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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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In the Matter of :
PRIVATE FUEL STORAGE : Docket No. 72-22
L.L.C. : ASLBP No. 97-732-02-ISFSI
(Private Fuel Storage : Deposition Of:
Facility) : MARTIN DELMAR GRAY

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Deposition of MARTIN DELMAR GRAY, taken at
the law offices of Parsons, Behle & Latimer, 201
South Main, Suite 1800, Salt Lake City, Utah, on the
12th day of May 1999, at the hour of 2:00 p.m.,
before David A. Thacker, a Certified Shorthand
Reporter, Registered Professional Reporter, Utah
License No. 22-105417-7801 and Notary Public in and
for the State of Utah.

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ASSOCIATED PROFESSIONAL REPORTERS, L.C.

1 A. Testing for the disposal purposes are
2 permitted activities, and so we're very aware of
3 what they do on those.

4 Q. And so you permit, those activities are
5 permitted by you under the RCRA permit? The RCRA
6 permits?

7 A. Yes.

8 Q. And do you believe that those activities
9 would pose a hazard to the Private Fuel Storage
10 Facility?

11 A. We believe that if they comply with their
12 permits that they would not pose a hazard.

13 Q. And you inspect them regularly to ensure
14 that they comply with their permits?

15 A. Yes.

16 Q. And do you have any reason to believe that
17 they would not comply with their permits?

18 A. There have been instances of noncompliance
19 at Dugway.

20 Q. And have you corrected those instances of
21 noncompliance?

22 A. Yes.

23 Q. Have any of those instances of
24 noncompliance posed a significant threat to the
25 people at Dugway, do you know? To the population at

1 English village, for example?

2 A. They could pose a significant potential for
3 harm. Whether or not it would be to English village
4 depends again upon the size of the test,
5 meteorological conditions, how far out of compliance
6 they were.

7 Q. These tests, do they have a safe zone when
8 they perform the tests? I think Doug Larsen talked
9 about safe zones for particular activities. Is that
10 true, they have a safe zone which they will evacuate
11 people beyond?

12 A. I believe they do.

13 Q. And the purpose of that safe zone is to
14 provide protection. Isn't that correct?

15 A. Yes.

16 Q. And you regulate and oversee the
17 installation of those safe zones in order to protect
18 the public and people at Dugway. Isn't that
19 correct?

20 A. That's difficult for us.

21 Q. Well, you permit--

22 A. We do not permit those necessarily.

23 Q. Permit those--

24 A. Safe zones. We don't--our permits don't
25 say you can only operate with safe zones.

1 Q. But you review their application which
2 identifies a permit--that identifies a safe zone for
3 the conducting of the disposal or test. Correct?

4 A. We will review that data, but we cannot
5 enforce those types of things.

6 Q. And if you found something you thought was
7 incorrect, what steps would you take if you
8 disagreed with what they were doing?

9 A. If we disagreed, we would more than likely
10 have tried to revoke their permit.

11 Q. You have some steps in place to take action
12 if you disagreed with steps they were doing to
13 protect the public health and safety. Isn't that
14 correct?

15 A. We believe we have a recourse. We have not
16 tested that.

17 Q. You haven't found the need to test that so
18 far. Is that correct?

19 A. I can't recall anything specifically we
20 discussed that, no.

21 Q. It hasn't come up, in other words, then.
22 Correct?

23 A. Not that I can recall right now. No.

24 Q. Other than testing of these chemical
25 munitions, what other potential activity at Dugway

1 and either go back out for public comment or issue
2 the modification, approve the modification.

3 Q. And based on those scheduled events, when
4 would you expect the modification to be issued?

5 A. It's hard to predict.

6 Q. Do you expect it within a year?

7 A. I would hope it will be within a year.

8 Q. You expect it to be within two years?

9 A. I can't say anything for sure.

10 Q. But pretty sure?

11 A. I would feel confident it would be issued
12 within a year.

13 Q. Okay.

14 A. But I could not guarantee that.

15 Q. Right. And again, is it true that the
16 storage of the wastes under the State permit in
17 accordance with state procedures, would not--strike
18 that. You would agree that the storage of chemical
19 munitions under a permit from the State, would not
20 pose a significant hazard to the Private Fuel
21 Storage Facility as long as the State's procedures
22 were met?

23 A. We will not issue a permit unless it would
24 be protected.

25 Q. So that the answer to my question, I take

1 it, is yes?

2 A. Yes.

3 Q. And I take it now even under this interim
4 status, they're subject to your regulation, Igloo G
5 is?

6 A. They are subject to some regulation.

7 Q. And so they are subject to regulation at
8 this point in time?

9 A. (Witness indicating affirmatively.)

10 Q. What regulation are they not subject to
11 under interim status that they would be under full
12 status?

13 A. Under currently there is no monitoring that
14 goes on for that Igloo, and the inspections do not
15 meet RCRA standards currently. Also, the waste
16 analysis does not meet RCRA standards in our
17 opinion.

18 Q. I assume you're talking about the
19 monitoring by the--

20 A. Monitoring for chemical agent inside the
21 Igloo.

22 Q. And inspections and analysis?

23 A. Yes.

24 Q. And that's what's being modified as part of
25 this application, in the permit they're putting in?

1 Q. No. 9. No. 9 is--where is No. 9?

2 A. (Indicating).

3 Q. And that is on the--would you point it out
4 to me again, please. Right here?

5 A. (Witness indicating affirmatively.)

6 Q. That's on the far western side of Dugway.

7 A. Yes.

8 Q. How far is that from English village,
9 approximately?

10 A. I'm not sure.

11 Q. Do you see those munitions posing any
12 significant hazard to the Private Fuel Storage
13 Facility?

14 A. I'm not sure.

15 Q. Do you have any basis to believe they would
16 pose a hazard to the Private Fuel Storage Facility?

17 A. We don't know how much agent is in those or
18 if any agent is in those, and we also don't know how
19 stable the explosives are in the munitions. An
20 accidental explosion of those, you don't know what
21 could happen.

22 Q. What steps have you taken to protect the
23 public health and safety from those munitions in
24 that stockpile?

25 A. We've--they're unsafe to handle so they

1 store? At Igloo G?

2 A. The only option they've indicated to us is
3 to destroy them in place.

4 Q. Destroy them in place. Okay. And why did
5 you reject Dugway's plans? You said they wanted to
6 do it last summer?

7 A. Yes.

8 Q. And the State said no?

9 A. We told them that they needed some
10 additional data.

11 Q. And why did you request additional data?

12 A. There were concerns from the EPA concerning
13 PCBs.

14 Q. PCBs from the--that were contained on the
15 explosive?

16 A. In the rocket tubes.

17 Q. In the rocket tubes. So it wasn't the
18 actual agent themselves that was the concern?

19 A. No.

20 Q. What steps are the State or the Army taking
21 to ensure the safe storage of these munitions in
22 this waste pile?

23 A. Dugway took a sample of the rocket material
24 and they were going to run--they were going to do a
25 test on it in what they called the boom box, and

1 collect data on whether or not PCBs are emitted from
2 a small explosion. And once that data is received,
3 then we'll act upon--we'll proceed from there.

4 Q. How far is the concern that PCBs may be
5 exposed if you explode the munition?

6 A. I don't know.

7 Q. You don't know?

8 A. (Witness indicating negatively.)

9 Q. I take it the State would not allow the
10 explosion of those munitions if they feel it's going
11 to cause a public hazard to people that live in
12 English village. Is that fair enough?

13 A. Correct.

14 Q. You were talking about unexploded ordnance
15 that may exist on the Dugway facility. Do you
16 believe that unexploded chemical munition ordnance
17 could pose a significant hazard to the Private Fuel
18 Storage Facility?

19 A. I believe that potential exists.

20 Q. And what's the basis for that potential?

21 A. Our understanding is that there are a
22 number of unexploded ordnance on the ranges at
23 Dugway. Experience that we have received from
24 Aberdeen, is that occasionally these rounds will
25 self-detonate, and when that happens you have no

1 control of the situation.

2 Q. And how far of an impact would you have
3 with a round self-detonating? Do you know what the
4 range of impact is?

5 A. We don't know exactly which munitions are
6 out there, and the meteorological conditions would
7 play a large role in that.

8 Q. In terms of what munitions are out there,
9 you know what types of munitions have been
10 discovered in terms of chemical munitions. Correct?

11 A. We do have a list of what has been
12 discovered.

13 Q. And what has been discovered? What
14 munitions have been identified or discovered on
15 Dugway?

16 A. It's a fairly large list.

17 Q. What's on it?

18 A. Mortar rounds, rockets, projectiles, bombs.

19 Q. Those are all conventional that you just
20 identified right there.

21 A. They all have--they can have chemical agent
22 in them, those types of --

23 Q. What type of chemical agent?

24 A. We have found Mustard GA, GB, and VX.

25 Q. Mustard, G--

1 A. GA, GB, BX, and also Lewisite rounds.

2 Q. What's Lewisite?

3 A. Lewisite is a blister agent.

4 Q. VX we talked about. Which one is the Sarin
5 again?

6 A. Sarin is GB.

7 Q. GB. And what's GA?

8 A. GA is--it's German Agent. It's also called
9 Tabin. It's a lot like GB, but it has cyanide in
10 it.

11 Q. Do you know what type of evacuation range
12 that the Army uses when they explode some of these
13 under emergency permits?

14 A. They use a model to determine what the
15 evacuation range is.

16 Q. Do you know what the evacuation range is
17 when they explode some of these list of these
18 agents?

19 A. It all depends.

20 Q. Do you know, have you been there when
21 they've exploded these agents?

22 A. No.

23 Q. You've not been there?

24 A. No.

25 Q. Do you know if any evacuation range has

1 ever extended outside of Dugway?

2 A. No.

3 Q. Do you know if any evacuation range ever
4 extended to English Village?

5 A. I don't.

6 Q. Do you have any basis to believe that
7 chemical agents, other than the ones you've just
8 identified to me, would be identified on the Dugway
9 Proving Grounds?

10 A. There are other agents potentially on
11 Dugway.

12 Q. And what's the basis for that?

13 A. We've seen some testing documentation.

14 Q. And what other agents have you seen testing
15 documentation with respect to?

16 A. An agent called BZ.

17 Q. BZ. What's that?

18 A. It's a incapacitating agent. The effects
19 are described to be like LSD.

20 Q. Have any munitions been discovered with BZ?

21 A. They did have one munition. I don't know
22 if it was discovered on the range or where it was
23 retrieved from. They did test on it.

24 Q. And you don't know where that was
25 discovered?

1 range.

2 Q. Where was that found?

3 A. I'm not sure.

4 Q. Any munitions that have chemical agents
5 that are discovered on Dugway, would have to be
6 disposed of in accordance with your State RCRA
7 requirements. Isn't that correct?

8 A. They would either have to be put into
9 storage or disposed of.

10 Q. Either way, it would be under your RCRA
11 regulations?

12 A. We believe we have authority to require
13 management of those. The Army disagrees with us.

14 Q. Well, have you been doing regulation of
15 this?

16 A. We have.

17 Q. But even though they disagree with it,
18 they're allowing you to regulate them?

19 A. Currently they are.

20 Q. And you would fight if they tried to stop
21 your regulation?

22 A. I hope so.

23 Q. Now, do you believe that the disposal of
24 chemical munitions under a RCRA permit issued by the
25 State of Utah, would pose a hazard to the Private

1 Fuel Storage Facility?

2 A. The disposal of chemical munitions under
3 emergency permits is the only way that we believe
4 they could do it. We don't believe that would pose
5 a hazard..

6 Q. We talked about chemical munitions, let's
7 talk about biological munitions. Well, let's--just
8 to clarify what we've been talking about. Do you
9 believe that any activities involving chemical
10 agents would pose a significant hazard to the
11 Private Fuel Storage Facility, apart from chemical
12 munitions that we just discussed?

13 A. Apart?

14 Q. Yes.

15 A. Such as? I missed the question.

16 Q. Okay. Do you believe that any activities
17 involving chemical agents at Dugway, would pose a
18 significant hazard to the Private Fuel Storage
19 Facility?

20 A. Say that one more time. I'm sorry.

21 Q. I'm sorry. We're obviously not
22 communicating exactly. Let me ask you this. Dugway
23 does current tests with respect to chemical agents?

24 A. Yes.

25 Q. Okay. Do you believe that any of the

1 testing that Dugway does of chemical agents, would
2 pose a hazard to the Private Fuel Storage Facility?

3 A. For testing that is done in accordance with
4 permits that we have issued, we believe that those
5 would be safe.

6 Q. What permits do you issue of chemical
7 agents?

8 A. We issue research, demonstration and
9 development permits.

10 Q. Such as, give me an example.

11 A. There's a project called the MMD, Military
12 Munitions Device.

13 Q. Uh huh (affirmative).

14 A. It's a treatment process that cuts open
15 rounds and cleans the inside out and neutralizes the
16 agent.

17 Q. Okay. Again, this is with respect to
18 chemical munitions.

19 A. Yes.

20 Q. Okay. Go ahead. Any other permits that
21 you issue?

22 A. Currently that's the only RD&D permit.

23 Q. Is there any chemical agent testing that's
24 not permitted by the State at Dugway?

25 A. Yes.

1 Q. Do you believe that that chemical agent
2 testing would pose a significant hazard to the
3 Private Fuel Storage Facility?

4 A. I don't know anything about that testing.

5 Q. You don't know anything about that testing?

6 A. All I know is the waste streams generated
7 from that testing.

8 Q. Do you know what Dugway uses to test those
9 other agents?

10 A. Not clearly, no.

11 Q. Do you know what facilities they're tested
12 in?

13 A. There's testing in the chem lab and in the
14 test chambers.

15 Q. Test chambers referring to what test
16 chambers?

17 A. There's the Material Test Facility.

18 Q. Okay. Material Test Facility.

19 A. There's the Ditto Test Center, or Dugway
20 Test Center.

21 Q. Okay.

22 A. And I believe there's one other one, I
23 don't remember the name of it.

24 Q. But you don't know of the procedures that
25 Dugway has to protect the public health and safety

1 with respect to that testing?

2 A. I know in general their procedures.

3 Q. What in general are their procedures that
4 they have?

5 A. Well, I know that they are in ventilated,
6 controlled ventilated rooms, and that their
7 employees wear personal protective equipment when
8 they do the testing.

9 Q. Do you know if the rooms are at negative
10 pressure?

11 A. Yes.

12 Q. And the purpose of that is to what?

13 A. To prevent the escape of agents to the
14 atmosphere.

15 Q. Do you have any reason to believe that
16 chemical agents tested under these protective
17 procedures, would pose a hazard to the Private Fuel
18 Storage Facility?

19 A. I wouldn't know. I don't believe so.

20 Q. So you don't believe it would pose a
21 hazard?

22 A. With my limited understanding of their
23 testing, I would say no. But I don't know the
24 entire procedure.

25 Q. I understand. Now, the disposal of

1 chemical agent that has been subject of tests, what
2 happens with that? Would that pose a hazard to the
3 Private Fuel Storage Facility?

4 A. Could you say the question again.

5 Q. I'll say it again. Chemical agent that's
6 been tested. Okay? Do you believe that the
7 disposal of chemical agent that has been the subject
8 of the testing, would pose a significant hazard to
9 the Private Fuel Storage Facility?

10 A. The agent or the test residues under Utah
11 hazardous waste rules, they are still hazardous
12 waste. Still regulated as hazardous waste.

13 Q. So they would become, once they dispose of
14 those agents, they would become subject to your
15 regulations under RCRA?

16 A. Once their test is complete, they are
17 subject to our hazardous waste rules.

18 Q. And at that point in time they come under
19 your regulation and enforcement?

20 A. Yes.

21 Q. And do you believe that the disposal,
22 pursuant to your regulation and enforcement, would
23 pose a significant hazard to the Private Fuel
24 Storage Facility?

25 A. If properly conducted, no.

1 rules because it would be waste? That's my
2 question.

3 A. Unfortunately, only the explosive component
4 of the biological weapon falls under our rules. The
5 biological component we do not regulate.

6 Q. But they cannot explode the explosive
7 portion of it without getting your approval. Is
8 that correct?

9 A. Correct.

10 Q. Where have these biological munitions been
11 found?

12 A. I'm not exactly sure.

13 Q. And do you know what type of agent was
14 found in those biological munitions?

15 A. I don't remember the name of that agent.

16 Q. And do you know if that would pose any
17 significant hazard to the Private Fuel Storage
18 Facility?

19 A. I don't know.

20 Q. Do you know if any other biological
21 munitions have been found recently?

22 A. No.

23 Q. What familiarity do you have with the
24 testing of biological agents at Dugway?

25 A. We know that the testing, current testing,

1 is conducted indoors in controlled ventilation
2 rooms.

3 Q. And at the Life Sciences Facility. Is that
4 correct?

5 A. Yes.

6 Q. Any testing of biological agent at Dugway
7 done anyplace else other than the Life Sciences
8 building?

9 A. Not to my knowledge.

10 Q. Do you believe that the testing of
11 biological agents at the Life Sciences facilities,
12 poses a significant hazard to the Private Fuel
13 Storage Facility?

14 A. I'm not familiar with the testing.

15 Q. Is there any area of Dugway that is subject
16 to State regulation, potential State regulation,
17 that we have not discussed this afternoon?

18 A. There are some old test ranges that are no
19 longer within Dugway borders, which we do oversight
20 the cleanup of those.

21 Q. And where are those test ranges located?
22 You saw this on the map that's been marked as
23 Exhibit 1 to David Larsen's deposition.

24 A. The ones I'm familiar with are the Yellow
25 Jacket.

1 Q. That's No. 126?

2 A. Yeah. And I don't know how accurate this
3 location is. There's one also called Southern
4 Triangle test area.

5 Q. That's down by 127?

6 A. I believe so. And there is near Dugway,
7 there is the sheep burial site. And I believe there
8 are three sites that are sheep burial sites.

9 Q. Sheep burial sites. Those sites are where?

10 A. They are on the eastern side of Dugway and
11 northeastern side of Dugway.

12 Q. And one is on the Skull Valley Reservation.
13 Is that correct?

14 A. One of them is on the Skull Valley
15 Reservation.

16 Q. And what role do you have with respect to
17 those?

18 A. We will oversee the cleanup of those.
19 Ensure that whatever is removed is properly managed.

20 Q. And to protect the public health and
21 safety?

22 A. Yes.

23 Q. And do you see any hazards from those sheep
24 burial locations to the Private Fuel Storage
25 Facility?

1 A. Those sites are not well characterized yet,
2 so we don't know.

3 Q. You don't know.

4 A. (Witness indicating negatively.)

5 Q. What steps have you taken to protect the
6 public health and safety with respect to those
7 burial sites?

8 A. We have been reviewing some work which has
9 been done at the White Rocks sheep burial. The
10 other ones we have not been involved with at all.

11 Q. When will these burial sites be cleaned up?
12 By what date, do you know?

13 A. No.

14 Q. Any schedule?

15 A. There is no schedule.

16 Q. Any cleanup on those sites would have to be
17 done under the State RCRA permit?

18 A. Of the White Rocks sheep burial, yes. The
19 ones on indian ground, no. Except that the waste
20 has to be managed in accordance with State rules.

21 Q. And those cleanup on the indian ground,
22 they would be subject to EPA regulations under RCRA
23 or something similar?

24 A. I'm not sure.

25 Q. You're not familiar with that?

1 referring to the potential for chemical munitions?

2 A. Yes.

3 Q. Are you referring to any other potential
4 wastes?

5 A. Primarily to either explosive wastes that
6 are still in the ground or to chemical munitions
7 still in the ground.

8 Q. And is it fair to say that if there's just
9 explosive wastes without any chemical agents
10 involved, that would not pose a hazard to the
11 Private Fuel Storage Facility?

12 A. I'm not sure what types of explosive
13 devices they would have.

14 Q. What type of explosive devices have they
15 found in the past, do you know?

16 A. I'm not sure.

17 Q. Do you know what type of explosive devices
18 they've tested in the past that may be located
19 there?

20 A. No.

21 Q. What familiarity do you have with the
22 training exercises that go on at Dugway, National
23 Guard training exercises, any other military
24 training exercises?

25 A. I'm not real familiar with those.

1 Q. So you're not in position to say whether
2 that would prevent a hazard or not to the Private
3 Fuel Storage Facility?

4 A. No.

5 Q. What type of knowledge or information do
6 you have with respect to testing of Army equipment,
7 munitions, rockets, et cetera, that may take place
8 at Dugway?

9 A. My knowledge is what I read in the news.

10 Q. So you have no basis to say whether they
11 would pose a potential hazard to the Private Fuel
12 Storage Facility or not. Is that correct?

13 A. All I have is news reports, and I don't
14 know the accuracy of those.

15 Q. So you're not here to say you have any
16 basis to know whether there would be potential
17 hazard to Private Fuel Storage Facility?

18 A. No.

19 Q. Do you know whether air flights into and
20 from Michael Air Field would pose any significant
21 hazard to the Private Fuel Storage Facility?

22 A. I don't know.

23 Q. You're in no position to say one way or the
24 other on that?

25 A. No.

1 treatment.

2 Q. That's the type that you say could go to
3 APTUS I believe you said, or Grassy Mountain, one of
4 those two?

5 A. F-999 could go to either facility. It used
6 to be. I don't know if it still can.

7 Q. Okay.

8 A. They also manage ignitable waste.

9 Q. Excuse me?

10 A. Ignitable waste streams. They manage
11 corrosive waste streams.

12 Q. Now, F-999 waste streams, how large of a
13 spill will you need to have to cause impact two
14 miles away, do you know?

15 A. I don't know.

16 Q. So you don't know whether or not a spill
17 from F-999 would cause impact to the Private Fuel
18 Storage facility? Strike that. Do you know how far
19 the Private Fuel Storage Facility is from Skull
20 Valley Road?

21 A. Not exactly, no.

22 Q. Assuming that it's about two miles, okay?
23 It's fair to say you don't know what quantity would
24 be required to cause impact on the Private Fuel
25 Storage Facility?

1 A. I don't know.

2 Q. Do you know whether such quantities are
3 shipped--do you know the quantities that are shipped
4 on Skull Valley Road in any shipment?

5 A. It varies I'm sure. I don't know exactly
6 the quantities.

7 Q. You don't know the quantities that are
8 shipped?

9 A. No.

10 Q. Okay. In terms of ignitable waste, would
11 you believe any ignitable waste would cause a hazard
12 two miles from a spill? Do you have any reason to
13 believe that?

14 A. I would assume that there would be a
15 potential for that.

16 Q. What's your basis for that?

17 A. It depends on how ignitable, how large the
18 fireball could be.

19 Q. What type of waste do they transport from
20 Dugway that you think might cause such a fireball?
21 Can you identify any such wastes? What are you
22 talking about?

23 A. I'm not exactly sure. All ignitable wastes
24 are primarily solvents.

25 Q. And do you know if any of that could cause

1 carry it in that direction.

2 Q. It would be fair to say it would disperse
3 it as it got into the air, is that correct, the
4 chemical agent?

5 A. Say that again.

6 Q. Strike that. What procedures or
7 protections has the State taken with respect to this
8 transportation of chemical agent, to protect the
9 public health and safety of the people?

10 A. We don't necessarily regulate the
11 transportation of that agent. All we have done is
12 ensured that the Tooele County emergency response
13 team is aware that that was taking place. I'm
14 talking about this one you showed me.

15 Q. This specific transportation here?

16 A. Yes.

17 Q. Have you reviewed this transportation plan,
18 Exhibit 3?

19 A. I have.

20 Q. And based on that, do you have any concerns
21 on the safety of the transportation of that chemical
22 agent to Dugway Proving Grounds?

23 A. Based upon that plan, I believe it can be
24 done safely.

25 Q. And the plan sets forth a procedure and

1 plan for doing it safely. Is that correct to say?

2 A. Yes.

3 Q. And if that plan and procedure is followed,
4 do you believe it will be safely done?

5 A. Yes.

6 Q. And do you have any reason to believe this
7 plan will not be particularly followed?

8 A. Not right offhand, no.

9 Q. What other transportation of chemical agent
10 to Dugway Proving Ground are you aware of?

11 A. In the past or future?

12 Q. Both. We'll take one at a time. Give me a
13 choice, I'll take both. Sorry about that.

14 A. We know that in the future that there will
15 be rounds transported from Deseret Chemical to
16 Dugway for use in the MMD project.

17 Q. And do you know what route they will take?

18 A. I do not.

19 Q. And do you expect they would be covered by
20 a similar plan and procedure as has been developed
21 with respect to Exhibit 3?

22 A. My understanding is they will have a plan.

23 Q. Okay.

24 A. We won't be involved with the development
25 of that plan.