

FAX INFORMATION

**U. S. NUCLEAR REGULATORY COMMISSION
OFFICE OF STATE PROGRAMS**

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TO: Craig Gordon
Region I

FROM: Steve Salomon
DSP

MESSAGE: _____

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CR

1 be probably some more action taken with regard to the
2 company.

3 I would like to say one thing. NRC, through
4 both of these incidents, has been very supportive,
5 offering of help. We've participated in the events
6 briefing by telephone each two weeks or monthly, whatever.
7 We really appreciated the support and the help we've
8 gotten there. We've gotten some great suggestions and
9 help from NRC on this.

10 MR. CAMERON: Great. Thank you.

11 Let's go to Craig for Irradiators in Secondary
12 Schools.

13 MR. GORDON: At first, I've got to tell you
14 that it's truly an honor to be the one NRC individual
15 selected on a two-member panel together with Ed.

16 We're going to title this Irradiators in
17 Secondary Schools. The one beast is the RAMCO Gammator
18 50. We're also going to talk about other materials found
19 in high schools. After that, we'll talk a little bit
20 about removal.

21 The Gammator 50 was manufactured by the RAMCO
22 Radiation Machinery Corporation in Parsippany. It's a dry
23 storage, self-contained type. I'll show you a picture in
24 a second. The original activity was in the 400 curie
25 range with a half life of cesium-137. They're down to

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1 about 200-plus curies now. They were distributed under
2 the old Atoms for Peace program in the '60s. The AEC had
3 given them to all types of educational institutions.

4 Lo and behold, RAMCO went belly-up and they
5 entered the bankruptcy court. The AEC terminated the
6 licenses in the early '70s. So, what we did was took a
7 look at -- they got thrown into the Oak Ridge screening
8 study. Subsequent to that, there was a sealed source
9 review of the terminated files. So, in the region, we've
10 got a bunch of these and I'll tell you about the results
11 in a second.

12 Here's a copy of a copy from the manual, kind
13 of a primitive device. Physically, they're pretty big
14 units. The source chamber has a control arm here where
15 you put the source in, flip the control arm that's
16 attached to an assembly and expose the source. Flip it
17 back open and you know, you've got your exposed sample.

18 Here's the distribution data. After we went
19 through all the files, we found about 120 of these
20 throughout the country. The one number I think -- we're
21 always falling in love with the numbers. I found that
22 there were 48 in agreement states. Of the 48, there was
23 32 which were unaccounted for. Now, when we say
24 unaccounted for, basically we mean that we went through
25 the files and we didn't find a good disposition of the

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1 material. Most were distributed to colleges,

2 universities, hospitals, high schools and they also have a
3 couple in private facilities.

4 Most of the licenses were retired or
5 terminated as opposed to being reissued or transferred.

6 Right now, we've only done the follow-up in the NRC
7 jurisdictions so we don't have a lot of good information
8 on what's been done out there in the agreement states.

9 Now, we took all the files together and what I
10 tried to do here was to put all the information together
11 in one table. I used the states that we were able to come
12 up versus the different types of facilities that were
13 involved. I guess if you don't see your state up there,
14 that pretty much tells you we don't have a file that had
15 any irradiators -- any of these RAMCO units in that state.
16 The breakdown basically is by the two numbers -- I know
17 there's a lot of numbers here. But really, what this
18 means is, particularly in California, the four is the
19 total number of files we were able to find in colleges and
20 universities in California. The one refers to the number
21 that we were not able to find a good disposition of the
22 material. So, that suggested three, you know, were either
23 terminated properly or transferred. One that belonged to
24 a college or a university still may be out there. In
25 Illinois we have four -- batting 1,000 there -- it's four

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2 out there somewhere.

3 Most, as you can see, are in New York City. I
4 don't know if it's because it's close to Parsippany or
5 there was a lot of activity there, or just in our region.
6 These are mostly regional files. But there's still about
7 13 out there in New York that, again, we just don't have
8 good information on.

9 This is the second page. I added this in
10 because it gives you a little more identifying information
11 as to where these things could be. The information for
12 Illinois, for example, where it says "no record", that
13 basically means we don't have a good record of the unit
14 being transferred or dispositioned. We have the file. In
15 Iowa, for example, that one was at Graceland College and
16 I'm assuming it was relicensed by the college. You may
17 want to check the information in here and, you know, try
18 to go back and verify that these things were relicensed.

19 Some of the information may not be that good.
20 I don't know how many Children's Hospital there are in
21 California, but --

22 PARTICIPANT: You don't have a town?

23 MR. GORDON: Well, we might. I guess maybe we
24 should flip over to the next slide. What we wanted to do
25 is give you some information on what to do to try to -- if

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1 you find these things, you know, how to get rid of them or
2 where they might be.

3 Basically, the facility has the primary
4 responsibility. They were given to the facilities with
5 the understanding that, you know, they had to do something
6 with them when they were done with them. This really came
7 up a short while ago where we found two of these units in
8 individual high schools in New Jersey. We sent an
9 inspector out to each high school, did a survey, a leak
10 test. Fortunately, they were both intact.

11 So, then the issue was, you know, what to do
12 with them to remove them. Well, you know, the hospitals
13 and the universities may have a way to, you know, try to
14 transfer them back. In both high schools, actually, there
15 was some DOE assistance. They gave them a hand. They
16 were actually transferred to the JL Shephard in
17 California, added to their license. But you know, that's
18 only in unusual cases where the high schools didn't have
19 really deep pockets to take the financial responsibility.

20 And you know, there also needs to be some
21 transportation and packaging arrangements, you know, to
22 get these things together. They're fairly large and they
23 weigh a couple thousand pounds. So, it's really not that
24 easy to get rid of them. NMSS has graciously offered to
25 be a contact on this, to help you if you do find them.

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1 There is a contact number or you can call us, the RSOs and
2 we can try to direct you to the right contacts. If you
3 want anymore information, like I say, we might be able to
4 access the files and, you know, try to give you some more
5 locations as to where these things may be. This was just
6 a subsequent screening after the Oak Ridge review. When
7 we found out that these things were in high schools, you
8 know, we got a little excited. The two cases in
9 particular were -- the materials were picked up a couple
10 of weeks ago, I believe, and transferred. So, there's
11 really no issue there in the high schools.

12 Go back to the original purpose of this panel
13 here, basically, it's a lessons learned type thing.
14 Really, the lesson learned here is, you know, there was
15 not a lot of good control in terms of the material,
16 particularly in the high schools. These Gammator 50
17 units, essentially, the high schools let the licenses
18 expire and just didn't do anything with them. I think you
19 may find that's the case in any other ones that you come
20 across.

21 Also, we have a couple of things that we were
22 involved in over the summer. There was a drum that was
23 shipped from a Connecticut high school down to a New
24 Jersey disposal facility. This was materials being used
25 by a chemistry lab. It was rejected by the disposal

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1 facility because it was found to contain radium. Another
2 issue there was, you know, what to do in terms of getting
3 rid of it. You know, we think that the high schools
4 really did not have a good understanding as to, you know,
5 what they had and how to get rid of it.

6 Also, I understand there may be some more
7 irradiators out there, possibly manufactured by the old
8 AECL and Nordion that are possibly unaccounted for. We
9 don't have a lot of good information on that, but I would
10 also keep your eye open for those as well.

11 Another example, here we have also in New
12 Jersey, where a high school teacher had, you know, some
13 old sources and some low activity sources that -- just
14 didn't want to do anything, had no reason to keep them.
15 He went over to his friendly power reactor and, you know,
16 asked the licensee to get rid of them. You know, that's
17 another issue there. So, I think the message that we're
18 really trying to get across is that, you know, there
19 should be a mechanism to try to communicate with the
20 secondary schools and the local board of education, and
21 just try to feed them the right -- or make them aware, you
22 know, that the material may be out there and that, you
23 know, they just can't throw it anywhere. It really needs
24 to receive proper disposition.

25 That's about all I have.

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1 MR. CAMERON: Thank you, Craig.

2 Are there questions?

3 MR. GORDON: Yes, if you have any specific
4 questions about locations of these things, please give us
5 a call.

6 MR. PADGETT: Just a comment. You may want to
7 look at your entry under South Carolina. It's possible
8 that that's listed under the wrong state.

9 MR. CAMERON: Go ahead.

10 MR. GAVITT: Steve Gavitt, New York State
11 Health Department.

12 Craig, the next time you look at this, you may
13 want to give us a call and ask us about these facilities
14 because we do have these facilities and places. We have
15 been in contact and we are providing them with assistance.

16 MR. GORDON: Well, like I said, we just
17 finished assembling this information and --

18 MR. GAVITT: Okay, but you have us listed for
19 a number of facilities as there's no record.

20 MR. GORDON: Well, again, these are our files
21 that we have in the office that show, you know, no record
22 of disposition. We just finished compiling all the ones
23 on the sealed sources and rather than giving it to you
24 piecemeal, I think, we decided to do it all at once and
25 make the presentation here. If you have updates for us or

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1 if you have better information, that's good. I mean, that
2 really puts us one step further along in the game.

3 MR. CAMERON: Ed Bailey.

4 MR. BAILEY: Yes, Ed Bailey from California.

5 What does NRC do, well in your region, when
6 these source material type things are found in high
7 schools and all? Does NRC pick them up or not? I'm
8 talking, you know, uranium acetate, thorium nitrate,
9 uranium nitrate?

10 MR. GORDON: Not the irradiators, you mean?

11 MR. BAILEY: No, just the chemicals.

12 MR. GORDON: Well, we make arrangements with
13 DOE if they can take any material found out in the public
14 domain. I think that's the --

15 MR. BAILEY: DOE will take the stuff from high
16 schools, you think?

17 MR. GORDON: I believe so. You know, if we
18 coordinate with them.

19 MR. BAILEY: Okay.

20 MR. GORDON: Of course, we've got to make the
21 request.

22 PARTICIPANT: Can I ask a quick question?

23 DOE will consider requests -- it has to be a
24 really good reason -- DOE --

25 MR. CAMERON: Thank you.

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1 Kevin?

2 MR. MCCARTHY: The situation in Connecticut
3 was really understated there.

4 Kevin McCarthy, Connecticut.

5 When we arrived to take a look at that barrel,
6 when we opened the barrel, most of the containers had
7 poison signs on them and other hazardous material signs.
8 So, our guy closed the lid and called our oil and chemical
9 spills section in DOE and EPA, and EPA did respond --
10 Boston. But it became kind of a tricky deal. It became a
11 mixed waste, actually, with all the material that was in
12 there. There was a lot of lead and a lot of contaminated
13 material.

14 MR. CAMERON: Roland?

15 MR. FLETCHER: Craig, I guess my concern is a
16 little of the same as the fact that a lot of this
17 information, we say no record and I'm not sure that's an
18 accurate description. Of course, we had to have had some
19 record to even know it's out there, and at some point we
20 lost some information. That's what we really need. We
21 need to know up to which point we had it under control and
22 we lost control.

23 The other part, you made a statement that the
24 secondary schools, the high schools, the institutions
25 failed to renew their licenses. Well, if we have them

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1 under control, that's our responsibility to make sure that
2 those licenses are renewed. I'm not sure in these
3 incidences that hasn't already occurred in a lot of cases.

4 MR. CAMERON: Okay, thanks, Roland.

5 Let's have one last comment and then go to the
6 tours.

7 Is it Bruce, Kathy or --

8 MS. ALLEN: Yes.

9 MR. SZANAS: It's both of us.

10 MR. CAMERON: Both of us, okay.

11 MR. SZANAS: First of all, am I correct in
12 assuming that all source documents that the NRC currently
13 has in possession will be transferred to each of the
14 states that are involved in this study?

15 MR. GORDON: Well, I don't know.

16 MR. SZANAS: We need to do our own research.

17 MR. GORDON: I think we're working on it right
18 now.

19 MR. SZANAS: We need to do our own research.

20 MR. GORDON: We've had some presentations
21 yesterday that addressed the issue.

22 MR. SZANAS: You can't do it until we do our
23 own research.

24 MR. GORDON: I understand.

25 MR. SZANAS: Also, in this Atoms for Peace, we

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1 had sort of similar situation at a community college where
2 they found a neutron howitzer. Now, it's not AEA
3 material. This is radium, beryllium. We didn't know what
4 it was because it was in German. I had to call Cologne
5 and talk to Liebhold to find out what was in it. But we
6 got it licensed and it's in storage. There's not just
7 these things. Apparently, this is probably just the tip
8 of the iceberg for Atoms for Peace.

9 MR. GORDON: It may be. Again, the focus was
10 on the Gammators but you're right, there may be more
11 devices and units out there. These things were gifted
12 under the Atoms for Peace. We're not really sure how many
13 -- what types of devices there were in addition to the
14 irradiators.

15 MR. CAMERON: Kathy, do you have a comment?

16 MS. ALLEN: So, these people are packaging
17 them up and sometimes DOE provides assistance to package
18 them up. But what happens? Are you taking possession of
19 some of these and shipping them off? Are you getting DOE
20 assistance to take them, NRC?

21 MR. GORDON: Well, I think what you need to do
22 is encourage -- to go back to the facility and try. You
23 know, if it was a university, at one time, they did have a
24 license for it.

25 MS. ALLEN: No, I mean right now for the ones

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1 that you are finding in the barrels.

2 MR. GORDON: Yes, in the case for the New
3 Jersey high schools we were able to coordinate with DOE.
4 They have their subcontractor who went to the high schools
5 and took it, and transferred it to California.

6 MS. ALLEN: Well, I'm a little bit curious as
7 to how you were able to get a determination that that was
8 an emergency situation, but some of us states have been
9 fighting with DOE to get similar things declared an
10 emergency so DOE could --

11 MR. CAMERON: I think Bill --

12 MR. GORDON: Yes, Bill may have some --

13 MR. HEHL: Yes, I'm Bill Hehl from Region I
14 and Craig works for me. Let me give you a little
15 background on what transpired with this.

16 I think you're all familiar with the screening
17 that was done in the Oak Ridge list of potentially
18 contaminated sites that has been around for several years
19 now. What has happened, and certainly we discussed a
20 little bit about who's responsibility it is to follow-up
21 on those contaminated sites. What occurred was, over a
22 number of years in Region I, we had 279 of those
23 contaminated site files. Basically, record reviews were
24 done through the screening process that identified there
25 is a potential problem here. So, what the regions did,

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1 they went back through all those packages, tried to look
2 in the archives and determine which of these facilities
3 there was a potential problem in. Then we would go out,
4 take a look at them, and determine whether there was a
5 real problem with it.

6 The same thing happened with sealed sources.
7 Just recently, the regions have received a list -- in the
8 case of Region I, we've got about 100 of these previously
9 terminated licenses that were terminated by the AEC back
10 in the '50s, '60s and '70s, early '70s, that there isn't a
11 clear record of a proper disposition of that device. What
12 we're doing is, we're going through these things. We're
13 searching out in a lot of cases, trying to locate where
14 these previously licensed facilities were. We're trying
15 to contact people. In a case this summer, we just
16 happened to find these two irradiators in New Jersey that
17 were at high schools. These licenses were previously
18 terminated, but there wasn't a clear record of the
19 disposition of those sources.

20 In the case of these high schools, because
21 they made the case that there wasn't funding available
22 from the high school, from the board of education to
23 dispose of these units -- I think JL Shepard runs
24 somewhere around \$7,000 or \$8,000 a unit to dispose of
25 these devices. They didn't have the funding. We made a

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1 case in conjunction with NMSS in headquarters to DOE that
2 because this board did not have the funding available, the
3 state didn't have the resources to do this readily
4 available. We made the case to DOE that because there
5 was nobody there at the high schools left that had any
6 idea -- there wasn't any radiation safety officer. There
7 wasn't adequate controls on these devices. In one case,
8 it was sitting over in a corner in a biology lab; in
9 another case, in a storage room. Nobody knew, really,
10 what they were or how long they had been there.

11 So, we made the case to DOE that it was better
12 from a long-term health and safety to have them pick it
13 up. They agreed to that and made arrangements -- it took
14 about a month, I think, for the arrangements to be
15 completed. But they picked them up through a subcontract
16 with JL Shepard and JL Shepard is disposing of them.

17 But let me emphasize, this is an evolving
18 process. We're just now beginning to go through these
19 files. What we're trying to do is just alert you to a
20 potential problem. We're not saying that in the case of
21 these devices that are listed as "no record", that means
22 that there is no clear record. There's not shipping
23 papers or something else there that clearly delineates the
24 disposition of the devices.

25 We do intend to provide you with any

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1 information that we have. We were doing the initial
2 screening of these packages to determine whether or not
3 there needed to be any follow-up, whether or not we had
4 any records. But we'll certainly be communicating with
5 you in the future on these particular files. For those
6 folks from other NRC regions, I would highly recommend
7 that you contact, you know, your regional agreement state
8 officer and they can work with the Divisions of Nuclear
9 Material Safety within the regions who have these files to
10 provide you with some more information.

11 MR. CAMERON: Thanks a lot for that
12 clarification, Bill.

13 We really have to get moving on our tours. If
14 you do have further questions for Bill or Craig, why don't
15 you ask them?

16 The tour from this morning on the BPR Center
17 will be leaving immediately, the second tour, from the
18 lobby. Also, the tour number one for the Advanced
19 Computer Center will also be leaving immediately from the
20 lobby. Tour number two for the Computer Center will go as
21 soon as the first tour gets back.

22 Thank you.

23 (Whereupon, off the record at 10:39 a.m.,
24 until 11:25 a.m.)

25 MR. CAMERON: Okay. Well, we have a couple of

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