workshop which we held out in Denver, Colorado. Thank you,
13 Bob, you're sitting right here. You know, I can't remember
14 all these cities, you know. Again, that does not take away
15 from the outstanding workshop that was put on by the staff
16 -- Air Force staff, the NRC staff, and the state staffs.
17 Because this was one where we had not met for about three
18 years, and the states really did do a yeoman's job in coming
19 in and letting us know where you stand with your mills --
20 those licensees within your state that operate mills or are
21 closing mills. And so that was a very fruitful workshop.
22 And, needless to say, the TQM Carl alluded to already, which
23 was really outstanding.

24 The Board of State workshop, a lot of you didn't
25 get in on that. But this was one where we've been talking

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1 about the scrap iron getting in to the country and getting
2 into the smelting factories and causing a lot of problems.
3 So, that was a very fruitful workshop with about five
4 states. And then, lastly, the one where several of the
5 radiation control program directors attended, as well as
6 their staffs, and that was the special topics one, which we
7 just recently finished out in Houston, Texas.

8 Now, I made a statement at the end of that
9 workshop that you may not see all of these workshops next
10 year, and that it will be based on where we can get funds,
11 because there was not an increase in funds in our office;
12 however, we did not get cut either. But what happened was
13 is that the funds that we normally look at for workshops
14 we're going to put those funds into the Part 20, which I
15 will discuss a little bit later. So, we really didn't get
16 cut; what we did is we redistributed the funds to ensure
17 that all of the states get well trained to implement Part
18 20. And I will talk about that a little bit later.

19 And now that does bring me right to Part 20
20 discussion.

21 [Slide.]

22 MR. MILLER: As you well know, it will be
23 effective -- all licensees will start keeping records
24 according to the new Part 20, and the states, everybody will
25 go into effect January 1st, 1994. That seems like a long

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1 ways off, but I assure you that's right around the corner.
2 And, in fact, we -- I often say to the Agreement State
3 officers you are reminding the states, although the Part 20
4 is not up for being on the books yet, but certainly, if you
5 wait until your three years is up, you'll probably find that
6 your licensees are going to be behind the power curve. So,
7 this is one regulation you really would like to have on your
8 books long before your three years is up so that you can
9 condition -- so that licensees will be able to comply with
10 the new provisions. And it's good now that we have
11 everybody starting out at the same time.

12 [Slide.]

13 MR. MILLER: Now, with regards to the Part 20
14 Agreement State training participation, I mentioned this
15 topic at the Special Topic Workshop, and after I finished
16 talking and I was talking to some people out in the hall,
17 and they reminded me that some of the people who received
18 the initial Part 20 training, when we put the training on
19 the five regions, we paid for two people from each of the
20 Agreement States to come to the region within their
21 geographical area and receive the same training that the
22 regional people received. Well, I learned that you've lost
23 some of those people.

24 Now, the next group of training that we're going
25 to do, which will take place in the '93 May/June/July

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1 timeframe, this was really to train those same people that
2 we've already trained -- you know, give them additional
3 training. So, if you've lost someone that came to that
4 original training, you really should start working on
5 getting a good replacement for that individual and make sure
6 that when this videotape is available that you get that
7 because if you review the videotape that was going in
8 contract with NRC, that's our Technical Training Center, in
9 Chattanooga, and AEOD, which is one of the major program
10 officers in NRC, we've gone in contract with them to develop
11 this video. And hopefully it will be available for you to
12 review before we start this additional training in Part 20.
13 That way, if you're not the same individuals, if you review
14 that tape, you should be ready to receive this additional
15 training which we will be putting on May, June and July of
16 '93.

17 [Slide.]

18 MR. MILLER: Now, the next topic I want to quickly
19 mention is communications. These are the three major
20 subject areas under communications I want to quickly cover.
21 So, let's go to the first one now on the summary of
22 Agreement State Letter data.

23 [Slide.]

24 MR. MILLER: Now, I want to point out something
25 here. Because I remember Greta writing a letter to our

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1 chairman once and said I'll dare that Vandy Miller to assume
2 that just because we didn't get a response back from you
3 that you were in good shape and there was no problem when we
4 sent out something to you. And then you all told us that we
5 needed to do a better job in sending out letters that
6 required responses. We think we've done that, but now
7 you've got to help us more.

8 And a lot of the states have been doing real good;
9 but there's a few that I have to tell the project manager
10 you've got to go call them because we need to get the
11 response back. Now, out of 152 pieces of communications
12 that we've sent you in this past fiscal year, 41 of those
13 communications required a response, and you can see the
14 percent in the third one. Now, that's not all bad. It's
15 kind of low; but at least those that have strong interest do
16 respond. So, now I can say to Greta that if I didn't hear
17 now that we've gone this extra step that maybe you did not
18 have an interest, and that those that responded, we took
19 their comments to heart.

20 Let me just say quickly here further on the
21 Agreement State letter data that some letters only require
22 four or five states to respond, so you can get a hundred
23 percent. As you can see, we went from three percent to a
24 hundred percent; the mean being 41 percent and the median 33
25 percent. But, when I show you this next slide, this is

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1 where you can help me. Okay. This is where we can improve
2 our ability to get things to you and you can improve getting
3 things back to us.

4 [Slide.]

5 MR. MILLER: Now, you know that yellow sheet that
6 comes on top of the message that we're sending to you? That
7 yellow sheet has already been filled out for you
8 practically, and all you have to do is check whether you
9 have a comment. You can actually put the comment right on
10 that sheet. But here are some of the things that you failed
11 to do on that sheet for us, and really wish that you would
12 give it a little more personal attention.

13 We want all of you to use that yellow sheet when
14 we send it to you because that's the one that tells you that
15 a response is imminent, that we'd like to have a response
16 back -- that yellow sheet. So, send it back to us, because
17 that alerts us that this is an action that required a
18 response back from you, and we can keep better data. Our
19 data is not the best and the world right now when we try to
20 determine the exact percentage of responses and things,
21 because we don't have good records. But we are improving
22 this data considerably.

23 Now, a lot of you leave your abbreviations off --
24 off that yellow -- down on that right-hand bottom corner,
25 there are two blocks. And that's where you're supposed to

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1 put your state abbreviation. And if you don't do that, and
2 I happen not to note you -- know the person who signed it by
3 name, I don't know what state that's from. So, you can help
4 us. That would save us some time.

5 And then, two, when we send these messages out to
6 you, we always tell you there's a project manager. If it's
7 a workshop, we want you to respond to and we need your
8 comments, it will have on there that the project manager is
9 Dennis Sollenberger, for an example. So, somewhere on that
10 response back you should have his name there so we can get
11 it right to him when the response comes back.

12 Another number, not registered reference in the
13 response. Now, if you would just help me out there, we are
14 going to do a better job, and our communications will
15 further improve, I will guarantee you that.

16 [Slide.]

17 MR. MILLER: Now, let's go on to the next topic
18 for discussion, and that is information on enforcement
19 actions.

20 I would say that those that had the GAO people to
21 visit them -- let me see the hands of the states that the
22 GAO visited you during this last study?

23 [Show of hands.]

24 MR. MILLER: One, two, three, four.

25 One of the things is is that that study has been

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1 going -- I don't know whether I should call it a study, an
2 audit or what -- but they've been looking at the materials
3 program, both in how NRC manages the materials program, and
4 how the states manages their materials program. And, pretty
5 soon, we should see some results of their -- of their
6 evaluation. We have met with them just recently and they
7 didn't tell us what to expect yet, but I would imagine we
8 are going to see a report from that work that they've been
9 into now for over nine months.

10 But, anyway, they asked some very good questions
11 though, one being if you really have a licensee that's a
12 wrongdoer, and you really do something bad to that licensee
13 like revoke the license, it is really good to tell everybody
14 else that, you know. Tell all your fellow Agreement States
15 and NRC, because if it's a radiographer licensee, you know
16 what he'll try to do, he'll try to go to another state and
17 pick up another license and just keep operating and doing
18 things the wrong way. So, certainly when we're -- you're
19 going to hear more about enforcement from our office
20 director during the week; but I just will alert you that we
21 really -- we're doing a pretty good job there, and there is
22 some room for improvement, and we can continue to share that
23 information with you.

24 Now, with regard to allegations, this is an area
25 where the NRC puts a lot of time in, and I certainly do not

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1 want to see this be an FTE burner for you. But, whenever we
2 get an allegation on a licensee within your state, you will
3 get from the Agreement State officer a request to
4 investigate this allegation. And you don't have to continue
5 to communicate to them. What you need to do is once when
6 you bring that allegation to a closure, you then inform the
7 Agreement State officer of what you did. You know, you may
8 go out and say, well, I did -- I found out that this
9 allegation had some basis, and here's what I found, and
10 here's how we resolved the issue.

11 Now, if it's an allegation that's made against a
12 state, then the region has to take the lead there. They may
13 come to you and say hey, there's an allegation that you're
14 issuing licenses without even making any reviews or
15 anything. Anybody can get a license, I just used that as an
16 example. Certainly, we would have the Agreement State
17 officer to look into that and to report back to our
18 allegation coordinator in NRC to find the results of that
19 allegation. But, that allegation bit is a very serious
20 thing, and we don't ever want any of them to fall between
21 the cracks. If it has to do with a licensee, we want you to
22 do it, and if it has to do against your state, we will do
23 it, but we'll bring it to closure each time.

24 We certainly appreciate the support you have been
25 rendering us in that area, and we certainly hope you that

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1 you will continue to provide the outstanding support you
2 have been doing in the past.

3 [Slide.]

4 MR. MILLER: Now, quickly, the next topic is
5 status and compatibility issue.

6 You know, everybody calls us about compatibility.
7 And this is a topic that is a very high-interest topic
8 around the NRC, and it's a high-interest topic among the
9 states, and it's even a high-interest topic among the
10 public. Everybody wants to know where we are on
11 compatibility.

12 Now, we have done a lot of work in this area.
13 And, as you -- when we went out with those six questions
14 that we asked about compatibility, we didn't ask anybody in
15 particular to respond -- anyone that read it in the Federal
16 Register could respond. And, quite naturally, the public
17 had a shot at that, and a lot of the public did give some
18 good comments on compatibility. Some of the states gave
19 some good comments, and some professional organizations gave
20 good comments. And we received 105 comments. And that's
21 not an easy task.

22 The first thing we did in our commission paper, we
23 summarized those comments. And then later on we were asked
24 to do an analysis of certain of the comments. And so we
25 went back to the drawing board for several weeks to do an

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1 analysis. And so all of this information has been put
2 together and provided to the Commission. And we are just
3 like you. We are now waiting for whatever action the
4 Commission plans to take on the package. They have
5 everything before them at this time, and we are waiting
6 along with you. And that's the status of it at the moment.

7 [Slide.]

8 MR. MILLER: Okay. Now, let's quickly talk about
9 the opportunities for early and substantial involvement by
10 Agreement States in rule-makings and other NRC efforts.

11 You know, we really got started in this area right
12 along the same time that we started to talk about
13 compatibility. I remember the first compatibility report
14 that was done, and it was headed up by Shelly Schwartz,
15 who's in our office. If you remember, he took the lead
16 there, and he had a couple of other program staff members
17 working with him. And that Commission paper was turned in.
18 At the same time, we were working to try to carry out the
19 directions from the Commission to get the states early
20 involved in matters impacting their program, especially from
21 a regulatory standpoint. And that's what we've been trying
22 to do over the last two years. And certainly we have used
23 the Agreement State Meeting as a vehicle for this. We've
24 used the CRCPD Annual Meeting as a vehicle for this, and
25 certainly we've used a lot of workshops as a vehicle to get

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1 the states early involved.

2 Now, we've heard comments, but when you meet it
3 would be -- we would be delighted to hear how the states, as
4 a group, feel how we're doing in this early involvement.
5 Because if there are things that we still need to do, we'd
6 like to know what those things are, and we'll give it our
7 best shot. But, we feel that, over the last two years, that
8 there has been a vast improvement in getting the states
9 early involved, at least in the regulatory area, in new
10 regulations that we're thinking about, in regulations that
11 we're thinking about revising, and et cetera. We certainly
12 have done our best to try to get the states right in on the
13 ground floor. But I'm sure there are some areas that we can
14 further improve on. And you have not been shy up till now,
15 so I'm sure you can give us some additional comments in that
16 area.

17 And we've already introduced Maria back there.
18 She's going to help us out in this area. And in fact I'm
19 waiting for her first opportunity to take over one of these
20 public meetings and watch some of the program officers walk
21 up to you at the last minute and say here's something we
22 want to bring up that you didn't even know about till you
23 got on the platform. I would like to see her handle a few
24 of those too. And that will make sure that she gets
25 seasoned real fast. But she's very anxious to get involved

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1 in this area, and we're anxious to help her get involved in
2 this area.

3 [Slide.]

4 MR. MILLER: Okay. New Agreement States. Clough
5 Toppan, in the great State of Maine, when he started his
6 remarks this afternoon, and as far as my slide is concerned
7 there, you can see it was effective April the 1st, and we've
8 already had one visit with the State of Maine. And that was
9 a just get acquainted-type visit. The next one will be a
10 little more serious, where we really will start looking more
11 closely at the program and how it's developing and how it's
12 going and et cetera. We'll make recommendations where
13 necessary. And that will be coming up in the very near
14 future.

15 Now, we've received letters from the Governors of
16 Massachusetts and Ohio and Pennsylvania. And I would say
17 that Pennsylvania is pretty close. Now, as you well know,
18 they are not going for full agreement at this time. They
19 are asking that they get a limited agreement to regulate
20 low-level waste. In fact the last time the staff went up to
21 visit with them, it was about -- six people headed up by the
22 office director, Carl Kammerer, and we paid Pennsylvania a
23 visit. And they let it be known unequivocally, that if they
24 did not regulate the low-level waste, that there will not be
25 a low-level waste site in the State of Pennsylvania. So, we

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1 certainly want them to regulate low-level waste so that we
2 will not be on their critical path toward implementing their
3 compact mandate. So, they're not too far off. Hopefully we
4 will be getting some guidance from the Commission in the
5 very near future. We are certainly going to pass that on
6 and move right down the road with Pennsylvania.

7 Now, with the other two, I did go back this year
8 to visit with Ohio, and to see how they were coming along.
9 They are trying to become a licensing state, as well as an
10 Agreement State. And they have a ways to go yet, but it is
11 good to know that Bob Owens is getting beefed up on his
12 staff and moving in the right direction. Hopefully, in the
13 near future, he will give us a document that shows here's
14 where they are as far as what they need to do on down the
15 road for the next two or three years.

16 And, in fact, we will be passing that on to the
17 team that's getting ready to go up to Alaska to pay them a
18 visit, similar to the one that we did out in Ohio with
19 CRCPD.

20 Now, Massachusetts I understand may change their
21 pitch just a little bit. I hope to meet with Bob Hallisey
22 and the others from Massachusetts while we're here this week
23 to see a little bit clearer where they're going.

24 Now, there's active interest from Oklahoma and
25 Missouri and Alaska.

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1 We have been trying to see if we can get Hawaii on
2 here, but that doesn't seem to come up. I keep asking, when
3 are we going to go to Hawaii; but evidently they know
4 something we don't know. But I would be more than happy to
5 do their program for them, just for an invitation.

6 [Slide.]

7 MR. MILLER: Now, Carl mentioned this next slide
8 here. I just want to spend a little -- a few minutes on it
9 myself because there are several things we are trying to do
10 here. We just had an interface -- counterpart meeting
11 preceding this meeting. All five Agreement State officers
12 came to headquarters, and we had a roundtable discussion for
13 a day and a half, and we gave them some expensive equipment
14 that they're going to use to help formulate these reports so
15 that they'll get in to us very quickly, and we will message
16 them and get them through our management quickly, and get
17 them back to you where it belongs. Because nothing is more
18 frustrating to Carl and myself than to have an Agreement
19 State officer go out in one month and then three months
20 later here comes the report. What we're trying to do is
21 trying to turn this whole thing around in about 30 days.
22 And we feel that would be a lot more effective to you if you
23 have something in writing, especially if you have a shortage
24 of staff and you were trying to get your i p management to
25 listen to you -- you get the written report back that can

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1 certainly support you in that area. So, we certainly want
2 to turn around these reports faster than we have in the
3 past. And we are doing a better job there, but it takes
4 time. And everybody has to work harder in those areas.

5 Now, out of the 29 Agreement States, there are
6 certain states that consistently get adequate and compatible
7 right along. In fact we recognize Rhode Island -- it hasn't
8 been too long ago -- for having scored the adequacy and
9 compatible on every review since they have been an agreement
10 state. And I think that record is -- who is here from Rhode
11 Island?

12 MS. ROBINSON: Yes?

13 MR. MILLER: Does that record still hold?

14 MS. ROBINSON: Yes.

15 MR. MILLER: Yes. It still holds. And that was
16 about three years ago.

17 Now, the key thing about adequacy is primarily --
18 the reason that we don't find you to be adequate is staffing
19 has caused your program to go downhill. And that is not a
20 -- you know, we suffer just like you suffer when you're not
21 adequate. You know, when you're not compatible that's not
22 so bad; but when you're not adequate to the degree where you
23 should be, that causes a lot of consternation on everybody's
24 part. We don't just come out and say you're not adequate,
25 we say we were not able to make a finding that you're

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1 adequate. But, you know, we try to use a little
2 cooperational views there. But, you really need to work
3 harder on getting your staff up to par and keeping it up to
4 par.

5 Now, I was talking to Don Flater last week, and we
6 were talking about this range, one to 1.5 FTE, professional
7 staff, in order to do the job. And so I said to Don, if you
8 have a Kathy Schneider on your staff, then maybe one would
9 be about right per a hundred. But if you have someone just
10 out of college with very little training, you need to be
11 looking at that upper end of that range; you know, one and a
12 half FTE per hundred licensees you see. And I think Don
13 agreed.

14 Is Don here?

15 MR. FLATER: Yes.

16 MR. MILLER: You kind of agreed with that, didn't
17 you, Don?

18 MR. FLATER: Yes.

19 MR. MILLER: And I think some of the other states
20 get in that bind too, that your management says, well that
21 thing says a range. Well, as long as you've got one, you
22 should be all right. But, that's fine if their people are
23 well trained, and they've got a lot of experience. And you
24 just don't go out these days and find the type of experience
25 that we're talking about on the first hire. You've got to

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1 bring them in and train them, and that takes time. And I
2 know that is true in the states because we have the same
3 problem in the NRC -- that we find people that have good
4 backgrounds, but they don't have exactly what we need and,
5 therefore, we have to bring them onboard anyway and then
6 train them further to do the job we want them to do. So, if
7 you have to bring new people on, you really are looking to
8 have one and a half FTE's per a hundred licensees.

9 Now, I know you can knock that around a little bit
10 when you have your meeting on Wednesday. Hopefully we'll be
11 there with you. If you wanted to discuss that further,
12 we'll be glad to pursue that further. But, I would say, out
13 of all your problems in this adequacy bit, it do the
14 staffing primarily.

15 Now, the states that we've withheld -- in some
16 cases we didn't make any finding at all. And, again, the
17 program is in pretty serious shape when we can't make a
18 finding at all. You can appreciate though that we feel
19 we're in this boat with you and that we need to do
20 everything we can to help you to not be in that mode, and
21 that if you're doing okay, we're doing okay. And if you're
22 not going okay, we're not doing okay either. That's the way
23 we kind of look at it -- that we're in this thing
24 together. But, overall though the states, as a unit, are
25 doing quite well. There are just a few states that need to

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1 buckle down, increase their staffs and bring their programs
2 up to where they can be found both adequate and compatible.

3 [Slide.]

4 MR. MILLER: I have already alluded to some of
5 these problems here, reviews, in the next viewgraph there.

6 Now, one of the things that the EDO office looks
7 out now when they review these reports, they know that
8 there's a similar program out in those five regions. And
9 sometimes they see things that the states are doing and then
10 they'll jump on the region -- why aren't you doing that.
11 And then sometimes they'll see something that the regions
12 are doing that we may not be doing with the states, and they
13 will ask us in that light. So, it gets checked both ways.
14 And that's a big advantage now of this reorganization,
15 because the program managers all have to report to the same
16 boss now, because Hugh Thompson is also responsible for the
17 materials in all five regions, and so our program comes
18 under him so he can see how the regions are doing things,
19 and then he'll see how the states are doing things through
20 us. So, that gives him a much keener vision on the total
21 program. And, quite naturally, he's more than interested
22 these days because of that GAO review that was just recently
23 conducted. This will give him more information to look at
24 when that report comes out.

25 So, it does get closer scrutiny by management.

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1 That does take up a little more time, but that's a part of
2 the business -- doing business the way we are doing it, and
3 it is fruitful. And the places that we need to increase our
4 times is not primarily at that level, it's before it gets to
5 that level that we can cut out some of this dead time,
6 because they don't keep them up there too long, but they do
7 go over them with a fine tooth comb.

8 Now, Carl emphasized about calling your management
9 and all, and I've already talked about that turnaround time.

10 [Slide.]

11 MR. MILLER: Let's quickly look at the next topic
12 that I said I wanted to quickly discuss, and that is CRCPD
13 reviews and licensing of states.

14 It seems to me, if you can become a licensing
15 state, you really shouldn't have a lot of problems in
16 becoming an Agreement State. Let's see the hands of those
17 that are Agreement States? I know we have at least 14. Is
18 that right, Kathy?

19 MS. SCHNEIDER: Yes.

20 MR. MILLER: Fourteen.

21 MS. SCHNEIDER: Licensing states.

22 MR. MILLER: Licensing states. The hands of the
23 licensing states?

24 [Show of hands.]

25 MR. MILLER: Now, those -- keep your hands up --

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1 those of you who are not a licensing state, you all grab
2 these people that are licensing states and see how they did
3 it and get some information from them and go back and really
4 work hard to becoming a licensing state.

5 Now, one of the things that -- getting back to
6 Ohio again -- is that I said to Bob Owens that maybe you can
7 bite the bullet and bring them both along together. You
8 know, he was first doing everything to become a licensing
9 state, but some of the same things you have to do to become
10 a licensing state are the same things you have to do to
11 become an Agreement State. So, I said to him, let's see if
12 we can intertwine these two together so that when you get to
13 the top of the mountain you're in shape now to become both a
14 licensing state and an agreement state.

15 But, I will admit, since I've only been on one of
16 these review CRCPD, that this is not an easy task to become
17 a licensing state. That's a pretty tough hoop that you've
18 got to jump through to become a licensing state. But,
19 there's a lot of good advantages of being a licensing state,
20 as you can see there on this viewgraph. And I just hope
21 that we'll continue to improve that number over the next few
22 years.

23 [Slide.]

24 MR. MILLER: Now, we're at the point of hosting
25 the Agreement State Meeting. As you well know, we always

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1 work the host in the Agreement State Meeting -- we work that
2 with the Chair of the Agreement State. In this case it was
3 Tom Hill. And I'm sure he was pleased. I don't know
4 whether Roland sit him a couple of those crab cakes or not,
5 but he was certainly in favor of us coming to the Baltimore
6 metropolitan area for this Agreement State. But we always
7 coordinate with the Chair of the Agreement States when we
8 are trying to get some state to host the meeting.

9 Now, we have not decided on the next meeting
10 place. And so, if your state is interested, please talk to
11 us while we're here this week, and we will be communicating
12 with you more as the weeks go on. And we like to know
13 pretty early in the year who is going to be the host state
14 for our next meeting. We have not had any problems in
15 getting someone to do that because it seems that when we do
16 it the next thing that follows is a CRCPD, which is a bigger
17 meeting than the Agreement State Meeting. So, if you are
18 interested in getting the CRCPD to meet in your state one of
19 these days, try the Agreement State Meeting first, and then
20 you probably will stand a better chance of hosting the
21 CRCPD. Now, I can't speak for the CRCPD; but certainly that
22 could have some impact on it.

23 Now, that's pretty much the items that I wanted to
24 cover with you today. And I just wanted to kind of throw
25 these things out to you because I know on Wednesday, you're

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1 going to meet as a group. And you can go over some of these
2 things that I have mentioned here today. Certainly we will
3 be here to try to respond to your questions. If we don't
4 have them here during the week, we will go back and we'll
5 work them up and get them to you on a separate
6 communications.

7 Now, we can have a couple of quick questions if
8 you might have them that's really burning you at this
9 moment. Yes, sir?

10 MR. KAMMERER: We would like to mention that South
11 Carolina also has been adequate and compatible for all of
12 these years, along with Rhode Island.

13 MR. MILLER: Who is here from South Carolina?

14 MR. KAMMERER: Virgil.

15 MR. MILLER: Oh, Virgil. You let me get away with
16 that, right?

17 MR. AUTRY: I was going to catch you outside.

18 MR. MILLER: I appreciate that. I'm glad our
19 director straightened us out on that.

20 Any quick comment?

21 MR. FRAZEE: Terry Frazee from Washington. Just a
22 quick question, and that had to do with the compatible
23 issue. You have mentioned the staff analysis that you did.
24 Is that document available, or is that a pre-decisional kind
25 of thing?

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1 MR. MILLER: Yes. Pre-decision. It's a part of
2 the package. The Commission Paper has both the comments
3 that we made on the 105 comment, and also the analysis that
4 we made. That's all a part of the Commission paper. So,
5 that's all pre-decisional.

6 Any other comments?

7 [No response.]

8 MR. MILLER: Okay then. If none, think about it,
9 and we can discuss some of these things further on your
10 Wednesday business meeting.

11 Let's have a little break now. And it calls for
12 us to be back at what time? 4:00 o'clock. Thank you.

13 [Brief recess.]

14 MR. MILLER: It is time to get started for our
15 first technical session. The first technical session for
16 the afternoon will come to order.

17 We have the chair of the Operational Events Panel,
18 G. Wayne Kerr, who is no stranger to State Programs and to
19 the Agreement State people, because he is the former
20 director of State Programs, U.S. Nuclear Regulatory
21 Commission. He did take off a little while after he retired
22 from NRC to take care of personal business, like lots of
23 good traveling around the world.

24 Then, when he spent all of his retirement money,
25 he decided to call Illinois up, and they were delighted that

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1 he did. After being retired for two years, he did go to the
2 State of Illinois where he is the assistant manager of the
3 Office of Radiation Safety.

4 G. Wayne Kerr.

5 OPERATIONAL EVENTS PANEL

6 MR. KERR: Thank you, Vandy.

7 It is a pleasure to chair this panel. These are
8 one of the interesting ones where you learn about things
9 that really happen out there and not something theoretical.

10 Ms. Weirman mentioned about budget problems in
11 Maryland, and I expect every state here has got some. You
12 all think Illinois is very rich, and we are not anymore,
13 anyway, because there are layoffs in State government, none
14 in our agency, but we know such things as salary freezes.
15 So it does affect just about every state around, I think.

16 I am going to exercise the prerogative of the
17 chair and rearrange the speakers a little bit. One of them
18 will speak earlier in the session, Cindy Jones, because she
19 does have to leave. So we will get her on, but we will get
20 everybody done.

21 At the end of the session, we are going to have
22 about a five-minute, from-the-floor presentation by Paul
23 Merges.

24 Now, I told these people that I would not give
25 long introductions, because I remember the story about the

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1 gentleman who was introducing this very distinguished
2 speaker, went through this long list of degrees and all
3 these accomplishments, awards, and things. Finally,
4 somebody from the floor said, "Come on. We just want to
5 hear him speak. We don't want to breed him." So we are
6 going to have very short introductions.

7 [Laughter.]

8 MR. KERR: Our first speaker is Cindy Jones. She
9 has a BS degree in physics and an MS in health physics from
10 Georgia Tech, a PhD candidate in nuclear engineering at the
11 University of Maryland.

12 She has many years of experience, health physics
13 experience at Oak Ridge Associated Universities, some
14 reactor and medical health physics at UCLA and at the
15 National Institute of Standards and Technology.

16 She joined NRC in 1988 and is currently a section
17 leader in the operations branch of NMSS where she has a
18 variety of radiation safety responsibilities. Her topic is
19 to discuss some of the processes for handling operational
20 events and some of the lessons learned from them.

21 Cindy?

22 LESSONS LEARNED ON 1991 EVENTS

23 MS. JONES: Thank you very much. It is a
24 pleasure, again, to be with all the Agreement States.
25 Someone saw me in that hallway, and they said, "Gee, are you

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1 sure you don't work for Vandy Miller? You're over at the
2 Agreement States program so much."

3 But it's always a pleasure to meet some new faces
4 and share some experiences that we have had, both on the NRC
5 side as well as the Agreement States side.

6 Lloyd had asked me to put together some things on
7 some lessons learned on operational events, and what I have
8 done in a nutshell is just try to give you an idea of how we
9 use the Operational Events briefings to share information,
10 both within the NRC and then, also, outside the agency.

11 If I could have the first slide.

12 As is indicated here, we do have a monthly
13 briefing to the NMSS office director, which is Bob Bernero.
14 This started in about 1988 or 1987. We had a number of
15 instances that were going on, and, as I am sure you are all
16 aware, you get to be very busy in your day-to-day workings
17 as a manager in your individual state.

18 Part of the problems seems to be just an overall
19 coordination of operational events or incidents that happen
20 in your state, and we found that problem as well within our
21 five regions and just across the country.

22 We do have it monthly now. A number of offices
23 are involved, which you will hear from later on this
24 afternoon on what their contributions are to the Operational
25 Events briefings.

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1 We have a couple of acronyms that I have listed up
2 there for you. For those of you who are not familiar with
3 it, AEOD is going to be sponsored today by Tom Novak. He
4 will be talking about abnormal occurrences. The Office of
5 State Programs, I have public affairs and international
6 programs.

7 We have a number of events that are discussed, and
8 for the most part, there is a list, probably about four or
9 five pages. It has a routing sheet. It is really just a
10 brief paragraph or two about the incident, who has
11 responsibility for it, what action needs to be taken by the
12 region or by headquarters, as necessary, and especially if
13 it is an Agreement State, if that Agreement State needs any
14 assistance from the region or from headquarters.

15 Usually, it is listed by a title followed by the
16 state where the incident was located, and who is the lead
17 project manager in NMSS.

18 For the most part, it is being sponsored by the
19 Division of Industrial Medical Nuclear Safety, which is the
20 division that I am in. We go over what responsibilities and
21 so forth are needed.

22 We look at, especially, generic implications of
23 the events that have occurred. If there has been something
24 that has happened in past events, we have a number of people
25 in the room that have been with the agency for quite some

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1 time, and they serve as our corporate memory or history, if
2 you will.

3 Many times, of course, you can have a very similar
4 events that occurs three, four, maybe five or 10 years, even
5 later, and it is nice to have someone around that can
6 remember if you responded differently or how did you respond
7 to that incident that happened, say, five or 10 years ago.
8 We find ourselves in many situations reliving past events.

9 One thing that we are going to try to do to help
10 that situation is put together -- and I will mention it
11 later -- all the information notices that we put out. We
12 are going to put together a group of those from the past 10
13 years in a NUREG format, which would be available to any of
14 the Agreement States, any licensees, or any new licensees,
15 so that they can learn from past historical events that may
16 have occurred with their corresponding licensees.

17 So we will try to group together for their first
18 one, well loggers, radiographers, and gage licensees; put
19 all those INs together in a NUREG format, and they will just
20 read about the past historical events or mistakes that
21 licensees have, unfortunately, made in the past.

22 As I mentioned before, Tom Novak will be
23 discussing some abnormal occurrences. I didn't put it on
24 the list of operational events, but that really is one of
25 the things that we look at to see if it triggers the AO

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1 reporting system, if it does, when it most likely will be
2 published and how it will be in there.

3 I do have a copy -- I just brought one with me
4 today -- of the latest NUREG that came out. For your
5 information, it is usually pretty thin, and it is NUREG
6 0090. It comes out every quarter, and it is a report to
7 Congress on abnormal occurrences. I won't say anything more
8 than that, and I will live it to Tom.

9 Next slide, please.

10 We look for trend analysis. We have had
11 instances, also, which you will hear today, in which it is
12 an incident that is not under NRC jurisdiction, and the most
13 recent one was the radiator incident which happened in
14 Mar 'and.

15 We would like to get events that are of a serious
16 radiological nature reported to us as soon as possible. It
17 turned out that, in this event, we did not find out quite so
18 quickly as we had hoped from a regional Agreement State
19 liaison. We happened to find out about it from the
20 International Atomic Energy Agency, IAEA.

21 We have a share-work network of information
22 regarding incidents that occur. What we try to do then
23 during these abnormal occurrence or OP Events briefings is
24 to let State Programs know that we have had an incident
25 overseas that could have an implication or interest to

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1 Agreement States.

2 Many times, a certain vendor will have linear
3 accelerators here and overseas. There will be an incident
4 that occurs overseas that could have implications here, and
5 we try to get that information out as soon as possible.

6 We work with the Food and Drug Administration
7 quite closely when we do have an incident, especially for an
8 irradiator, and we would ask that, especially for several
9 radiological incidence, such as this one was, that, even
10 though it is not in our jurisdiction, please give your
11 regional liaison officer a call and let them know that you
12 are handling it, it is being taken care of, so that we can
13 pass that on to IAEA, because they track it.

14 A number of other reasons why we have these
15 briefings, we get quite a few calls from interested members
16 of the public. The Commission may be interested in it and
17 want some additional information. It is not necessarily a
18 check to see if the regions or the Agreement States are
19 doing their job. It is, more or less, an avenue for us to
20 have the information needed for those individuals when they
21 ask.

22 As I mentioned before, even if it isn't in our
23 jurisdiction, we look for similarity to other licensed
24 activities. If we have an irradiator event with an
25 accelerator, we might see if that has any generic

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1 implications for gamma radiation. In the past, we have
2 found some instances where they are very similar, and we
3 passed those trends on.

4 When you all have an incident that occurs in the
5 state, you contact the regional liaison officer, and they,
6 in turn, write up a preliminary notification in which Lloyd
7 Bolling then presents at the OP Events briefing.

8 Quite a few questions get asked of Lloyd, and as
9 much information as you can provide to him makes his job a
10 little bit easier in front of Mr. Bernero. So we do share
11 that information quite a bit.

12 We also share it with other Federal agencies.
13 Again, they will get questions from members of the public,
14 usually DOE and EPA, and we will pass that information on to
15 them.

16 The one that I put together now is just a list for
17 your information of some operational events from 1991, and
18 the numbers in parentheses are those reported by the
19 Agreement States.

20 You can look at those numbers in a number of
21 different ways. You can say that you have such a good
22 program that you don't have to report any or perhaps there
23 are some that are getting through to the Operational Events
24 briefing. It is a little bit difficult to say.

25 We do ask, though -- and Lloyd has asked me to as

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1 well as State Programs -- that if you do have events that
2 you have reported to the Agreement States officer, please
3 let us know when those are closed out. Those get ticketed
4 as action items for us and, in particular, for State
5 Programs at these meetings. Although you may have finished
6 it, as Vandy has mentioned before, it is important to us to
7 know that you closed out an action. So that is one thing.

8 There seems to be a number of a trend in the past
9 couple of years of a number of contamination incidents that
10 are reported more frequently or we are getting more numbers
11 of contamination incidents.

12 The ones that happened in 1991 were incidents
13 involving internal and external contamination, quite a few
14 more incidents of contaminated garbage being found at BFI
15 and waste management detectors at the landfill, and also
16 some sewer reconcentration issues, which I mentioned briefly
17 at the last workshop we had with the State Programs down in
18 Houston.

19 Our instrumentation is getting better. We are
20 finding more radioactivity in the public domain, and this is
21 causing a little bit more reporting, and that is good, but,
22 as I mentioned before, many of these things, we don't find
23 out right away that they have been closed out. So, if you
24 do have something closed, please let State programs know.

25 Next slide.

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1 Again, just in summary, some of the agencies that
2 we do have interactions with, EPA and DOE, for the most
3 part, EPA is the most interested in the number of incidents
4 that occur. We involve our Office of Public Affairs, as I
5 am sure you do. Congressional Affairs, we do get inquiries
6 from Representatives and members of Congress that want to
7 know if there is a particular area in your state, if there
8 was an incident, what is the status of that, and they
9 usually want to find out that day. So, again, we use the
10 information that you give us and pass it on back to them and
11 save you, hopefully, some work in the long run, State
12 Programs and then NMSS.

13 I did mention briefly IAEA. They have a database
14 that is ongoing for international incidents. If you would
15 like any additional information about that, you could
16 certainly give me a call or ask me after the program. Since
17 I have to leave a little bit early today, probably a call
18 would be the best thing to do.

19 They have a number of systems that anyone can
20 access, and I think we found it helpful both on the
21 materials side to share that information with them.

22 Last slide.

23 Finally, the results of these. You know, it is
24 nice to have everyone get together and talk about some
25 incidents that have occurred, but what is the real outcome

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1 of it. Well, we have, as I mentioned before, a great deal
2 of information transfer, but I think the thing that helps
3 our licensees the most and y our licensees, certainly, is
4 the newsletter articles.

5 In our office, we have inspection oversight. We
6 are doing many inspection accompaniments with the different
7 regions. One of the things that the licensees mentioned to
8 us most often is they are very thankful for the NMSS
9 newsletter. It does contain information of Operational
10 Events that have occurred both in the regions or in our
11 jurisdiction as well as yours. So that is one way that we
12 can get it back to the licensees.

13 If there is a series of incidents that have
14 occurred, then we will issue an information notice. There
15 is one that is going to go out very shortly within the next
16 week on gauges. There has been just a rash of gauge
17 incidents where, in the past six months or so, about 30
18 gauges have been run over in a fire, et cetera, and it is
19 just a reminder for the licensees again that they need to be
20 very careful, be conscious of their gauge, and take a little
21 bit more note.

22 The nice thing about these two things is that they
23 are written in layman's terms. They are not really in
24 legalese, and the licensees seem to like those.

25 I do believe that copies of those are sent to the

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1 Agreement States. So, if you can, send those out to your
2 licensees.

3 If there is more information or generic
4 implications, we can send generic letters out, which we have
5 done in the past, with irradiated gemstones. We can also
6 issue bulletins, one of which was just issued on a
7 teletherapy machines.

8 Bulletins require responses; whereas, information
9 notices do not. So it is a more serious form of
10 information. The last one ask the licensees to look at
11 their devices and make sure that certain checks were made
12 and so forth.

13 Finally, if all of these things had been enacted,
14 and we will have a problem, we go through the rulemaking
15 process to propose changes in rulemaking to fix something
16 that may have been broken in the past.

17 So that is really the overview of the Operational
18 Events briefings. There is no lessons-learned booklet that
19 issued on a yearly basis. It is really a lessons-learned
20 every time we get into the meeting. It is usually the first
21 Monday of the month at 2 p.m. If you are ever at White
22 Flint and happen to be in the area, you will be welcome to
23 join us.

24 Do you have any questions?

25 [No response.]

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1 MS. JONES: Okay.

2 MR. KERR: I have one for you.

3 MS. JONES: Yes.

4 MR. KERR: Do you have a criteria for anything?
5 Do you have a criteria for those things you put on for the
6 briefing, Cindy? What is it? Everything gets a PN?

7 MS. JONES: Sometimes things other than PNs get
8 in. We had a large incident which involved quite a few of
9 the Agreement States that are here, which is the Indian
10 fence incident that occurred last year.

11 We had contaminated fencing products that came in
12 from India. Most heavily hit were Texas and California, I
13 think. Their people were involved with having to survey it.

14 There was a PN issued on that. Although if we
15 find it is of potential health and safety significance, we
16 will include it on the briefing.

17 Some international activities are also included,
18 which were not listed as a part of the Operational Events
19 briefing sheet.

20 Thank you.

21 MR. KERR: If you have any others, why, ask them
22 now, because Cindy is going to leave early before the
23 session is over.

24 Our next speaker is Roland Fletcher. He has BS
25 and MS degrees in chemistry, spent over 20 years as a

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1 commissioned officer in the Army and a variety of radiation
2 safety assignments. As most of you know, over the last six
3 and a half years, he has been administrator of the Maryland
4 Program for Radiologic Health.

5 He is going to discuss the Neutron Products
6 Incorporated, a case study on them. It has been around a
7 long time and, as you know, a major supplier of cobalt 60
8 sources.

9 The Roland will introduce Alan Jacobson of his
10 staff for the second topic on an accelerator incident.

11 Roland?

12 NPI CASE STUDY

13 MR. FLETCHER: Thank you very much, Wayne. Good
14 afternoon to all of you.

15 First of all, I would like to echo the welcome
16 that Susan Weirman extended to you. We are very glad to be
17 able to host this particular meeting and give you the
18 opportunity to have a look at our city. We are very proud
19 of our charmed city. I think you will find many things to
20 do and many adventures to have here -- good adventures, of
21 course. So I want to echo that welcome.

22 As far as sightseeing is concerned, I believe the
23 hotel has a shuttle, but there are a lot of things you can
24 get to within walking distance. Someone asked me about good
25 restaurants. The Fisherman's Wharf diagonally across

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1 Goucher Boulevard is supposed to be a pretty good one,
2 moderate to expensive, and there are several Chinese and
3 Greek restaurants within walking distances in various
4 directions.

5 I would like to have my staff stand at this time,
6 who are here to serve you. If you have any questions about
7 restaurants, I recommend Bill Borta over to my left and Paul
8 Perzynski in the back over to my right; in fact, any of
9 those who are standing, because they can tell you the best
10 places to go and the good food to eat.

11 Thank you.

12 Now I want to talk about a subject that, of
13 course, is near and dear to my heart. In my six and a half
14 years as a program administrator, no single facility has
15 done as much for creating nightmares and me losing sleep and
16 getting calls at 3:30 to 4:00 p.m. on Friday afternoon than
17 the facility I want to talk about. But I want to give you
18 a little chronology on how we got to where we are.

19 First slide. Go ahead to the second slide. That
20 is who I am.

21 This is what I usually tell my staff whenever they
22 are going to go out to visit Neutron Products. One of my
23 favorite television shows uses this line. I thought I
24 might borrow it. Off times, we don't know exactly what we
25 are going to find when we go out there. Usually, the

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1 reports that I get back are very interesting and fascinating
2 when we talk about this particular facility.

3 How did it get to where we are now? As I said,
4 let's look at a chronology.

5 Next slide, please.

6 We didn't give them their original license. This
7 might surprise you.

8 [Laughter.]

9 MR. FLETCHER: Back in 1968, the Atomic Energy
10 Commission licensed them. They were originally licensed for
11 two million curies of Cobalt to be use as sources in their
12 own irradiator. They had authorization to irradiate spices,
13 wheat polymers, et cetera, and for irradiators in various
14 other facilities.

15 After a while, amendments were requested and
16 granted, and the authority, the activity gradually crept up
17 and up and up.

18 There were some early exposures, overexposures to
19 workers, which should have told us something, but somehow or
20 another, they continued to be licensed.

21 Next slide, please.

22 Now, here we come. Maryland wanted to be an
23 Agreement State. I don't know what discussions -- maybe
24 wayne can tell me -- I don't know what discussions might
25 have gone into Maryland becoming an Agreement State and

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1 taking Neutron Products as one of its licensees, but I can
2 tell you that the staff has a great deal of affection for
3 this particular facility. We learn a lot from them.

4 We also have a lot of interesting discussions on
5 the fact that, according to the President, we overregulate
6 everything, and the stuff that he uses, Cobalt 60, is not
7 really that bad. We shouldn't be so concerned. We get that
8 discussion very often.

9 But in 1971, of course, we became an Agreement
10 State. Neutron Products became our problem. It didn't take
11 them very long to get us out there on a prolonged basis.

12 Next slide, please.

13 In 1973, there was a water leakage in their main
14 pool, and we shut them down, a habit that we followed over
15 many years to come. By that time, they were up to five
16 million curies of Cobalt 60. There was water leaking in the
17 grounds. There was failure in their system. The sources
18 were in direct contact with the concrete lining of the pool.

19 My slide person here, Tom Ferguson, I think, spent
20 many hours there personally and to the point that he didn't
21 come home. It is about a two-hour drive from where he
22 lives. So he just stayed there for sometime. So he has
23 some great stories to tell, if you ever want to ask him
24 about it.

25 But we gave them remedies that, thankfully, did

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1 work. We required them to double insulate their pool using
2 a stainless steel liner with gas pressure, and this was
3 probably the major event. There were several other events
4 that occurred over the years, including a mysterious Cobalt
5 650 pellet on the railroad track, which the President swears
6 someone else put there. I don't know too many people who
7 walk around with Cobalt 60 pellets in their pockets, but,
8 somehow or another, it got there.

9 Next slide, please.

10 Here are some of the difficulties that we have run
11 into specifically. There are 01 license, the one that has
12 their hot cell, et cetera, on. Actually, it expired 12
13 years ago.

14 Because of, I guess, the licensing system that we
15 have, they have been in timely renewal for 12 years. Now,
16 there is either something wrong with the word "timely" or
17 the word "renewal." I am just giving it to you from the
18 perspective of a State Program administrator, who wants to
19 get this license out, but runs into stumbling blocks each
20 time we try to do it. There are many unanswered questions
21 regarding their procedures, which requires us to go to them,
22 and they come back to us, and we go back to them, and they
23 come back to us. I mean, questions that number in the
24 fifties and sixties. Can you imagine a letter with 50 and
25 60 questions? Well, that is the kind of thing that we have

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1 been going through.

2 There are always procedures which have come forth
3 that indicate that, "Well, we tried that, and we changed our
4 mind." Because there is no license to hold them to it, we
5 have to adjust our inspections accordingly.

6 As I indicated earlier, we have amended this
7 license about 28 times. The license by itself, I think,
8 takes up, what, two file drawers? Something like that. It
9 is the kind of thing that makes you lose sleep at night.

10 Then, in 1986, which was my first year on the job
11 -- actually my first month on the job where I can come in
12 and do something about this -- they went into Chapter 11.
13 Suddenly, none of the safety things that we were pushing
14 could be afforded.

15 They got the protection of the law, and there
16 wasn't much we could do about it at that time.

17 Their latest update of renewal application was in
18 1984.

19 Now, let me fill in a little bit before I talk
20 about the next slide. Up until 1988, there was only one
21 recorded shutdown, 1988-1989. But they helped us out a
22 great deal in 1988-1989.

23 You can put the next slide on.

24 Of all the things that we had uncovered during our
25 various inspections of the facility, many of them were

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1 corrected, and they became safer in spite of themselves.

2 But in 1988, one of their vice presidents, who
3 happened to be an RSO, was working on a radiation safety
4 committee at the Ginna Powerplant in New York. Well, he
5 happened to set off their alarms just with the amount of
6 radiation he had in his clothing, in his shoes, et cetera.

7 Surprising as it is, we went through a great deal
8 of effort to find out the extent of the contamination as far
9 as employees, employees' homes. Every place we looked, we
10 found some degree of Cobalt 60 contamination.

11 In the unrestricted areas of the building itself
12 and some of the offices, we found chairs and briefcases
13 which had trace, no significant, but measurable quantities
14 of Cobalt 60.

15 So, obviously, their control of radioactive
16 contamination wasn't very good. While we were,
17 unfortunately, trying to determine with the Attorney
18 General's office what we could and should do about it, the
19 same vice president went to another meeting at Ginna and
20 sent off the alarms again. That made it real easy, because,
21 obviously, they had no real control over where releases were
22 occurring, how they were occurring, et cetera.

23 Subsequent to that time, we put into effect a
24 great number of safety features we call our Amendment 33,
25 our thirty-third amendment to their license. With it, was

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1 an order that they had to implement those controls,
2 including a whole body personnel monitor, state of the art,
3 clean rooms outside of the restricted area, procedures that
4 we had to approve outside health physicists as consultants.

5 Now, we got a great deal of things out of that,
6 but we weren't satisfied with their total response. A lot
7 of things that we had requested were delayed. They came up
8 with all kinds of reasons why they couldn't be done.

9 So that and with the addition of new violations,
10 we found some depleted uranium in an area where it shouldn't
11 have been. We went back to them and required further
12 adherence to our directives. They never directly refused.
13 They just try to delay, but when it got delayed further than
14 we thought was necessary, we filed suit against them in
15 Montgomery County Court.

16 Now, let me tell you the status of the suit. We
17 were supposed to have resolved this whole matter in August
18 of this year. About a month before or maybe two months
19 before, the law firm that represented Neutron Products
20 disappeared.

21 [Laughter.]

22 MR. FLETCHER: They had an internal conflict, and
23 they just simply stopped being a law firm. Well, the new
24 attorney that was appointed immediately pled to the judge
25 saying that they don't have enough time to review this case,

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1 and they needed a continuance.

2 Our attorneys fought valiantly, but,
3 unfortunately, the continuance was granted, and we now have
4 a date in July of 1993.

5 Now, the reason that this is kind of peculiar --
6 this situation is kind of peculiar -- is the fact that,
7 unless we can find another emergency, we are kind of stuck
8 with waiting for the Court and waiting for the legal system
9 to work. Even though all of the violations that we find
10 seem urgent when we interpret that through our own law and
11 our own Attorney General's office, we have one of two
12 choices: continue to inspect Neutron and force them into
13 radiation safety procedures, kicking and scratching, which
14 is actually what we are doing, or shut them down again. But
15 the law reads then we have to have a hearing within a period
16 of 10 days.

17 The reason that is such a reluctant choice is that
18 these hearings will drag on and on and on, and, at the end,
19 you may or may not have resolution. So we have put all of
20 our guns into the lawsuit, the lawsuit that would give
21 better resolution than a hearing would.

22 The current status, my inspectors were out there
23 last week. We never come back with a clean bill of health.
24 That is amazing.

25 We were out there last week, and we went to the

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1 unauthorized facility, which is a barn, where we found the
2 depleted uranium three years ago, and we have also found now
3 some traces of Cobalt 60.

4 The RSO asked his inspector, "Well, didn't you
5 look for Cobalt 60?" "No, you didn't tell me to look for
6 Cobalt 60. You just told me to make sure the depleted
7 uranium was taken care of." That kind of sums it up in a
8 nutshell.

9 If I were to give a summation of Neutron Products
10 to you, I would say this is a facility that has the
11 potential of working in accordance with rules and
12 regulations, but seems to find that every rule and
13 regulation needs to be fought, and that fighting comes from
14 the highest level of management.

15 Mid-management and even lower-level employees seem
16 to understand and are willing to follow the rules and
17 regulations that we constantly are sending in their
18 direction. But top management finds some reason, some
19 loophole, some law in order to avoid doing it or just delay
20 doing it. Our full association -- if I were to say how are
21 they now, they are a lot better, tremendously better, than
22 they were in 1968 or 1973 or 1984, but they still got a way
23 to go.

24 Any questions?

25 MR. GODWIN: Aubrey Godwin, Arizona.

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1 It appears in this bankruptcy thing that there is
2 some Federal law that sometimes judges conveniently don't
3 seem to want to read, but your attorney should be able to
4 find that, even in bankruptcy, they are required to follow
5 the health and safety codes. You should be in a position,
6 even in bankruptcy, to force them to obey your health and
7 safety code, particularly since I assume you hope you are
8 compatible and you can use NRC as your backup on that.

9 We had a case in Alabama, and that was the only
10 thing that they really said they had to obey. Also, they
11 did add that, since we were the licensing agency, should
12 enough resources not be available from the company that was
13 bankrupt, the State had to pick up the tab. So you might
14 ought to be aware of that little part of the problem.

15 MR. FLETCHER: Yes. They are two things that I
16 didn't bring up.

17 One, we work very closely with headquarters and
18 Region I of the NRC in constantly discussing and trying to
19 resolve some of the issues that have cropped up, and the NRC
20 has been very helpful and very up front with their
21 assistances, and we are putting together another request for
22 assistance right now.

23 There are some situations that are happening at
24 Neutron that we don't know that we have the answer to, and
25 we are hoping for some assistance from the NRC.

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1 The other thing that I forgot to mention, we just
2 passed our decommissioning requirement, and we are working
3 on finalizing our regulations right now. That is going to
4 hit that bankruptcy status head on. We will see what
5 happens after that.

6 At this time, I would like to introduce to you one
7 of my staff members, Alan Jacobson. Alan is currently in
8 the radioactive materials inspection side of the house. He
9 has been there for four years.

10 Prior to that, he spent four years in the
11 radiation machines or X-ray side of the house. So he has a
12 wealth of experience on both sides. That probably, more
13 than anything else besides his own interest, caused him to
14 become involved in a situation that is a situation that
15 normally this type of meeting doesn't get into. This
16 involved an accelerator incident wherein an individual --
17 well, he will tell you the details.

18 Alan is a graduate of the University of Maryland.
19 He has been with us for eight years, and he is going to talk
20 to you about this incident from the standpoint of radiation
21 injury, not even concerned about the sources, but the
22 standpoint of the injury itself.

23 Alan?

24 ACCELERATOR INCIDENT (LESSONS LEARNED)

25 MR. JACOBSON: Again, welcome to Maryland.

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1 On December 24, 1991, we received several
2 anonymous phone calls reporting that a man was seriously
3 injured by a radiation beam.

4 We immediately contacted this particular facility,
5 which operates a three MeV industrial accelerator. At the
6 time, we had a pending enforcement action, and, a month
7 earlier as a result of an investigation, we determined that
8 it was an unsafe facility.

9 An employee at the facility refused to comment on
10 the situation, but he didn't deny that the accident had
11 occurred. We later reached the president of the company by
12 telephone, and he confirmed that the accident did occur, and
13 he agreed to discontinue all irradiation activities until a
14 departmental investigation could be conducted.

15 The agency conducted this investigation on
16 December 26th, and we finished up on the 30th. We concluded
17 that. The irradiator operator was seriously injured by an
18 overexposure of radiation. We found that critical radiation
19 systems were routinely bypassed and not checked for proper
20 operation at the required frequency.

21 We identified that there was an apparent breakdown
22 in the management application of basic standards of
23 radiation protection at this facility.

24 What I mean is radiation safety systems and
25 procedures just had deteriorated, and that created an unsafe

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1 working environment where radiation safety was routinely
2 ignored.

3 Finally, we concluded that there still existed a
4 high potential for another person to be seriously injured by
5 an overexposure to radiation, if this accelerator were to be
6 operated at the current plant conditions.

7 So, on December 30, 1991, Maryland Department of
8 Environment issued an emergency order, which shut down and
9 stopped all use of this accelerator.

10 Contrary to what you may have heard, the State did
11 notify USNRC Region I and headquarters during the first week
12 of January. A fax of this emergency order was sent to the
13 Agreement States' office during this week. So I don't
14 understand these comments from headquarters regarding
15 notification.

16 I have some slides that help to describe these
17 sequence of events.

18 This is the facility. It is a three MEV
19 industrial accelerator. Those are our emergency response
20 vehicles in front. The large tower is called the tower.
21 That is where the tuber is, and the tube emits electrons in
22 a vertical direction.

23 It was manufactured by Radiation Dynamics
24 Incorporated in Westbury, New York. It was installed in
25 Gaithersburg, Maryland in 1966. They irradiate plastic

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1 pellets, wire, printing ink, but the bulk of what they do is
2 teflon for Dupont.

3 The teflon arrives in drums, and it is spread on
4 these trays and placed on carts. The metal carts are
5 attached to a chain that move on a track at a variable
6 speed, and they pass horizontally under the vertical beam.
7 The teflon is then repackaged and returned to Dupont by
8 truck.

9 This facility, like Neutron Products, had a poor
10 compliance history. They had over 60 violations in 16
11 years, all directly related to health and safety. In 1978
12 as a result of a previous accident, they were shut down by
13 the department for code violations.

14 This is what happened. On December 11, 1992, a
15 28-year-old male irradiator operator and his roommate were
16 completing a three-day maintenance on the unit. The
17 operator had been employed for a year and a half at the
18 facility, and he had been an approved operator for 10
19 months.

20 The second person who was there was his roommate,
21 a temporary employee. He had not received any training in
22 radiation safety or any type of orientation. This was his
23 first day on the job.

24 They were working 3 p.m. to 11 p.m. shift, and
25 they were the only ones at the plant. They were not wearing

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1 any type of dosimetry. They were not using survey meters
2 for any type of radiation detection equipment.

3 Specifically, they were conducting a beam
4 alignment. What this is, it is the low window pressure
5 plate, and it is part of what they refer to as the horn.
6 This is where the electrons come out, and the carts pass
7 underneath it.

8 What they did was they removed this lower window
9 pressure plate assembly because electrons were striking this
10 plate during processing operations, causing it to overheat.
11 So they removed this. They took it to an adjacent machine
12 shop, and they removed the excess metal that intruded into
13 the electron beam area.

14 Then they reinstalled it. The temporary employee
15 went to an administrative office to work on a computer, and
16 the radiator operator turned the unit on, maximum potential,
17 15 minutes, three MeV, 25 milliamph. At the end of the test
18 period, he needed to conduct a temperature check of this
19 window assembly.

20 What he was looking at, if it was hot, that would
21 imply that electrons are still hitting this plate. If it
22 was cold, that would imply that this modification was
23 successful.

24 The plate was cold. So the plate turned out to be
25 cold. So the modification was successful.

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1 What we are looking at here is the entrance to the
2 labyrinth. That is an entrance. The two gates are open.
3 They are a Dutch-style gate, a product-entry gate, and a
4 personnel-entry gate.

5 At the bottom of that gate is a photoelectric
6 interlock. This photoelectric interlock would turn off the
7 unit if you pass through this beam. It is designed to
8 prevent personnel access.

9 At one time, an on/off switch was installed on
10 this interlock without notification or permission from the
11 agency, and on this night, the interlock was turned in the
12 off position, which intentionally bypassed this critical
13 safety system.

14 Also, on this night, the gates were open, and you
15 can also see in the middle of the screen up on the wall. It
16 is turned off right now, but it is a flashing beacon that
17 operates when the beam is on.

18 Also, at the time of the accident, there were no
19 carts or anything in the labyrinth. So it is a similar
20 picture.

21 At the end of the labyrinth, you can see a ladder.
22 The facility was designed in a manner which prevented access
23 to the tower, where tube is, without bypassing these
24 systems. They need to go up in this tower to do surveys and
25 troubleshooting during irradiation activities. So, whenever

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1 they would conduct these types of activities, they would
2 bypass the systems.

3 In addition, there was a pressure in that
4 interlock system right as you walked through those gates,
5 and that was also removed without notification or permission
6 from the agency. So this setup was typical.

7 This is a schematic diagram of the facility. I
8 hope you can see. I am going to try to talk you through it.
9 This is what happened.

10 At approximately 10:15, the operator turned the
11 beam control to zero. He left the key to the voltage
12 control in the on position, and he didn't turn down the high
13 voltage.

14 What happens is after prolonged periods of
15 inactivity, particularly if the vacuum in the tube is lost,
16 an electron beam current can be present even if the electron
17 filament is cold. This phenomenon is known as cold cathode
18 discharge or cold current, and that is the way it was on
19 December 11th.

20 The operator was unaware and not instructed with
21 the hazards associated with cold current. He stated that he
22 left the high voltage on to save time in case further tests
23 needed to be conducted. He walked around towards the
24 entrance. He ignored the flashing beacon, because it was
25 common knowledge that the flashing beacon was connected to

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1 the high voltage and not a radiation detection instrument as
2 required.

3 He walked through the gate, through the bypass
4 photocell and proceeded down the labyrinth. Halfway down
5 the labyrinth, where I showed you, between the gate and that
6 ladder, is a four-foot high photoelectric cell. It was
7 four-foot height, so the carts wouldn't trip it off during
8 processing. He ducked under the photoelectric cell.

9 With his hands, he felt the window for heat. He
10 then squatted or bent down into the electron beam to
11 visually inspect the window. The window was not hot. So he
12 exited the labyrinth. He intentionally tripped the
13 four-foot-high photocell, which shut down the unit. He
14 secured the machine, secured the unit, and him and the
15 temporary employee logged out and went home.

16 On the next day, his hands and face began to turn
17 red. He described it as a sunburn. By the 13th, his
18 fingers turned red, and he was in pain. On the 14th, he
19 went to the hospital and was given pain medication and
20 released.

21 On the 15th to the 20th, he went back to work.
22 But by December 20th, he could not use his hands at all.
23 The dose to his hands was estimated to be 55 Gy.

24 The dose rate at the base location was 6 Gy per
25 second. This photo was taken at two weeks, and you can

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1 notice the thinning of the scalp hair. He had erythema on
2 the left side of his nose and head. It was reported that a
3 single dose of 7 Gy can cause permanent hair loss with a
4 latent period of three weeks. That is consistent.

5 To this day, he has no regrowth of scalp hair, but
6 his eyebrows and his facial beard did grow back. The victim
7 wa wearing eyeglasses, 3-millimeters thick, plastic lens,
8 glasses. They say that the glasses could have reduced the
9 dose rate to the eye by as much as a factor of 2. His eyes
10 are fine now, and he hasn't had any problems with his eyes
11 as a result from this accident.

12 His feet were d until 30 days after the
13 accident, and you can notice erythema on the toes. This
14 progressed to blistering, and I have a couple more photos of
15 his feet.

16 What they say is along with the distance from the
17 horn to the floor where his feet were, they say the victim's
18 shoes had the effect of reducing both the dose rate and the
19 electron energy, and this resulted in a less penetrating
20 superficial dose as compared to that of his hands. His feet
21 and toes completely healed with only a mild deformity to his
22 toenails.

23 Unfortunately, his hands did not heal. The next
24 slides I am going to show were taken between two weeks to
25 six months after the accident, and you can notice the

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1 increased swelling and erythema, and as they progress, you
2 can see gangrene developing at about six weeks.

3 I want to show you this picture, because you can
4 see his thumb blistered up, too, but now look at the next
5 one. Both of his thumbs healed. So that was good news.
6 But his fingers and hands just got worse. There was really
7 nothing the physicians could do other than keep the wounds
8 clean and give him high doses of narcotics for pain. During
9 this time, during the next 12 weeks from the accident, he
10 was in and out of the hospital. You can see the gangrene
11 developing.

12 So what happened was at about 12 weeks, they had
13 to amputate his fingers, part of his -- that is the inside
14 of his hands after the amputation of all viable tissue.
15 Promptly after the amputation of all nonviable tissue, the
16 pain went away, and he was taken off narcotic pain
17 medication, and he was discharged from the hospital on April
18 1, 1992, and the amputations healed slowly over the next 10
19 weeks.

20 After the accident, we also notified Dr. Shirley
21 Frye from REACTS, and we did some work with them. They did
22 some confirmatory analysis on blood samples from the
23 patient. She referred me to the National Institutes of
24 Standards and Technology, NIST, which was also local.

25 NIST and this accelerator facility are both

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1 located in Gaithersburg, and they are about a mile away from
2 each other. So it was convenient, too.

3 NIST did the assessment of radiation exposure for
4 the 1989 Cobalt 60 irradiator accident in San Salvador, and
5 they also did dose reconstruction for the victims of
6 Chernobyl among just a lot of other projects.

7 Together, we conducted a reenactment at the
8 facility. They measured dose rates in the beam under
9 simulated playing conditions, and they also used electrode
10 paramagnetic resonance dosimetry. What they did is they can
11 determine dose by analyzing objects that were exposed to
12 radiation.

13 They used EPR on his glasses, on his watch, his
14 coveralls, fingernails, toenails, and tennis shoes with no
15 conclusive results.

16 Go back one more. I am sorry.

17 But they analyzed the amputated bone from his
18 fingers, and they had great results. Evidently, the
19 radiation-induced signal of the amputated bone was
20 substantial and significant in estimating the victims
21 extremity dose, and that is where we are getting some of the
22 numbers that we are talking about.

23 The next photo shows you the part of the middle of
24 his middle finger on his left hand, and, specifically, it
25 was those bones that they got the best results from.

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1 In conclusion, industrial and medical applications
2 of ionizing radiation are rapidly expanding. This presents
3 a challenge to the health physics community to design and
4 implement effective radiation safety program to minimize and
5 eliminate these adverse health effects.

6 On these rare occasions when a tragedy does occur,
7 a detailed analysis of relevant facts and circumstances
8 surrounding the event need to be conducted.

9 We need to aggressively regulate these facilities
10 to prevent occupational injuries in the future. Again,
11 welcome to Maryland. I hope you enjoy your stay.

12 [Laughter.]

13 MR. JACOBSON: Any questions?

14 MR. BOHLINGER: Hal Bohlinger, Louisiana.

15 I just want to know what the estimated hand dose
16 was. I must have missed it when you gave it.

17 MR. JACOBSON: 55 Gy.

18 MS. MAUPIN: Cardelia Maupin, State Programs.

19 Is there going to be any type of formal reported
20 documentation of this incident, so you can get it out to let
21 people know what happened, so we can safeguard?

22 I know a lot of the safety precautions, he just
23 overlooked them.

24 MR. JACOBSON: The answer is yes. There will be.

25 MS. MAUPIN: How soon? Is there a time frame for

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1 that?

2 MR. JACOBSON: A paper was submitted to Journal of
3 Health Physics this month. From what I understand, it takes
4 nine months to 12 months to be published, and that is if it
5 is accepted.

6 MS. MAUPIN: Thank you.

7 MR. LUBENAU: Joel Lubenau.

8 Someone who was involved in the Gulf accelerator
9 accident in '67 where three people received some serious
10 exposures, including exposures of extremities that resulted
11 in amputation, as someone who then later became involved in
12 an investigation of a radiator accident in New Jersey, I am
13 struck by similarities.

14 Not only the extremity exposures that were very
15 serious in the Gulf accelerator accident, but some very
16 curious coincidences that I don't think maybe don't have a
17 relationship perhaps to cause of accidents, but nonetheless
18 are striking.

19 The New Jersey incident involved the radiation of
20 teflon, as did this. The New Jersey incident involved two
21 people alone at the facility, as your accident did. It
22 involved two roommates, as this place did.

23 The other thing that's striking to me is the
24 multiple instances of bypasses of safety systems. It
25 happened in the Gulf accelerator accident in '67. It has

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1 happened in other ones. It has happened here.

2 I guess the common or bottom line is vigilance.
3 Vigilance by the regulatory agencies. You have got to keep
4 after these facilities and never stop looking at them.
5 Never stop your enforcement action.

6 MR. JACOBSON: I agree. And I am familiar with
7 that accident in Pittsburgh, and I did read your paper on
8 it. I didn't receive a copy of it until August of 1992,
9 and, of course, my paper and my report was already written.
10 It was remarkable how similar the occurrences were.

11 Our inspection findings were the same and the
12 event, the sequence of events, it was remarkable.

13 I also reviewed a number of other accidents and
14 located a document of accidents at pool-type irradiators.
15 It is just like you were saying: a lot of similarities.

16 MR. KEMP: Bill Kemp, Oklahoma.

17 Is there anything in your rules to allow for
18 notification before something is modified or after something
19 is modified for it to be used again?

20 MR. JACOBSON: Yes. That is true, and they were
21 cited as code violations.

22 MR. MERGES: Paul Merges from New York.

23 Did the facilities' liability insurance cover the
24 accident? I know it doesn't bring back the guy's fingers at
25 all. What does that say to you relative to insurance

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1 coverage for future facilities in Maryland of a similar
2 type?

3 MR. JACOBSON: Well, I don't know what it says
4 about the future. In this particular case, the insurance
5 company, the company's insurance company denied compensation
6 to the victim. They claim that it was his fault.

7 The worker, the victim, took it to a small claims
8 hearing to a workers' compensation hearing, and the hearing
9 officer found in favor of the insurance company, and at this
10 point, the victim has not been compensated.

11 MR. KEMP: What does this say in the future for
12 insurance for future licensees though?

13 MR. JACOBSON: I don't know.

14 MR. FLETCHER: Roland Fletcher, State of Maryland.

15 Let me just point out one thing that we are doing
16 in part as a response to this. We are going to start using
17 procedures for licensing radioactive materials users for
18 licensing accelerators, and we are hoping that that helps to
19 ensure that these type of things don't recur.

20 MS. ALDRICH: Rita Aldrich, New York City Health
21 Department.

22 Roland, was that an OSHA-inspected facility? OSHA
23 s regulate industrial X-ray facilities.

24 MR. JACOBSON: As far as I know, OSHA has never
25 conducted an inspection of this facility.

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1 After this accident, we referred the case to the
2 Maryland Occupational Safety and Health Administration.

3 Thanks again.

4 MR. KERR: Thank you, Alan, for a very interesting
5 presentation, and you, too, Roland.

6 Boy, am I glad I moved out of Montgomery County,
7 Maryland. Gee, with a facility like that in Gaithersburg,
8 and NPI is out there in western Montgomery County in a
9 beautiful little rural community. My wife and I used to
10 take Sunday drives out there, and then they have got that
11 nice facility.

12 I just say this, Roland. I think when Maryland
13 became an Agreement State and got that license, we said,
14 "Thank God for small favors."

15 [Laughter.]

16 MR. KERR: Okay. Our next speaker is going to be
17 Tom Novak. He spent six years at Beitis Atomic Power Lab,
18 four years at the Naval Research and Development Center. He
19 joined the AEC, which then became the NRC in 1968. So he
20 has had 24 years in a variety of positions with these
21 agencies.

22 He is currently director of the Division of Safety
23 Programs for the Office of Analysis and Evaluation of
24 Operational Data. Tom is going to discuss some of the
25 abnormal occurrences in both NRC and Agreement States.

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1 ABNORMAL OCCURRENCES GUIDELINES AND A COMPARISON
2 OF NRC AND AGREEMENT STATE OCCURRENCE RATES

3 MR. NOVAK: Thanks, Wayne.

4 I guess I should just refresh your memory on our
5 office. The Analysis and evaluation of operational data was
6 really formed right after the Three Mile Island Accident,
7 and as part of the Kemeny Commission and our own Rogovin
8 Commission reviews, it was clear that there should be an
9 office that was dedicated to the review of operating
10 experience.

11 We have no program responsibility. When we do
12 independent reviews, they are directed, if they are in
13 reactors, to the office that is responsible for reactor
14 regulation. In a nonreactor area, it would be directed then
15 to the Office of Nuclear Material Safety and Safeguards.

16 We have a small staff in the area of nonreactors,
17 and we have really just focussed on using the operational
18 experience to provide what we consider to be now ways of
19 bringing back operating experience and then doing something
20 positive about it.

21 We have been putting together videos, and you
22 probably know about the one we did last year on nuclear
23 medicine. Each of you would have gotten a video of it. We
24 would hope that it would be used as a training tool.

25 Just recently, now we have finished a video on

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1 teletherapy at the University of Louisville, and we will be
2 making that available. The idea being that we take the
3 operating experience that we know about, and we try to
4 structure a video program then that will point out what the
5 operating experience is and what we can do to reduce the
6 likelihood of those recurrences.

7 I am reminded by this previous presentation of
8 what a former chairman of ours had -- Chairman Carr -- who
9 had a lot of Navy experience, and he kept reminding us,
10 look, we made all the mistakes. All we have to do is keep
11 from repeating them. I think there is a lot of truth to
12 that statement.

13 When we talked about the human errors here,
14 someone mentioned on the podium Chernobyl started out that
15 way. Three Mile Island started out that way.

16 So our job is kind of unique in trying to bring
17 back and emphasize what seems to become a knowledge, but
18 then to put a spin on it that says we ought to do something
19 about it. So I am here today just to talk briefly about
20 what we do in the nonreactor area.

21 For us to do anything about trying to share
22 operating experience, we have to know about it. Clearly,
23 the NRC licensees do inform us. So there is a database in
24 the nonreactor area that we do review and make available.

25 There are two reports that AEOD puts out each

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1 year, and if any of you would like a copy, please leave me
2 your business card or just a name and address.

3 The first one is on reactors. Each year, we will
4 put out a report on power reactors across the country.
5 Then, also, we put one out on nonreactors. These are also
6 available. I think we send at least one copy to each
7 Agreement State. But if it has been lost or you would like
8 to get your hands on them, please let me know, and we will
9 try to get copies to you. We do have a number with us that
10 we can make available to you.

11 Now, in order for us to do anything in this area,
12 we have to have the right kind of data. Before I get into
13 any of the material we have seen thus far, our direction was
14 based on a commission meeting with the following kinds of
15 direction to us.

16 First of all, after the new reporting rule was
17 issued, the Commission then said -- and let me just kind of
18 read it very quickly -- "After the rule is published, the
19 staff should continue with implementation activities
20 associated with the rule including revision of the staff
21 guidelines for selecting medical misadministration events
22 for reports of abnormal occurrences."

23 What we were then directed to do is derive new
24 guidelines for establishing a threshold for reporting a
25 medical misadministration to Congress, via the abnormal

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1 occurrence reporting.

2 Cynthia showed you one of our quarterly reports.
3 The office of AEOD is the responsible office for focussing
4 on AOs. We send the report each quarter to Congress. We
5 have been doing that since the Atomic Energy Act was
6 written.

7 Second, and I will just take a minute here, the
8 staff is requested to develop and implement procedures for
9 receiving and analyzing misadministration data from the
10 Agreement States who regulate two-thirds of the medical
11 licensees in the United States.

12 The Commission believes that it needs to
13 systematically collect and assess the misadministration data
14 that it receives from Agreement States to fulfill its
15 national oversight responsibilities and to follow through on
16 its request for the information and decision on the level of
17 compatibility.

18 As in the past, these data may indicate generic
19 problems that can best be addressed through rulemaking to
20 ensure the medical uses of byproduct material and continue
21 to provide adequate protection of the public health and
22 safety.

23 So, in effect, we had two marching orders earlier
24 this year. One is to review the guidelines for what would
25 constitute an abnormal occurrence, and, second, to go about

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1 trying to get this information from Agreement States.

2 Now, you and I know that anything you send us
3 right now is on the voluntary basis. So we are working
4 through -- we will be required to file requests with the
5 Office of Management and Budget to get approval to put
6 together a request to the Agreement States to provide
7 medical misadministration information from you. We have
8 that process to go through.

9 Now, one thing I think that might be useful to
10 know, you heard Cynthia talk about what NMSS does in terms
11 of their monthly reporting. They do have a meeting to go
12 over the operating experience and to identify things that
13 they deem should take some action on. These are to put out
14 an information notice or to include an event in their
15 newsletter.

16 We have kind of an independent role to also do
17 something like that; that is, look at the operating
18 experience, and if we can identify events or trends that we
19 think should be made known to the program office, that would
20 be NMSS, and then, obviously, to the licensees, whether they
21 be NRC or Agreement State. That would be our role.

22 So we have tried to do that. Of course, in the
23 Agreement State area, we work with very limited data. Now,
24 I am going to show you some slides, just some data. Let me
25 tell you up front. There are no conclusions that we make

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1 regarding comparing agreement states versus NRC license
2 states.

3 The first slide just lists those states that
4 provided us data for calendar year 1991. There were 16
5 Agreement States that did provide us data, and a footnote
6 here. The State of Maryland did provide us partial data.
7 Whatever that means is left to the State of Maryland to
8 decide what we didn't get, but I am just pointing that out.

9 Let me have the next slide.

10 MR. GODWIN: What kinds of data are you talking
11 about?

12 MR. NOVAK: For example, medical
13 misadministration, events involving radiography, anything
14 that would be reportable under our regulations.

15 I am having trouble seeing that slide from here.
16 This is a comparison of the NRC reports that we reviewed
17 versus the Agreement States information that we have.

18 That is, we had 22 NRC licensed states that
19 provide information to us versus the Agreement States of 16.
20 Some additional information, you can read for yourself. If
21 you look based on population, there are roughly about
22 comparable. It just worked out that way. The 16 Agreement
23 States represent about 90 million people, and the NRC
24 licenses also represent about 90 million people.

25 The number of licensees contained there are shown,

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1 and I don't plan to say much about that.

2 The number of reports that we received from NRC
3 licenses was roughly 850, and from Agreement States we got
4 516. They are broken down. I have some medical
5 misadministration, and we will get events on radiography and
6 other events.

7 The overexposures, you can see there were 26
8 individuals overexposed in 1991 in NRC and 67 reported by
9 Agreement States.

10 Medical misadministration, you can see we have 460
11 reported to us versus 118 by the Agreement States. The
12 abnormal occurrences, I don't want to make them anything
13 very special, but they are the ones that we deem based on
14 our criteria should be reported to Congress.

15 In 1991, 14 abnormal occurrence from NRC
16 licensees, and none of these were from reactors. All 21
17 were in the nonreactor area. You can see that four were
18 reported by Agreement States with three additional from the
19 State of California. Those were the only three pieces of
20 information I would assume we got from the State of
21 California, but they also were reported to Congress.

22 Now, you can see -- and I think if you look --
23 don't move it yet -- we have recognized that the threshold
24 for reporting a medical misadministration to Congress is
25 very low. If you underexpose a person by more than 50

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1 percent of the prescribed dose, our criteria said that
2 should be reported. It means we are going to go back and
3 review our guidelines, and we have been working with people
4 from Oak Ridge Associated Universities. We have worked with
5 members from the Advisory Committee on Medical Uses of
6 Isotopes. This is a committee that works with the staff to
7 identify more realistic criteria for reporting abnormal
8 occurrences.

9 One reason is, and I think it is reasonable, if
10 they really don't result in what we would consider to be
11 reasonably significant health effects and don't represent a
12 breakdown in the quality management of the licensee, then we
13 are reporting things that really aren't that necessary and
14 that important. So we are going to go back and look at it.

15 Also, with the new quality management rule in the
16 reporting requirements, there are actually some previously
17 reported abnormal occurrences that would not even be
18 reported today as a medical misadministration. Certainly,
19 in the diagnostic area, there would be examples of that, I
20 am sure.

21 So I think you see that what we are trying to do
22 -- and when we presented this information to the Commission,
23 our bottom line is we are not trying to draw any
24 conclusions. If we are going to try to do work with the
25 Agreement States, we have to feel that we have a database

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1 that we understand and then can do appropriate analysis and
2 then share it with you. So I just wanted to pass that on.

3 May I have the next slide, please.

4 I just want to touch on a few things that we are
5 looking at. Now, this slide and the next slide is really
6 only NRC licensees. What you are looking at there is some
7 work that we have been doing in what are the exposures being
8 received at operating reactors, and then you will see a
9 subsequent slide in the nonreactor area.

10 I think it is important you can see that the
11 average measured dose per worker that we are seeing now at
12 nuclear powerplants has got a good trend. It is coming
13 down, and we think this is really in response to things like
14 ALARA. There are probably some improved fuel performance,
15 additional management attention. I think health physics is
16 playing a role, and we can see that.

17 I think, also, the right-hand column is also
18 important there, the overexposures per thousand workers.
19 You can see that. Let me give you the bottom line. When we
20 go to nonreactors and look at radiography, for example,
21 there are two orders of magnitude difference between those
22 numbers and the numbers you will see on the next slide.

23 May I see the next slide, please.

24 Now, this is looking at just the radiography. I
25 think it is interesting to note that, first of all, the

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1 number of workers in NRC licensed states who do radiography
2 is decreasing. They are going to Agreement States. I think
3 part of it, and I am speculating, is the fee requirements.
4 They can move over to an agreement state and not have to pay
5 our fees. So be it. But you can see that the number of
6 workers has gone from something like a little above 5,000 to
7 4,500. I would expect that to continue. I don't see any
8 reason why that would drop off or level out.

9 The average measured dose per worker is not
10 appreciably different. I think the numbers on the previous
11 slide were in the area of .35, .39 rem per worker, and here
12 it is .47 or some number like that.

13 I think the important thing here that we are
14 seeing, and this is just something that we are going to be
15 working on, is that the overexposures per thousand workers
16 is substantially greater in the field of radiography than a
17 nuclear powerplant.

18 Now, what can we do about it? Well, one of the
19 things we are going to do is we are going to produce a video
20 on radiography, and we are going to try to emphasize what we
21 learned from operating experience. We want to,
22 unfortunately, show the harm that can be done to an
23 individual and what we can do and what should be done to
24 prevent recurrences. I think listening to the previous
25 speaker, I think we all would say how do we prevent these

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1 things from happening.

2 What we are trying to do in our office is to try
3 to put the message out in a different form. Our videos will
4 run around 30 minutes. We are not strictly professionals.
5 We have Argonne National Laboratory assisting us. We will
6 hire professional actors and actresses and try to put
7 together a positive video which we would then hope would be
8 used as part of training and assist people in recognizing
9 the kind of events that can occur and what we should do to
10 try to prevent them.

11 So my real bottom line in being here today is,
12 again, to solicit now, even voluntary submittals of
13 information from your specific states, to assist us in
14 trying to put together a better overview of what are the
15 operating experiences in the nonreactor area.

16 We do try to share this information. What we can
17 learn from NRC licenses is shared with you. I think, in
18 many ways, they are lessons we can both learn from each
19 other. So we want to do that, and I would encourage you, if
20 you haven't done it, if you can make any of your information
21 available to us, please do.

22 I am reminded, I think, thus far, in 1992, we have
23 gotten some information from four states. So we certainly
24 haven't gotten very much. We do seek -- I guess it is like
25 filing taxes. At the end of the year, we will get

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1 something. But up until now, we haven't gotten it. We
2 haven't been overburdened with information from Agreement
3 States.

4 Thank you very much for your time. I just wanted
5 to wish you the best in this conference, and we will be here
6 to answer any questions.

7 Thank you.

8 [Applause.]

9 MR. WRIGHT: Bill Wright from Arizona.

10 I just want to make a comment about why you may
11 not be getting the number of reported incidents as you might
12 like to get.

13 I can only speak for myself, but we have one of
14 the I-131 incidents that occurred in '89, and I can't tell
15 the amount of flack I have taken from the legal people about
16 what I reported to NRC and AOR, and they will take you to
17 task on it.

18 So the states are taking a good hard look at this.
19 The state legal people may not let you say anything. You
20 have to be real careful about that. You have to phrase what
21 you are going to say in a very careful manner. So maybe
22 some of this stuff is not getting into you because it is
23 caught up in the legal system.

24 MS. MCBURNEY: Ruth McBurney, Texas.

25 Just a comment on the radiography trends -- yours

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1 where you are seeing higher numbers of overexposures. Since
2 we have put our rules in place, we are seeing just the
3 opposite effect of lower overexposures over the last few
4 years since '87, since we changed our rules to require more
5 rigorous training and testing.

6 MR. NOVAK: Very good. In fact, I think we wanted
7 to work with someone from your organization to assist us in
8 putting together this radiography video, and he did accept.
9 So I think there is some information that you can provide.
10 We would be very appreciative of it. Thank you.

11 MR. BAILEY: Ed Bailey from California.

12 On one of your slides, you said there were three
13 AOs from California, medical misadministration that we
14 didn't report to you. So how did you get the information?

15 MR. NOVAK: No, no. You did report them. You are
16 required to report an AO to us. I think that is my
17 understanding of your agreement. Because Congress didn't
18 say abnormal occurrences that occur in agreement states need
19 not be reported. So we represent the focal point, I would
20 assume.

21 MR. BAILEY: I don't think you understood my
22 question.

23 On your slide --

24 MR. NOVAK: Yes.

25 MR. BAILEY: -- it said three AOs,

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1 misadministration --

2 MR. NOVAK: Right.

3 MR. BAILEY: -- from California --

4 MR. NOVAK: Right.

5 MR. BAILEY: -- who did not provide data to you.

6 Then how did you get the data?

7 MR. NOVAK: Well, let me make a point then. All I
8 am saying is that the three pieces of information that we
9 did get from California constituted in each case an abnormal
10 occurrence.

11 My understanding is you are required to report
12 that to us. Now, what else you report is voluntary.

13 MR. BAILEY: Could we have the slide back up
14 there?

15 MR. NOVAK: Sure.

16 MR. BAILEY: It is semantics, I think.

17 There is a footnote at the bottom. It says the
18 total of AOs in Agreement States is seven including three in
19 California, an Agreement State that did not provide data to
20 NRC?

21 MR. NOVAK: That is correct.

22 MR. BAILEY: Then how did you get the AOs if we
23 didn't provide them?

24 MR. NOVAK: Maybe we are taking more time of this.
25 All I am saying is look at data, two kinds, one that is

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1 required as an abnormal occurrence, and other data. What we
2 are saying is that, in my first slide, Agreement States that
3 provided data to NRC Region V, we listed Arizona, Oregon,
4 and Washington.

5 Now, we are required to report to Congress
6 abnormal occurrences. There is specific criteria, and all I
7 am saying is those three were reported to us, and we made
8 them -- we reported to Congress those three events that
9 qualified as abnormal occurrences.

10 I don't mean to say any more than that.

11 Perhaps Harriet, who works with me, can add.

12 MS. KARAGIANNIS: Harriet Karagiannis, member of
13 the AEOD staff.

14 The cutoff day for the submittal of this data from
15 Agreement States was April of 1992. So it is possible that
16 we received this data after we had all the information to
17 prepare the AEOD annual report. So perhaps we received
18 something from California afterwards, but they were not
19 included in the AEOD annual report. But we already had the
20 three events that met the criteria for abnormal occurrences.

21 I am not sure if they were all misadministration.
22 I believe they were a mixture of misadministration and
23 radiography events.

24 MR. NOVAK: My records are one medical
25 misadministration, two radiography.

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1 MS. SCHNEIDER: My name is Kathy Schneider. I am
2 with State Programs.

3 Tom, I just wanted to point out one thing and
4 maybe not for everyone, as there are some newer people in
5 the audience. But there is no requirement for the Agreement
6 States to report the AOs. It is an agreement we have with
7 the states to keep a complete picture of what is going on in
8 the country. So the states have agreed to provide us with
9 that data. So there is no requirement for the states to
10 provide it. They do it in a cooperative mode.

11 The other thing, as Jack Horner was pointing out,
12 that we do annually submit copies of incidents to AEOD, and
13 there may be some information that has gotten through that
14 method. But I think that may be part of the problem is
15 where the information is coming from. Okay?

16 MR. NOVAK: Okay. I stand corrected. It was my
17 understanding that, because we would be reporting it to
18 Congress, the states would report what they considered to be
19 AOs. But if it is still not required, then that is the law.

20 MR. GODWIN: This is Godwin, Arizona, again.

21 There are a couple of courts that we have to sort
22 of get together on. For example, we have had some
23 misadministration that involve particle accelerators and the
24 misadministration was switched over and gave a dose using a
25 Cobalt unit that wasn't prescribed for Cobalt, and they

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1 adjusted the treatment plan accordingly.

2 Then there is the reversal of that situation,
3 which constituted something that you all want to get a
4 report on or which shall we forget about. These are little
5 things that we might get together and do some work on how we
6 report that.

7 Similar things happen in nuclear medicine.

8 MR. NOVAK: Okay.

9 MR. KERR: Thank you very much, Tom.

10 Bob Kulikowski is our next speaker. Bob has a PhD
11 in Biology from the State University of New York and did
12 postdoctoral work at the University of Chicago. He has
13 served on the faculties of a number of medical schools,
14 prior to joining the New York City Bureau of Rad Health in
15 1987. Bob is currently the director of that bureau. He is
16 going to discuss lessons learned from an aircraft accident
17 that were involving three generators.

18 Bob?

19 TWA PLANE CRASH INVOLVING Mo/Tc GENERATORS

20 MR. KULIKOWSKI: Thanks, Wayne.

21 It is nice to be here. Just to let Vandy know,
22 New York is the fourth Agreement State that has been around
23 for 30 years. We had our anniversary, I guess, about two
24 weeks ago.

25 Also, both gentlemen from Maryland, we have shared

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1 similar experiences both -- you probably all heard of Radiam
2 Chemical, which all the Agreement agencies in New York, and
3 we are, I guess, unique in that we have four Agreement
4 agencies.

5 Hopefully, their resolution with MPI will come the
6 same way that Radiam Chemical did and that the MR per hour
7 sweaters and everything went the way of a Superfund by EPA.
8 It is now just a bit hole in the ground.

9 But, anyway, I am not going to take a very long
10 time. We had, last summer, as many of you know -- there was
11 a plane crash involving TWA Flight 843, which is a Lockheed
12 1011, which had an aborted takeoff from Kennedy Airport.

13 It crashed, burned. All passengers and crew were
14 evacuated safely, which was very good for us and the first]
15 responders. However, there were radioactive materials on
16 board.

17 Within 48 hours, the entire situation was
18 mediated, and if I could have the first overhead slide.

19 It just basically says what it was. We recovered
20 some tech generators from TWA Flight 843.

21 The next slide shows people from my bureau, who
22 responded. Richard Borri, my emergency response
23 coordinator; Marty Schnee; Jane Bragg; A.K. Saxena; and
24 myself were all on site.

25 Also, without the assistance of Jim McGovern and

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1 Dick Quackenbush from CintiChem, who owned the generators
2 and were shipping the generators, they were very good in
3 their cooperation having a standby recovery team.

4 The next slide.

5 Basically, there was not a lot of radioactivity on
6 board compared to megacuries irradiators. There were about
7 a little less than 42 curies of Moly 99 in the form of three
8 generators, two 16-curies generators and one eight-curies
9 generator.

10 We ran into a little problem. The incident
11 actually occurred at about 5:30 in the afternoon. Our
12 bureau was notified via our hotline at about 9 o'clock that
13 evening.

14 In the intervening period, the fire department,
15 who were one of the first responders to put out the fire on
16 the plane, also had some meters and there has met one unit,
17 and they sort of waived them at the plane and said, "Hey,
18 there is no problem," despite the fact that the TWA manifest
19 said that there were three generators on board.

20 If I could look at the next, I have a couple of
21 two-by-two slides. We will look at that one at the end,
22 Lloyd. There are five two-by-two's that just are separated.

23 These are some pictures that were provided in the
24 report that CintiChem provided to us. The top two pictures
25 there show you the packaging on the upper right and a

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1 generator outside its packaging. The four lower pictures
2 show you the aircraft. This is on the Saturday -- the crash
3 occurred on a Thursday night, July 30th.

4 Friday, even though we were on the scene and were
5 able to locate where the generators were, we had to get out,
6 because they were not able to offload all the fuel, and
7 there were thunderstorms coming in. Sitting out on the end
8 of a runway at Kennedy Airport with this big metal tail
9 sitting up in the air, they said, "You better get the hell
10 out of there."

11 So, anyway, we couldn't go back until Saturday,
12 which turned out to be a very nice day. If you are familiar
13 with Lockheed 1011's, the No. 2 engine is in the tail right
14 above the rear portion of the fuselage. They were in the
15 cargo bay immediately beneath that. So they were in this
16 rubble.

17 The next one.

18 This is on Saturday morning, the recovery crew
19 going through this charred rubble. We couldn't get in. We
20 had to wait for them to lift the tail section off the plane.
21 It wasn't supportable. They said, "Well, you can go
22 underneath it if you want, but there is about 10 tons of
23 burnt metal above you, which has no stability whatsoever,
24 and it may just fall any time." But within about 15
25 minutes, the CintiChem recovery team recovered all three

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1 generators.

2 The next slide shows some photographs that they
3 took and provided to us, again, on the upper -- the upper
4 two panels are the intact generator. This is the
5 eight-curies generator, which sustained the heaviest damage.
6 All the external plastic, the external lead shield and the
7 aluminum pan that the generator was housed in were all
8 either melted or vaporized. Estimates were that it was
9 subjected to a temperature in excess of 1000 degrees
10 Fahrenheit. The depleted uranium shielding around the
11 actual ion exchange column itself was intact, and, as you
12 can see, on the lower right -- one panel above the lower
13 right-hand corner is a remove handling device actually
14 pulling the generator out of the shielding.

15 There was no external contamination, even though
16 the sodium chloride solution for injection bottle was
17 totally destroyed by the fire. All the tubing and the
18 millipore filters were all compromised.

19 The generator column itself inside the shield
20 remained intact.

21 The next slide shows the No. 2 generator. Again,
22 this is one of the 16-curies generators. The damage
23 sustained was not as great, and, again, the source was not
24 breached with the depleted uranium shielding remaining
25 intact. The plastic tubing and the millipore filters were

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1 damaged by the fire, and they could not get anything out.

2 The last color slide shows the third generator,
3 the second 16-curies generator, which was the least damaged,
4 and it, too, retained its integrity.

5 A couple of things that we learned from this, one
6 was -- probably the obvious -- was that Cintichem's
7 generators will stand up to some rather brutal treatment.
8 As I said, it is estimated that because the aluminum pans
9 were melted under the first generator that the temperature
10 reached in excess of 1,000 degrees Fahrenheit.

11 The second thing that we learned was that firemen
12 shouldn't be making rad health decisions. When Mr. Borri
13 from my staff got on site, the Port Authority Police said,
14 "Oh, you don't have to go out there. The fire department
15 said it's just fine."

16 The next morning, on Friday morning, I was out
17 there with a micro R meter, and I was talking to the captain
18 of the HAZMET from the fire department, and he said, "You
19 know, last night we cleared everything," and I just picked
20 up the micro R meter and pointed it toward the fuselage that
21 was about 300 feet away and pegged the needle offscale.

22 He was saying, "Gee, how did that happen?" I
23 don't know how that happened. We were going through our
24 internal procedures now with the rest of the agencies that
25 are emergency responders in this city to make sure that they

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1 know what their responsibilities are and what they can and
2 cannot say.

3 The other thing that we found that would have been
4 very helpful in an incident like this is if the airline
5 could have copies of the manifest available. They
6 apparently provided one to the HAZMET unit and, after that,
7 said, "We don't have any more."

8 These things don't happen very often. New York
9 City is perhaps unique in that it has two major airports
10 that are under our jurisdiction, both Kennedy and LaGuardia.
11 Any incident that happens there falls to my office, and it
12 seems like if there was some way to have airlines know that
13 most of them are carrying some sort of radioactive material
14 and that it would be very good for them to have the cargo
15 manifest available if there was any sort of incident,
16 because we respond to an incident at Kennedy probably about
17 once a month, where there is either damaged shipment or, in
18 this case, a damaged aircraft.

19 That is it. Everything went remarkably well. The
20 generators were all recovered. The activity was all
21 recovered. It was accounted for by CintiChem. It took us
22 three days, and it didn't spoil my vacation very much at
23 all.

24 Thanks very much.

25 [Applause.]

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1 MR. CASE: Dave Case from the Air Force.

2 I would like to ask you a question. You folks
3 concern yourselves at all with the depleted uranium
4 counterweights on aircraft to the response of recovery at
5 all?

6 MR. KULIKOWSKI: Do we concern ourselves? No.
7 This particular aircraft had depleted uranium counterweights
8 on it.

9 MR. CASE: It is?

10 MR. KULIKOWSKI: And there was no problem with
11 them at all.

12 MR. CASE: What do you do to recover them?
13 Anything?

14 MR. KULIKOWSKI: They were intact on this
15 aircraft. The only problem with the plane was the middle
16 section of the fuselage, which was severely damaged. It was
17 barely a skeleton left. But the wings and the front portion
18 of the aircraft and the tail section that was aft of the
19 burning engine, which was the No. 2 engine in the tail,
20 everything was reasonably intact, so that there was no
21 problem with the counterweights.

22 MR. CASE: But the airlines do in the recovery
23 effort make an attempt to locate those if they are not --

24 MR. KULIKOWSKI: Yes. I believe they do with the
25 exception of this is the first crash that we have had to

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1 respond to at one of our airports. Just a year before that
2 in May of '91, all the emergency response agencies in New
3 York City did a mock aircraft disaster, but the depleted
4 uranium does not seem to be a major problem at this point
5 compared to what the possible spread of contamination of
6 workers would have been if they had gotten -- the recovery
7 workers had gotten into breach generators.

8 MR. CASE: I don't know how much would be on an
9 L-1011, but I know some of our aircraft may have up to a
10 thousand pounds of DU, and that is going to be high/low
11 radioactivity problem, but it is still something that we
12 concern ourselves.

13 MR. KULIKOWSKI: Sure. We are aware that aircraft
14 do have the counterweights on them.

15 I just have to add a postscript to this. This
16 happened on Thursday, July 30th. I was supposed to go on
17 vacation July 31st.

18 MR. KERR: Thank you very much, Bob.

19 Let's have a round of applause for all the
20 panelists.

21 [Applause.]

22 MR. KERR: It is certainly a variety of
23 interesting topics, and I think you can see that it does pay
24 to practice rad health, and it pays to have regulators out
25 there involved in these things.

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1 Now, I told you Paul Merges wanted a few minutes
2 to talk about an event, I understand, that is something
3 recent today or yesterday or something like that. Come on
4 up, Paul.

5 CONCORDE EVENT

6 MR. MERGES: I would have requested to have been
7 on the panel, but I didn't know I was going to be here until
8 last Friday.

9 We had an incident in a nuclear free zone, JFK
10 Airport, that he just referred to, which was outside of his
11 jurisdiction, and that had to do with 19 days before that
12 incident. It was a Concorde airplane coming in to JFK.

13 Let me go back a little bit. Concorde airplanes
14 fly at around 60,000 feet or so, and because they are up so
15 high, they are very concerned about their crews, in
16 particular, but also their passengers being exposed to solar
17 flare events.

18 They have three GM tubes on them and a neutron
19 detector for those that are not familiar with them. Their
20 detectors are designed to set off at 50 millirem per hour.
21 So it is a substantial dose.

22 On September 23rd, we received a letter fax from
23 the British Embassy, thanks to our EPA Region II staff
24 referring them to us and washing their hands quickly of it.

25 [Laughter.]

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1 MR. MERGES: It was of an incident that took place
2 on July 11th, 19 days before this incident Bob was referring
3 to, of a plane coming in the JFK Airport.

4 It set off its radiation detectors, 1.2 miles off
5 of Jones Beach, for those that are familiar with which is
6 Long Beach, Long Island, at an elevation of 4,000 feet as it
7 approached JFK Airport.

8 It was traveling about 200 knots per hour, and it
9 had what we refer to or was told in the fax as 460 mr per
10 hour, maximum exposure.

11 When we started looking at the possibilities of
12 it, we felt there was a possibility of an on-flight source
13 of ionizing radiation. The plane could have flown through a
14 plume. The plane could have encountered a solar flare
15 event, but that was very doubtful at 4,000 feet.

16 The emergency plans for Concorde are when they are
17 flying at 60,000 feet and they encounter an event, they are
18 to drop down in elevation to get the shielding from the
19 atmosphere, and at 4,000 feet, it is just unrealistic to
20 believe they could ever receive a solar flare event at 460
21 mr per hour, thank God.

22 There also could have been a detector malfunction
23 or interference from non-ionizing radiation, an event such
24 as radar or microwave. Finally, it could have been a
25 surface source down there somehow.

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1 But when we looked at surface sources, we are
2 talking about 600,000 curies unshielded of something like
3 Cobalt 60 or over a million curies of Cesium 137 in order to
4 get that type of exposure at 4,000 feet up.

5 So we didn't think it was realistic, but we knew
6 the public would be very concerned if and when they hear
7 about this in the press.

8 What we did is we took actions. We notified the
9 Agreement States and agencies in New York State asking for
10 any possible sources on the ground and the NRC, and nobody
11 had come up with anything. We contacted EPA as well. They
12 couldn't come up with anything, but they did refer to their
13 lab down in Montgomery.

14 [Laughter.]

15 MR. MERGES: Besides us.

16 Due to the ability to respond to the public, we
17 did send out a crew to check out the Long Beach area of Long
18 Island. We didn't find anything. We contacted the U.S.
19 Department of Energy, who I think was very prompt in
20 responding. Within a week and a half, we had a fly-by of
21 the JFK area by the U.S. Department of Energy.

22 For those that have tried to set up fly-by's in
23 the past, I think that is a pretty good response, actually,
24 considering they had also encountered the fact that they
25 were flying in the flight patterns for JFK Airport and had

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1 to get permission from the airport to disrupt their flight
2 patterns in order to do that.

3 They also had to look for a tidal cycle where the
4 tides were out at the same time as that time on July 11th.

5 So they did fly it toward the end of September.
6 They didn't encounter anything unofficially. We still
7 haven't gotten the official response from DOE. We are still
8 awaiting that.

9 Let's see. We did get a letter. What we did next
10 was we sent a letter back to the British Embassy indicating
11 that we had done these things and still hadn't -- we had a
12 lot of questions about their detectors, how they operated,
13 et cetera.

14 We got a response back recently. As I said, there
15 are 3 gm detectors on a Concorde. Each one and a neutron
16 detector, they work in parallel. There was only one
17 printout on the flight recorder of it. It is an
18 instantaneous -- it is by the second recording.

19 The detector on this had previously had problems,
20 but was supposedly corrected. I think that is one of the
21 reasons they took over two months in even contacting the
22 State of Federal authorities on this; that they were trying
23 to double check the calibration of their instruments.

24 But they have referred a lot of our detector and
25 calibration questions back to the Federal officials in the

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1 London Airport there.

2 Let's see. We asked about other Concorde flights
3 ever encountering incidents in New York or other places.
4 Well, it turns out they have detected incidents when they
5 have flown over nuclear powerplants in Europe. They did not
6 say whether they found them in the United States. I would
7 be very surprised, especially at that type of level. I
8 think that would be a clear violation of the tech specs, if
9 nothing else.

10 There was no solar flare event that took place on
11 that day, although there was a solar flare warning for that
12 day. You can get the information on solar flare events from
13 our Federal Aviation Administration.

14 This is the only unexplained Concorde event in the
15 last 20 years of their flying, and they are scratching their
16 heads trying to figure out what is going on, and that is why
17 they reported it to us.

18 Previously, they are able to detect nuclear
19 installation on the ground at times. What you have to
20 remember is their detectors don't go off until they get up
21 to 50 millirem per hour, supposedly.

22 They did give us a dose-response curve for
23 altitude location and dose. They plotted all three in a
24 three-dimensional plot. When they came back with the next
25 response, their instantaneous read-out, instead of a ground

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1 source, you would expect a relatively smooth peak and then
2 dropping off a relatively smooth for a plane coming in at a
3 relatively constant speed.

4 It was very erratic, but there was not 460 mr per
5 hour. It was 1,700 mr per hour was their maximum readings.

6 Let's see. As I said, there was no solar flare
7 event on this, but a warning. So the present status of it
8 is we are still awaiting the DOE formal response that was
9 performed by EG&G's aerial survey group out of Andrews Air
10 Force Base.

11 The instantaneous profile indicated to us that it
12 was very doubtful it was a ground source. We have a hard
13 time believe we have a plume that way.

14 Oh, one thing we did check out with our regional
15 staff is all the incinerators and resource recovery
16 facilities on Long Beach and Long Island, in that area.
17 There was only one of them that was not instrumented, and we
18 went down there and surveyed it for any potential for
19 residual contamination.

20 So what I am getting is there is a interesting
21 aspect to this. To my surprise, the Concordes are
22 instrumented, and we probably have some problem with
23 non-ionizing radiation or a detector on the plane that was
24 malfunctioning.

25 [Applause.]

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1 MR. KERR: Thank you, Paul.

2 Is Vandy back there? Lloyd, do you know of any
3 announcements to make? Vandy is not back there.

4 Lloyd asked you if you have not signed in yet,
5 please sign in out at the desk. My agenda shows that we
6 start at 8 o'clock tomorrow morning.

7 Wait a minute. Jim Myers?

8 MR. MYERS: If you haven't picked up a voucher and
9 you are being paid by NRC to come here, please see us back
10 at the table.

11 MR. KERR: Got your checkbook with you? All
12 right.

13 See you tomorrow.

14 [Whereupon, at 4:50 p.m., the meeting was
15 adjourned.]

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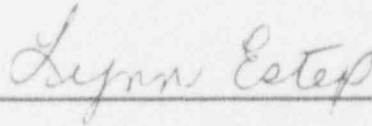
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