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PUBLIC MEETING

U.S. ARMY POSSESSION ONLY LICENSE
APPLICATION FOR DEPLETED URANIUM

Tuesday, August 25, 2009

6:00 p.m.

Wahiawa District Park

Wahiawa, Oahu, Hawaii

BEFORE: BARBARA ACOBA, CSR No. 412, RPR
Notary Public, State of Hawaii

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APPEARANCES :

NRC - Robert Evans
Jack Whitten
Chris McKenney
John Hull
Rebecca Tadesse
Keith McConnell
Jack Hayes
Dave McIntyre
Sarah Michonski

ARMY - Greg Komp

PUBLIC - Ku'umeaaloha Gomes
Kyle Kajihiro
Darlene Rodrigues

1 KU'UMEAALOHA GOMES: At this time, I want to
2 introduce Keith O'Connell the director. The (inaudible)
3 uranium recovery licensing director.

4 KEITH McCONNELL: On behalf of U.S. Nuclear
5 Regulatory Commission, I would like to welcome you here
6 tonight to talk about the Army's application for the
7 possession of depleted uranium at the Schofield Barracks
8 and Pohakuloa Firing Ranges.

9 I am deputy director for decommissioning and
10 uranium recovery licensing at the NRC. We have
11 responsibility, along with our agreement statements, for
12 the decommissioning of civilian nuclear facilities, and
13 that can range from anything like a nuclear power plant
14 on the Mainland to a laboratory that uses radioactive
15 materials and some of the testing they do. Or related
16 to what we're here to talk about tonight. We also have
17 responsibility for licensing uranium activities. That
18 includes the production of uranium, which is usually
19 done mostly in the western United States. And we also
20 have responsibility for licensing the possession of
21 certain quantities of uranium and thorium, and that's
22 basically what's on table for us now in terms of the
23 Army's application.

24 Now, the purpose for us being here tonight and
25 asking you to come to this meeting is to involve you in

1 our process for the review of that application. The
2 NRC, the Nuclear Regulatory Commission, has a policy of
3 making its licensing process open and transparent. And
4 one of the ways we approach that is to come to the
5 localities where we do have a major license application,
6 like this, on hand. We have public meetings, like this
7 one that we're having tonight. We're having two over on
8 the Big Island, one tomorrow night and one Thursday
9 night, but that's part of the way that we involve the
10 public in our licensing process. And there will be
11 other opportunities for public involvement identified in
12 the presentations that follow my opening remarks.

13 In that regard, again, we had a projector, but
14 we had some technical difficulties, but you all should
15 have the view graphs that accompany this. So if you
16 wouldn't mind, you can just follow along with us as we
17 go through the presentation. I'm on, basically, the
18 third slide of the first presentation on meeting topics.

19 Basically, what we're going to do is describe
20 the action that participated NRC's involvement with the
21 U.S. Army in this particular matter. We'll provide you
22 some background on the NRC. We don't have a large
23 presence in Hawaii and so you may not be familiar with
24 what we do and how we do it, so we'll provide you some
25 background on our organization. One thing I want to

1 make clear is that we are an independent regulatory
2 agency. We're not part of the Department of Defense.
3 We're not part of the Department of Energy. We're an
4 independent agency that was created in the mid '70s to
5 regulate the civilian use of radioactive material.

6 We'll talk about our licensing process. We
7 brought a number of staff here tonight to talk about
8 various aspects of our licensing process, including our
9 inspection and reporting process that occurs after a
10 license is granted. We'll provide you with an overview
11 of the Army's application, identify opportunities in the
12 future for public involvement in our licensing process,
13 and then open it for comments, questions or concerns or
14 anything you'd like to dialogue with us about on this
15 particular issue.

16 The next slide in terms of the NRC presenters,
17 we do have a number of staff here tonight. To my right
18 is Rebecca Tadesse. She's the chief of our materials
19 decommission branch at NRC headquarters in Rockville,
20 Maryland. She'll talk to you about the NRC and what we
21 are and what we do. Chris McKenney, is the branch chief
22 for what's called our performance assessment branch.
23 Chris will talk about some of the radiological health
24 effects that are associated with depleted uranium. I
25 know this is an area that's of concern to a number of

1 people in the community, so Chris will walk through
2 depleted uranium in general in terms of potential health
3 risks. John or Jack Hayes is our project manager for
4 the Army application and he'll discuss what the
5 application is requesting. And then Bob Evans, down at
6 the end of the table, is from our Region 4 office out of
7 Dallas, Texas. They have responsibility for the
8 inspection and enforcement aspects of decommissioning
9 activities, and also uranium production and professional
10 licenses.

11 I'd also like to introduce a couple other NRC
12 staff that are here. Jack Whitten, he's the branch
13 chief in our Region 4 office in Dallas who's responsible
14 for the inspection enforcement activities. Dave
15 McIntyre from our office of public affairs. And John
16 Hull from our office of general counsel. We try to
17 bring an array of people so that if you have particular
18 questions, we have the right people to answer the
19 questions here now. But if there is something that we
20 end up not being able to answer, we'll get back to you
21 in some way. You can fill out the cards that are back
22 there and we'll try to respond in a timely way. Oh,
23 yeah, and back in the back is Sarah Michonski. Sarah's
24 our licensing assistant and helping us out.

25 With that, again, the meeting purpose is to

1 basically involve the public in the review of our
2 licensing review of the Army's application. Again,
3 identify opportunities for you to participate in the
4 future, and then let you ask any questions or make
5 comments or express concerns. And so with that, I'll
6 turn it over to Rebecca.

7 REBECCA TADESSE: Thank you. As Keith said,
8 I'm the branch chief for the material decommissioning
9 branch. I'm just gonna give you an overview of what NRC
10 does and what our regulatory authorities are. I'm on
11 the first slide.

12 NRC's an independent agency, a Federal agency
13 that reports directly to Congress, and our
14 responsibility is, as Keith said, is to license civil
15 use of radioactive material. We do licensing and when
16 we're doing licensing, we look at the safety of the
17 proposal. We look at the security of the material. If
18 there's any concerns with security, we'll look at that
19 area. We look at the environmental nature, that there's
20 no environmental issue related to the project. We do
21 inspection. Once a facility has been licensed, they go
22 through on a cycle, depending on what they are, what
23 type of site it is. We have an inspection process that
24 goes in, and the region supports that. And then we have
25 enforcement. If the licensee does not meet the

1 requirements that is put under the license, then there's
2 a notice of violation, depending on what type of
3 violation they have. And there's a level of severity,
4 which Bob will be discussing, there's enforcement and
5 the licensee has to come in, meet with us. Sometimes
6 there's civil penalty and those are one of the things we
7 look at.

8 Our mission is to protect public health and
9 safety and the environment. So we make sure that what
10 we license is safe, the material is being used for the
11 proper use, and the environment is also protected.

12 Our role, I'm on the second slide, to meet
13 strict safety standards. We have the Federal regulation
14 standards, which is (inaudible) Part 20, which sets the
15 public protection, the environmental protection and the
16 public also. The various parts in Part 10 addresses
17 Part 40, which would be the type of license that the
18 Army would be getting as a material license. And then
19 there's the nuclear power plants get Part 50, which the
20 various parts in our regulation addresses the type of
21 license you have and what the requirements are within
22 that license.

23 And once a proposal has been reviewed and if it
24 meets the requirements of those sections of our
25 regulations, we do license the facility, and they would

1 have to meet the requirements of the license. Sometimes
2 we have what we call license conditions, which on the
3 license we have specific requirements that they have to
4 follow and, otherwise, there will be violation of their
5 license.

6 Our review process, we have three review
7 processes. One is, we look at the safety, as we
8 discussed earlier, whether or not what they're proposing
9 is safe per our regulation. And then we look at the
10 security, making sure that they have the proper security
11 in place, access control, material, accountability.
12 Depending on the material, you know, the level of
13 security that you have to have for the facility to
14 operate. We look at those areas and that is an area
15 that different divisions within the NRC looks at.

16 And then we have the environmental review. Any
17 licensing action that we do requires that we do
18 environmental review to make sure that there's no
19 consequences based on the application that has been
20 submitted. And we start with environmental assessments.
21 If we don't come to finding of no significant impact, we
22 will move to an EIS. And based on some activities are
23 required, from the get-go, would be an EIS, but this is
24 not the case where licensing of a source material does
25 not trigger the EIS, but we'll start with environmental

1 assessment, and if that doesn't come to a (inaudible),
2 then we'll be into an EIS.

3 Our licensing process, as we said, the Army
4 submitted an application. Any entity can submit an
5 application. Within 90 days, we have to do acceptance
6 review. Once we have done an acceptance review, that
7 acceptance review, basically, deals with whether or not
8 they have addressed all the major areas of what we would
9 be reviewing, the safety aspects of it, the proposal,
10 how they're gonna mitigate any areas of concerns and
11 things like that, and we will make sure we look at those
12 things. And once we accept it, we have to have a
13 hearing opportunity, which we just do a Federal Register
14 notice to request if any members of the public or other
15 entities who feel that the proposal's not adequate, then
16 they will have an opportunity to request for a hearing.

17 The hearing process is a separate process where
18 we have a (inaudible) licensing board. Three member
19 judges, two technical and one legal, and they would look
20 at the contentions that have been submitted to the Board
21 and if they have adequate concerns and standing, those
22 gets accepted. And the staff, once they finish their
23 review, that would be put in front of the Board and the
24 applicant and the staff and the intervener would be
25 presenting those issues and addressed by the hearing

1 board.

2 Within that 90-day period as well -- within the
3 60-day period where we put in the Federal Register
4 notice, we have a public meeting, which this is what it
5 is, and, basically, we go through the process of what
6 the hearing request is, where you can put your concerns
7 and your comments will be considered and we will start
8 our detailed technical review. And after this meeting,
9 we take that information and we will start -- the
10 detailed technical review addresses all the various
11 areas in the application.

12 The team of experts that look at an application
13 will be, depending on if there's hydrology issues,
14 hydrology, geology, environmental people, health physics
15 people, project management, security people, and any
16 other areas of concerns that we might have, that team
17 will look at a detailed technical inside the technical
18 review, and if they have questions, we request for
19 additional information to the licensee. And those are
20 publicly available, if you write a letter and submit
21 that to the licensee, and they're required to respond to
22 us within 30 to 60 days. And if we have any meetings,
23 that would be publicly noticed and public will
24 participate on those meetings.

25 Once we have response back from the licensee on

1 the additional information, then we prepare a draft
2 safety evaluation report and an environmental
3 assessment, and based on that, we will do a final safety
4 evaluation report. And if it's okay, then we will issue
5 the license.

6 So that is our licensing process. Every
7 licensee that submits an application would have to
8 follow that process. Some licensees are required, if
9 you're gonna be licensing a nuclear power plant, there's
10 a requirement that there be a hearing. So depending on
11 what the type of license you have, but mostly this is
12 the process that we follow.

13 Where could input public involvement. Within
14 the next 60 days, I think the comment period ends
15 October 13th. The public could send comments to Jack
16 Hayes, and he will talk about the address and
17 everything. We take comments from this meeting, any
18 public meetings that we have, the public is invited to
19 attend. And I already talked about the licensing board,
20 about the hearing process. Those are the ways you can
21 get involved in the process before the license gets
22 issued.

23 Once a license has been issued, and let's say a
24 period of time passes where they have used the facility
25 and they stopped, they have to decommission. Part 20,

1 subpart E requires the licensee that they have to submit
2 a decommission plan and clean up the facility to the
3 standard that is in Part 20 to make sure that it could
4 be restricted or unrestricted release. For unrestricted
5 release is 25 millirem per year, and they have to show
6 the assessment and make sure all pathways have been
7 considered and there's no risk to members of the public.
8 And once they have submitted and we approve, we do
9 confirmation everything has been done correctly, the
10 license gets terminated.

11 Other options that they could go for restricted
12 release, which is an approach where they still have to
13 meet the 25 millirem, but they might leave material
14 behind and they would restrict the use of the facility
15 for a period of time. Basically, the Federal Government
16 or State has to take responsibility for that facility
17 and it will be, depending on the scenarios, might only
18 be used for industrial purposes or it might be used for
19 recreational or it might not be used at all. So those
20 are options that the licensee has and we will terminate
21 a license based on those options. With that, I will
22 give it to Chris McKenney.

23 CHRIS MCKENNEY: Hello. We're gonna go through
24 a little review of some talk about radiation. Some of
25 the terminology is not necessarily everyday speak, so

1 she's been already using some of the millirems and stuff
2 like that.

3 Radiation and radioactivity is terms to be used
4 interchangeably, but radiation is when something gets
5 emitted from like an atom or from an x-ray machine,
6 that's a type of radiation. The radiation is an issue
7 because it has energy. It can interact with your body
8 or some other material and provide that energy to your
9 body.

10 Radioactivity is how fast are things changing.
11 How fast is one atom changing to another type of atom.
12 That's how radioactive something is.

13 Radiation dose is how much energy is whatever
14 being hit by radiation is absorbing in a period of time.
15 We term that in terms of a unit we call the millirem.
16 It's a small amount of dose. Naturally, let's see, one
17 millirem is equivalent to about what you get from the
18 flight from here to the Mainland. You get about one
19 millirem of dose. Our unrestricted release standards
20 are 25 millirem per year. Our public dose is 100
21 millirem per year. And for air emission, our standard
22 is 10 millirem.

23 We have three types of material. We are
24 talking about a material called source material for
25 depleted uranium. That is, source material is uranium

1 and thorium that can be -- it's not in the ground still.
2 It's been taken out and processed for being uranium.
3 By-product material comes out of a nuclear reactor.
4 It's a lot of times like medical isotopes and other
5 things are by-product material. That's, again, not what
6 we're discussing today, but we license a lot of
7 by-product material. Most of our licenses in the state
8 of Hawaii are by-product. University of Hawaii for
9 various (inaudible) medical facilities and other things
10 like that.

11 Special nuclear material is the stuff that they
12 use for nuclear fuel or could be used in weapons. It's
13 plutonium, specific types of uranium, other things.
14 Again, that's not what we're speaking about when we're
15 talking about depleted uranium.

16 One important feature that always depends on
17 the type of license is the security level. Depending on
18 how much material you have there, what type of material,
19 we have different levels of security that's required for
20 radioactive material. If it's a small source, it's
21 highly radioactive or easily transportable, that tends
22 to have higher security standards. If it's a diffuse
23 source, such as material in soil or something like that,
24 that might have less security since it's harder for
25 somebody to take it someplace.

1 And then depleted uranium, which I'll talk
2 about a little later, unfortunately, since we don't have
3 the projector, I don't have this colorful graph of the
4 United States. I didn't put a picture of Hawaii in here
5 because this is talking about natural uranium
6 concentrations. And while there's a lot of colors on
7 the one of the Mainland, because uranium concentrations
8 go up and down through different parts of the country so
9 it's a very colorful graph. But for Hawaii, Hawaii is
10 all rock and it doesn't have much natural uranium.
11 That's one thing about (inaudible) rock is it's very low
12 in uranium. And some of the Army's testing so far has
13 been hard to find natural uranium in their testing for
14 the background samples and stuff.

15 Uranium is all around us, and what that does is
16 that forms that there is a natural amount of radiation
17 everybody's exposed to. As I said before, there's stuff
18 like in the air which is the cosmic particles from
19 space, comes from the sun, comes from other stars. The
20 amount you get from that depends on your altitude. If
21 you live on the coast, you get a lot less than if you
22 lived at the center of the Big Island or if you lived at
23 Denver or other altitudes like that, you'll get about
24 two to three times as much as you would get if you lived
25 on the coast.

1 On the next slide, there's a older chart of the
2 sources, the actual average dose that people in the
3 United States get. That's sort of averaged over because
4 some places have high radon and some places have lower
5 radon. Some places have lower terrestrial, such as
6 Hawaii. And other places have, obviously, from an
7 altitude, depends. But generally, people get between
8 300 to now estimates are up to about 6000 because of the
9 advent of a lot of use of medical uses. If you see,
10 there's a couple little pies here that talk about
11 nuclear medicine and nuclear x-rays. In the past 14
12 years, that shot up from about 60 millirem, which is
13 what these pies represent, to about 300 millirem on
14 average. Now, of course, that's, again, on average.
15 Some people have a lot of treatments and some people
16 don't. So, unfortunately, that's a very case-specific
17 thing.

18 So the background, the people are exposed to
19 about 300. Our limits for public are down at a hundred
20 millirem from all sources down to fractions that per
21 site and source. And when you talk about depleted
22 uranium, what is depleted uranium? Well, out there in
23 the world is natural uranium. It composes of three
24 different types of uranium. The numbers that are
25 associated with these on the table on the chart are the

1 number of neutrons and protons in the thing and so
2 that's how they keep them separated.

3 There's about equal amounts of uranium 234 and
4 uranium 238 in natural uranium and there's a very small
5 fraction, less than 1%, of 235 in natural uranium. But
6 235 is the material that is useful in reactors and
7 nuclear bombs. So what they do is they enrich it. They
8 put it through a process that tries to collect as much
9 uranium 235 in one mass of uranium and the other mass
10 doesn't have as much 235 in it anymore, and that second
11 mass is depleted uranium.

12 It also has lower amounts of 234 happenstance,
13 just because of the way they do it. So depleted uranium
14 is almost all 238. It's a by-product of making enriched
15 uranium. So it doesn't have, also, any of its progeny
16 like radon and radium and other things in it because
17 those were extracted during the milling process. It
18 happened because of the way 238 is to be -- have
19 fairly -- it has very low radiation characteristics
20 compared to other things, which is why it has been used
21 in the past for a lot of different applications where
22 they needed something that was heavy or dense or had
23 some other characteristics that were very useful from a
24 chemical standpoint. And they've used it in stuff like
25 weights for airplanes, counterweights for airplanes.

1 They used it for shielding a lot, and even medical
2 applications because it doesn't provide much dose or
3 anything like that, but it's cheap. It's heavy masses.
4 I think it's three or four times as dense as lead, if
5 you make it into a metal.

6 It is a heavy metal. So even though it has
7 both radiation, but it's also like lead, chromium, a lot
8 of other things. A lot of the metals out there can be
9 termed as a heavy metal. And what happens is, if you
10 ingest, generally through eating or drinking, a large
11 amount of heavy metals, it affects your kidneys and
12 that's an acute effect. So that's one concern from an
13 environmental assessment is what happens if you have
14 depleted uranium in the environment? What (inaudible)
15 members of the public if you're using depleted uranium?

16 Also, though, because it still is radioactive,
17 we also have to look at our limits for, are you hitting
18 the chemical limit first if you were anywhere near the
19 chemical or are you getting near the radiation limit?
20 Because different methods of interacting with material,
21 whether you breathe it in, whether you drink it in
22 groundwater or drinking water, or whether you eat it
23 through plants or be it through soil or something like
24 that, could all affect what your exposure to it is and
25 which of its concerns are actually primary in that case.

1 And the Army has provided to us, as part of their
2 application, a number of assessments of what their risk
3 assessments for both methods of both the chemical and
4 the radiological. We've not finished reviewing that
5 ourselves, but in general, depleted uranium is usually
6 more of a chemical issue than a radiological issue.

7 At this point, I'll hand it over to Jack to
8 talk about the application in more detail.

9 JACK HAYES: My presentation will cover five
10 main areas. First of all, I will give you an overview
11 of the Army's license application. I also will be
12 discussing with you the documents that may be of
13 interest to you that you may want to review in terms of
14 your assessment of the Army's application. I will be
15 discussing with you the NRC's review activities and the
16 status of those review activities. I will also be
17 discussing how you can participate in the NRC's process
18 and, finally, how you can obtain access to future NRC or
19 Department of the Army documents.

20 Now, with respect to the Army's application, as
21 Keith McConnell pointed out, there are a number of
22 different activities that the US NRC regulates. He
23 talked about reactors. In the case here, we're dealing
24 with source material which involves uranium and thorium
25 which is in a concentration in combination greater than

1 .05%. That is a Part 40 license. That is what the Army
2 has applied for and the Army has applied for that
3 license to apply at a number of different facilities.

4 Now, they have identified depleted uranium at
5 Fort Benning, Georgia, Fort Campbell, Kentucky, Fort
6 Knox, Kentucky, Fort Carson, Colorado. They've also
7 identified it at Fort Riley, Kansas, Fort Hood, Texas,
8 Fort Louis, Washington, in addition to the two Hawaiian
9 locations, Schofield and Pohakuloa. That's what they
10 have identified it for and what they are going to do is
11 what I described in my slide presentation as a piecemeal
12 operation.

13 What I mean by that, is a piecemeal operation
14 is first they're gonna go with Schofield and Pohakuloa
15 and what they have identified is they have submitted,
16 first of all, a physical security plan, a general one,
17 that will apply to all sites. In addition, they have
18 submitted to the NRC a radiation monitoring program
19 which is going to apply to all sites. Then in a
20 submittal that they made in July of 2009, they made a
21 site-specific radiation monitoring plan for Schofield
22 and Pohakuloa.

23 Now, the documents that may be of interest to
24 you, on the slide I've given you a number of documents
25 that may be of interest to you. One is the application

1 which the Army made and that application was made
2 November 6th, 2008, and you'll see I have an ADAMS
3 number there. And what the ADAMS system is for the NRC,
4 if you want to obtain a document associated with a
5 particular licensing action, it will have an ADAMS
6 number. So if you go to our ADAMS system on the public
7 website and you type in, for example, that first one,
8 ML090070095, you will get that document. And I've
9 listed there four documents that the Army has submitted
10 that may be of interest to you that you may want to
11 review.

12 Now, in terms of our review activities, as I
13 mentioned, November 6, 2008, the application came in
14 from the Army for the license. On July 8th of 2009, we
15 received a document which had the physical security
16 plan, the general physical security plan, the general
17 radiation monitoring plan, and then the site-specific
18 ones for here in Hawaii. Now, at subsequent sites are
19 characterized, for example, all the other sites are in
20 the Mainland, as those are characterized, then the Army
21 will be submitting radiation monitoring plans for those
22 particular sites.

23 Now, the current status of the NRC's review is
24 we have just begun our review, okay. If you look at, I
25 think probably the next page in the slide, you will see

1 that on August 3rd of 2009, we sent to the Army a letter
2 which indicated we had accepted their application for
3 review and so we have started that review process.
4 Whenever we take a significant licensing action, we
5 publish in the Federal Register a notice of that
6 significant licensing action, and depending upon the
7 action, we may either accept comments and/or accept the
8 opportunity for a hearing. In this case, there is an
9 opportunity for the public to request a hearing on this
10 particular action and that period of comment in which
11 they can request a hearing is 60 days. So the Federal
12 Register notice was published on the 13th of August and
13 you have until October 13th to provide a request for
14 hearing on this particular application.

15 Rebecca mentioned that there are a number of
16 NRC experts that are involved in the review of such an
17 application. She's mentioned radiation protection
18 people. There is also atmospheric science people. We
19 have groundwater and surface water hydrologists who take
20 an active role in these assessments. People involved in
21 physical security and ecology, just to name a few of
22 some of the particular expertise.

23 If you have an interest in participating, the
24 first thing is, for tonight we have a feedback form here
25 for you. We'd like to have your comments, positive,

1 negative, whatever. Was this meeting useful to you?
2 Did we provide information? What things could we have
3 done that would be better in terms of providing you
4 information? You don't have to sign your name. It's
5 already self addressed to me and it's postage paid, so
6 it doesn't cost you a dime. We're interested in your
7 feedback, so please make sure you take one of these
8 forms and provide us feedback.

9 In addition, if you want a electronic version
10 of some of the documents which have been submitted to
11 the NRC, here are electronic versions. We will also be
12 providing a meeting summary of each of the meetings that
13 we have here in Hawaii. We will also include an
14 electronic version of the slides that we have presented
15 here today. That posting of that summary will be within
16 30 days of the meeting.

17 In terms of comments, you have on the paper my
18 address. You have my e-mail address. You have my phone
19 number. You have my fax. If you have an interest,
20 please provide it to us and please provide it to us
21 within a 60-day period, so by October 13.

22 If you have a request, if you desire a request
23 for a hearing, in the Federal Register notice there is
24 guidance in terms of how to request a hearing. That
25 request must be electronically filed unless you asked

1 for a relief from that particular requirement. The
2 guidance is in the Federal Register notice. I would
3 refer you to that Federal Register notice in terms of if
4 you want to make application or request a hearing.

5 I'd like to provide to you a brief summary of
6 our review. The NRC's review is an independent review
7 and it will be a determination if the Army's physical
8 security and radiation monitoring program will protect
9 public health and safety. That's our focus. That's our
10 intent. We will inspect, and Rob Evans is going to be
11 discussing that, we will discussing the NRC's
12 implementation of a inspection program at the facility
13 to ensure that the physical security and radiation
14 protection programs protect public health and safety.
15 We will assess the adequacy of those programs and we
16 will take any action which we believe is necessary in
17 order to protect the public health and safety.

18 Now, I've also provided some information in
19 terms of how you may utilize the ADAMS system in terms
20 of the NRC's public website, and it's much easier to see
21 it on the screen where it is in color, but I have you
22 outline, this is the item that really is important if
23 you want to get to this particular issue. If you go on
24 that first screen that says "NRC documents," about the
25 fourth bullet down it says, enter docket number

1 04009083. That's what you want to highlight. That will
2 call up any documents associated with the Army's
3 request, both NRC documents and also the Department of
4 Army's documents. I will not go over any further the
5 details associated with the ADAMS system, but you will
6 be able to read that much better when you see our
7 electronic version.

8 ROB EVANS: Good evening. I'm Rob Evans. I'm
9 a senior health physicist out of the Arlington, Texas
10 office, Dallas/Fort Worth area, and Jack Whitten is my
11 supervisor. Keeping an eye on me today. One of the
12 things we do is inspections. And for this particular
13 type of facility, once it's licensed, it will go on a
14 two-year inspection interval. So the way it normally
15 would work is if the facility is just there, not doing
16 anything significant, we would go at least once every
17 two years.

18 If for any reason, in this particular case, the
19 Army decided to do some clean up or any other type of
20 significant activity, then what we would do is come more
21 frequently. So what we do is verify compliance with the
22 top -- if it's a tiered system, the regulations are at
23 the top, the license comes second, and any commitments
24 that the licensee makes as part of the application
25 process comes third. So when we go out and do an

1 inspection we verify compliance with all three of those.
2 In some situations they may not be in compliance which
3 will lead into the enforcement process, which I will
4 talk about in a couple of minutes.

5 As part of the preparation for the inspection,
6 we will review what's called the docket file. We go
7 through all of the recent records and we will take a
8 look at the performance history of this particular
9 facility. For example, if they've had previous
10 violations, then what we would do during the inspection
11 is to make sure that those violations have been
12 corrected, they have not repeated themselves, and that
13 performance in that area has met what we would consider
14 an acceptable level or better.

15 We also conduct inspections if there's a
16 significant change in site staffing or if there's a
17 significant change in site procedures. Usually, changes
18 in inspection frequency are proportional to performance.
19 If a licensee has good performance, we may stretch the
20 inspection interval beyond two years. If they have poor
21 performance, in this case two years, different licensees
22 have different frequencies, we may shrink it down and go
23 more frequently.

24 So when we actually go to the site, there's a
25 number of things that we do. One of them is we review

1 occupational exposure records as well as environmental
2 monitoring results. This is something we do for
3 practically every site that we go to. Occupational
4 exposure records related to doses to individuals and for
5 us as inspectors that's really important. It's what
6 impact is this radioactive material having on the
7 workers?

8 The other thing we look at is the environmental
9 monitoring results, which is, of course, what impact is
10 licensed operations having on the environment? So as
11 part of the licensing process, a licensee will have a
12 monitoring program that's usually tied to the license,
13 sometimes the regulation part of the license, and we
14 will make sure that they're doing those programs, and we
15 will also make sure that the results of those programs
16 do not exceed any licensed regulatory limits.

17 We also observe removal or dismantlement of
18 radioactive components. In this particular case, if the
19 Army elected that they were going to do clean up of a
20 test range, then it's likely that we may participate by
21 observing the work in progress to make sure that it's
22 being conducted in accordance with commitments they
23 previously made to the NRC. And as part of that entire
24 process, we always take radiological surveys. We take
25 survey equipment with us and we will do monitoring

1 independently. Like, for example, if there's a
2 radiation area which may not be applicable in this case,
3 then what we would do is confirm that it's properly
4 posted. Hospitals may be an example, radiography or
5 other examples.

6 We use our own equipment. And sometimes we do
7 side-by-side surveys. We'll have their equipment
8 sitting there, we'll bring our equipment, and we'll make
9 sure that we have similar numbers. Survey meters may
10 not read exactly the same, but we have to make sure that
11 what they're doing is -- the survey is being conducted
12 in such a way that the equipment is giving them accurate
13 results.

14 So confirmatory measurements, the slide, just
15 for show and tell, if you're interested, I brought
16 what's called a FIDLER, sitting back on that table over
17 there. It's an acronym that stands for field instrument
18 for detection of low-energy radiation. Depleted uranium
19 is sort of a unique radio nuke light. You can see it on
20 the ground sometimes. If you can see it on the ground,
21 very carefully, of course, you could bend over and just
22 pick it up properly and then take it to a place you'll
23 dispose of it.

24 Sometimes depleted uranium may be more
25 fragmented or in the grass or something like that and

1 you cannot visually see it, because it's just not big
2 enough. So the normal way of detecting for depleted
3 uranium is to do a gamma scan, we call it. But depleted
4 uranium has a very low energy gamma, so it takes special
5 equipment to locate DU that you can't see out in the
6 field. The FIDLER is one of the best instruments. It's
7 not the only one. There are a couple of other
8 instruments that will detect it in the field, but this
9 tends to be one of the best.

10 So commonly what they would do if they were to
11 clean up an area, they would walk the area over with
12 this survey equipment and anywhere there's a high
13 reading anomaly, they'll flag it. Then they can take
14 soil samples or just go ahead and clean up the area just
15 so the whole area is within the limits.

16 What we do, though, is we will take
17 side-by-side measurements, but we'll also collect soil
18 and water samples. We no longer maintain the capability
19 of analyzing those soil and water samples, but we have a
20 contract with Oak Ridge Institute for Science and
21 Education, an entity under the Oak Ridge National Labs
22 umbrella that does it for us. And they're a nationally
23 recognized laboratory and we trust their results. And
24 sometimes what we'll do is, in this case, the Army, may
25 collect a sample and we'll actually take that sample,

1 after they've analyzed it, and send it to our laboratory
2 and have them analyze it to see if the numbers are
3 comparable, and they should be statistically comparable
4 if the laboratories are doing their analysis correctly.

5 Moving on into the next subject area that I'd
6 like to talk about briefly is enforcement. Typically
7 the way the whole system works is the NRC would not
8 issue a license to an entity unless we felt that that
9 entity had integrity and was trustworthy, but as part of
10 the entire process, we still conduct inspections to
11 ensure, both for our knowledge as well as the public
12 knowledge, that the licensee is actually performing what
13 they're supposed to perform; doing what they're supposed
14 to do. So if they're not doing what they're supposed to
15 do, then enforcement may become involved.

16 The purpose of enforcement is to emphasize
17 accordance of compliance with regulatory requirements.
18 It's sort of like a motivator to get the licensee to
19 comply with regulations. And it also has a second
20 reason, and that is to encourage licensees to actually
21 identify and correct their own problems. So in this
22 particular case, picking on the Army as an example, if
23 they recognize that they missed an environmental sample,
24 for example, and if they identified it and implemented
25 corrective actions to prevent recurrence, then we would

1 give them credit for that. As compared to if we came
2 and identified it, then they would not get as much
3 credit in that situation.

4 There are three primary enforcement sanctions.
5 The most common is the notice of violation. So if the
6 licensee was doing something that was contrary to
7 regulatory license requirements, we would send them
8 what's called a Notice of Violation and we'd ask them to
9 respond in writing. How they plan to correct it and how
10 they plan to prevent it from recurring in the future.
11 And at some future inspection if it happens again, we
12 may give them a violation for ineffective corrective
13 actions. Usually the first time they usually implement
14 some sort of procedure or program change to fix it.

15 The second is civil penalties. This is for the
16 more significant issues. In the world of
17 decommissioning, an example would be if a facility was
18 contaminated and the controlling entity pre-released it
19 for access to public, even though it was still
20 contaminated. That's an example of where we might go
21 into what we call escalated enforcement, which could
22 result in a civil penalty.

23 The third is orders. That's more uncommon, but
24 an example might be is if an entity went bankrupt and
25 could no longer maintain the radioactive material, we

1 may issue an order saying they still have to maintain
2 control of the radioactive material. An order will
3 compel a licensee, or whoever, to take some action and
4 we would not issue an order unless we felt there was
5 some safety significance associated with it.

6 The next slide, violations stem from
7 noncompliances with regulations and/or license
8 conditions. The application, anything they mention in
9 an application, is usually tied to the license, which is
10 also something that we can hold them to. And violations
11 are identified through inspections, which is what I do
12 as well as investigations. An investigation is an
13 example of where information was provided to us that was
14 fraudulent, for example, or someone knew what they were
15 doing was wrong and that would kick in, possibly, an NRC
16 investigation, which is different from an inspection.
17 We may participate and support the investigators, but we
18 do not do that as inspectors.

19 The violation itself, there's three things that
20 are required to have a violation. There has to be an
21 actual or potential safety consequence. For example, an
22 overexposure would be an example of an actual safety
23 consequence. Or if they didn't actually get an
24 overexposure, but they almost got an overexposure, then
25 that would be a potential safety consequence.

1 The next bullet is potential impact on the
2 regulatory function. That would be an example of, we
3 base our decisions on the information that an applicant
4 provides to us. If they provide us information that's
5 misleading or has significant errors in it, then we
6 would make a decision based on those errors. In that
7 particular case, it would have an impact on the
8 regulatory function.

9 And the third bullet is a little less common,
10 but it's willfulness. In other words, they knew what
11 they were doing was a violation, but they went ahead and
12 did it anyway for whatever reason.

13 The next slide, severity levels. When we issue
14 a violation, it has a severity level. It goes from one,
15 which is most severe. Usually severity level one's
16 associated with like a fatality or an overexposure that
17 resulted in significant medical problems. Would be very
18 uncommon, and in this case, I doubt we would ever get to
19 this point. Down to a severity level four, which is the
20 most common type of violation we issue.

21 We also have several other types of violations.
22 A non-cited violation, which in simple terms, it was
23 licensee identified and corrected so we don't cite them.
24 They've already found it; they've already corrected it,
25 so there's no need to go through the process of issuing

1 a violation. Again, that goes back to one of the
2 enforcement bullets, it's we encourage identification of
3 your own problems.

4 Then a minor violation. It's still technically
5 a violation, but it doesn't really mean anything
6 important for safety significant, we usually don't cite
7 it. An example would be a late report. If they submit,
8 in this case, the Army submitted a late report two
9 weeks late and we may not actually cite them for it
10 because they did end up submitting the report. There
11 was no real safety consequence.

12 That's an overview of the inspection and
13 enforcement process. Questions?

14 KEITH McCONNELL: I think right now what we
15 tried to do is to give you some idea of a review
16 process. Try to demonstrate that the review is thorough
17 and rigorous, and that after a license is granted, it's
18 backed up by an inspection and enforcement program and
19 ensures that the regulations are met and, therefore, the
20 public health and safety is protected. I think some of
21 it may be pretty steeped in some regulatory jargon. So
22 if we've confused you, please let us know. And if guess
23 we'd like to open it up for questions, comments or
24 concerns.

25 KU'UMEAALOHA GOMES: Thank you very much. It

1 was very informative. I think we have Kyle, you're the
2 only one who signed up for comment. What I wanted to do
3 was ask if you guys want to move in front. Then we can
4 have that dialogue.

5 KEITH McCONNELL: We're recording this session
6 so we have a record of your comments. We don't intend
7 to intimidate anybody, but it just allows us to
8 basically have a record of your comments.

9 KU'UMEAALOHA GOMES: Anybody else with public
10 comments?

11 KYLE KAJIHIRO: My name is Kyle Kajihiro. I'm
12 with the American Friends Service Committee and I had
13 mostly some questions, so I don't know if it would be
14 easier if I just went down one by one?

15 So just first to start off, our interest and
16 concern with this question of depleted uranium goes back
17 to some of our involvement in trying to protect Makua
18 Valley on the west side of Oahu, which is a live fire
19 range, and there's been a long history of the community
20 trying to stop the bombing, protect the valley that's
21 considered very sacred. And when there was several
22 public meetings, we asked, you know, has depleted
23 uranium ever been used in Hawaii? And the Army told us
24 never been used. You know, never had any license to do
25 so and so not to worry about it. As a result of some

1 information that became public through a lawsuit, we
2 found that, in fact, the contractors had uncovered
3 depleted uranium and chemical weapons up in Lihue, which
4 is where Schofield Barracks, the training range is, and
5 that's how this information became public. So we were
6 shocked to learn that depleted uranium was released in
7 the environment. This was in 2005.

8 In 2007, I submitted a Freedom of Information
9 Act request to the Army for all the documents related to
10 the depleted uranium records, you know, surveys,
11 everything that was going on just to get a sense of what
12 was the scope of the problem, and also another request
13 for documents related to the Davy Crockett archival
14 research the Army had done and to date, we haven't
15 gotten any information from them. So we've been a
16 little frustrated about the lack of cooperation from the
17 Army on this question.

18 And another of our concerns has to do with the
19 area in Lihue, which was a site of the Stryker Brigade
20 expansion projects. There's been considerable
21 construction, grubbing, removal of and moving of
22 material, and that's where a lot of depleted uranium is
23 located. So we're concerned how the sites that are in
24 that area, including some very significant heiau
25 temples, will be affected by this and how will public

1 access be affected by the types of regulatory and
2 security actions that might be imposed on this site.
3 This is something we'd like to have increased access to
4 these sites so that native Hawaiians can practice their
5 culture in this area. And we don't know exactly where
6 the contamination sites are in relation to some of the
7 cultural areas, but we're wondering what provisions are
8 there in this NRC process that would allow for cultural
9 religious access to these places? I guess that's one
10 question I have.

11 JACK HAYES: Kyle, with respect to, say, the
12 religious and cultural, that's part of the environmental
13 assessment. I didn't mention that, but we have people
14 who assess the cultural activities associated with it.
15 You mentioned, I think, in terms of cultural activities,
16 that is just at the Makua or is it also at Schofield?

17 KYLE KAJIHIRO: Also at Schofield. There's a
18 very significant temple complex and agricultural complex
19 in there.

20 JACK HAYES: In the range where the range is
21 at?

22 KYLE KAJIHIRO: In the range area, yes.

23 JACK HAYES: Okay. That's something, I guess,
24 you know, that has not been identified to us. So if
25 that is a situation, we would take your comment and do

1 an evaluation on that.

2 KEITH McCONNELL: Let me just, we are required
3 under National Environmental Policy Act to coordinate
4 with the State Historical Preservation Office, which
5 does get involved in cultural resources and cultural
6 activities.

7 In terms of your question about access, that
8 would still rest between you and the Department of
9 Defense, or the Army in this particular case. Because,
10 in essence, access is not our issue. Protecting
11 cultural resources is an issue we have to be aware of
12 and make sure it happens, but in terms of access, that's
13 really between you and the Army.

14 KYLE KAJIHIRO: So I guess that gets to the
15 question about the nature of the applications to possess
16 depleted uranium, and I'm just wondering why that type
17 of a application as opposed to an application to clean
18 up and remove it, because there has been some removal
19 action, as far as I understand, and that would certainly
20 reduce the level of risk for anyone that was trying to
21 access the area, including soldiers that may be in there
22 or workers that would be in the area. So is there a way
23 that this could be remanded back and said, look, it
24 should be something that allows for removal actions to
25 increase the level of safety for the public?

1 KEITH McCONNELL: Well, right now we don't
2 think there is an issue of safety for the public
3 because, one, there's a limited amount of DU present at
4 the site. There are monitoring systems around the site
5 such that if there was even the remote possibility of
6 uranium getting off the site, it would be known and NRC
7 would take action at that point. And the Hawaii
8 Department of Health has been involved in this
9 monitoring. So it's not just the NRC, you know, saying
10 this, but also the Hawaii Department of Health.

11 There is a process called the decommissioning
12 process, and I think Jack mentioned. But at this point
13 in time, given that it's an active range with a lot of
14 hazardous material there, decommissioning is not part of
15 the process at this point in time. When the range
16 becomes inactive and the Army decides to clean up all
17 the material, including the chemical hazards, assuming
18 they do that, then we would become involved in making
19 sure that the depleted uranium was treated in a safe
20 way. But in essence, because it's an active range under
21 the control of the Army, that's likely the way it's
22 going to remain.

23 KYLE KAJIHIRO: See, that's another problem we
24 have with the application for possession, because it's
25 not -- not like, for example, if this was a nuclear

1 power plant, it would be contained, you know. There
2 would be ways to truly secure the material. Here it's
3 in an open environment where there are activities going
4 on that could disturb that material. We're concerned
5 about -- well, if you've seen the range, it's on a
6 pretty steep grade. All those gulches go into
7 Kaukonahua stream which flows right around here and then
8 out to Kaiaka Bay and Waialua. And when we have big
9 rain events, the water's red because of all the runoff.
10 So I don't know that the monitors could possibly catch
11 what's happening in those types of conditions. And, you
12 know, it's been going on for a number of years and it
13 will happen again. So I don't, you know, respectfully,
14 we don't trust that the monitoring is gonna be enough to
15 contain material that's in the open environment.

16 Secondly, live fire activity is gonna disturb
17 that ground and, you know, we know that the DU itself is
18 in the solid forms, it may break apart, but if they're
19 impacted by some kind of a kinetic object, they're
20 pyrophoric, so they will aerosolize. They can turn into
21 depleted uranium oxide. And at least from my reading of
22 the surveys that were done, that wasn't really looked
23 at, is how depleted uranium oxide is behaving and what
24 are the chances of those kinds of materials being
25 released. That's much more mobile, I guess, than the

1 solid chunks of it. So has that been looked at at all
2 in the studies and how are you folks handling the DU
3 oxide and the fact that activities could be, you know,
4 causing this material to aerosolize?

5 KEITH McCONNELL: Well, that will be part of
6 the review process. I think we are aware of that
7 concern. I think we heard it expressed previously.
8 Chris, do you want to...

9 CHRIS MCKENNEY: Well, I mean, that's
10 definitely a focus on the air monitoring system that
11 we'd be reviewing. Their proposed air monitoring
12 system, will they be able to capture the movement of
13 anything oxide? Similarly for the surface water
14 sampling, is the surface water sampling representative
15 of both low-flow conditions and also for possible
16 transference during a high-flow event, short-term,
17 high-flow event, which is fairly common in these type of
18 rugged or very steep terrain style. So both those are
19 definitely points of review as to, are the environmental
20 monitoring programs represented and protective?

21 KYLE KAJIHIRO: And the monitoring is based on
22 sort of an average of readings, is that how I'm
23 understanding? But over time the readings are sort of
24 averaged out or is it also looking at, okay, where are
25 there spikes?

1 CHRIS MCKENNEY: There's, what are the annual
2 averages? So that what would be the year-based exposure
3 if somebody were standing there? So if somebody stood
4 right there at the edge of the site for all year, what
5 would that person have been actually exposed to? If,
6 disregarding the actual amount of water that was
7 actually available in the surface water flow, if a
8 person were able to drink all of their water for a year
9 out of the surface water that was...

10 THE REPORTER: Chris, I'm losing you. I can't
11 hear.

12 CHRIS MCKENNEY: Okay. There's, on a
13 station-by-station basis at the edge of the site, you
14 don't average along the whole 360 of the site or
15 anything like that. You look on a site-by-site basis.
16 And a first level of review to say is there an issue to
17 look at in a more thoughtful manner is you generally, at
18 most sites, you look at what's maximum exposure
19 assumption, basically. What if someone today stood
20 there? What if someone stood there and breathed in all
21 they breathed in, 24 hours a day, they never left that
22 site, they got exposed from the external, from the stuff
23 that's still inside the site and they breathed in that
24 stuff.

25 From water point of view, you'd look at if they

1 were able to drink all of their water out of that
2 surface water or if you were actually -- if a case where
3 you had contaminated groundwater would be looking if
4 they could drink all that groundwater. Is that above or
5 below the limit? And then if that was close to what
6 either the action limits the licensee had, which most
7 sites have action limits that are less than our actual
8 limits for the public, they, then, would go through an
9 investigation and say, okay, how much was the actual
10 amount that was actually released? Because they assumed
11 for first cut what if a person actually stood there, and
12 then start to do more of an investigation of what did
13 the actual public get, and go through sort of that
14 procedure so that they understood what the public was
15 potentially exposed to.

16 But it's not averaged over several years. It
17 may be averaged for what is the average concentration
18 over the year for somebody, because our dose limits are
19 in terms of complete years, but depending on how you do
20 the calculation or how the exposure scenario may
21 actually occur, like if there's really a big spike and
22 somebody could get the dose limit from something in a
23 three-hour period of time because there was only a
24 three-hour window that there was one release and,
25 therefore, if they breathe during three-hours period of

1 time at the monitoring locations concentration and then
2 that.

3 So in general most people do use an annual
4 average for a station, but you might, depending on how
5 spikey something is, you may look at smaller time
6 intervals and not average as much to look at the actual
7 exposures to the public.

8 ROB EVANS: Could I add on to that for a
9 second. As part of the inspection, at some point
10 through the licensing process, a program will be
11 approved. How they plan to do the water sampling. How
12 they plan to do the air sampling. What we will do
13 through the inspection program is to verify that they're
14 implementing the program. Like, for example, air
15 samples, we'll make sure that they're actually
16 conducting the air samples and then we will take a look
17 at what the sample results are, compare them to
18 background for the action level, and if there's any
19 nominal release, anything out of the ordinary, then we
20 will investigate it. Talk to them. Try to get their
21 understanding as to what happened in these situations.
22 But once the program's approved, we'll verify
23 implementation through the inspection process.

24 KYLE KAJIHIRO: So I guess, is it possible for
25 your license, you know, if you grant the license to put

1 conditions on, let's say, you know, there can be no live
2 fire activity, anything that's gonna have impacts in the
3 area that's known to be contaminated, that you could say
4 this area is off limits for that particular type of
5 activity because it's gonna create a chaotic environment
6 that we can't control what's happening. Is that
7 something you can set for public safety protection?

8 KEITH McCONNELL: If there was a health and
9 safety issue, and I'm not sure that we're in agreement
10 that there is a health and safety issue with what you're
11 suggesting, but if there was, then we could implement a
12 license condition that says that will not be done.

13 CHRIS MCKENNEY: Actually, in some sites, we
14 have had conditions, generally it's suggested by the
15 licensee that they would not do certain actions under
16 certain wind conditions. Like they wouldn't -- we had
17 one example is a place that they're trying to clean the
18 groundwater up. So they pump the water into pools on
19 the surface and then the water itself has to evaporate
20 and the sediment then goes to the bottom of the pond and
21 then they collect that for disposal. But one way they
22 evaporate water faster is to spray (inaudible) the pond.
23 Well, if the wind's low, it just falls back into the
24 pond. If the wind is above a certain thing, that tends
25 to travel down and that means it could off site. So the

1 licensee has come in and said, if it's over 5 miles an
2 hour, we will not (inaudible) the sprayer system to
3 alleviate the possibility of off site. So those sort of
4 license conditions can be placed on a license if the
5 conditions are such that are necessary to alleviate
6 possible public exposure.

7 KYLE KAJIHIRO: So what's the total amount of
8 material that's out in the environment? What's the
9 estimated amount?

10 KEITH McCONNELL: Greg Komp's in the back, but
11 what the Army has indicated, there's approximately
12 300 pounds distributed across the two sites, Schofield
13 Barracks and Pohakuloa. So I think it's hard to
14 estimate how much would be at each particular site, but
15 300 pounds. And when you think about the area, the
16 areas involved, 300 pounds is not that significant
17 amount of radioactive material.

18 KYLE KAJIHIRO: But are -- these are only based
19 on archival research for the Davy Crockett, though,
20 right. Was there any other research done to look at any
21 other possible inadvertent release of possible DU?
22 Because I know in Puerto Rico, for example, the Navy did
23 release rounds that were not, you know, licensed and
24 permitted.

25 KEITH McCONNELL: Well, we had the same

1 question. We had a public meeting with the Army
2 yesterday. The thing that came to mind was the 810
3 Warthog that, I guess, trains over in Pohakuloa. And
4 the issue was since that weapon system uses depleted
5 uranium, was depleted uranium was part of the training?
6 And what the Army has indicated is, no. That those
7 weapon systems, when they were tested, did not use
8 depleted uranium.

9 KYLE KAJIHIRO: You have other service branches
10 also training in Pohakuloa and these other places,
11 though, so you wouldn't know, right.

12 KEITH McCONNELL: Well, that should be part,
13 and we'll let Greg answer, but that should be part of
14 the information they provide us is if there's any other
15 sources of depleted uranium.

16 CHRIS McKENNEY: As part of the license
17 application in these cases, (inaudible), if something's
18 already there and we're trying to figure out how much is
19 actually there, then one thing that's common in actually
20 decommissioning cases, also, when you're dealing with
21 what happened in the past to the site is we asked for
22 something called historical site assessment or archival
23 research and to provide, hey, we looked at all these
24 things; we talked to people who worked there; we talked
25 to all these people; we went to every source of data and

1 this is how we documented what was authorized to be used
2 there and what was, kind of, plucked from various
3 records. And so that should be part of the Army's
4 submittal to us. And beyond that, I'd defer to Greg.
5 If Department of Army wishes to respond to your question
6 directly right now, we can give them the chance right
7 now.

8 GREG KOMP: I think everybody can hear me fine.
9 I taught for a number of years and part of the Army
10 thing is you can project if you need to.

11 Let me go back and just kind of talk to the
12 first find. Initially some of the questions we had
13 related to depleted uranium were based on the water
14 penetrator in the tanks. And so when we answered your
15 question initially, that's what we're thinking of.

16 And it was shortly after that, I want to say
17 within a day or two after we answered questions about
18 whether or not we'd ever had depleted uranium in Hawaii,
19 we found these things, and it was just simply because
20 somebody working the site had experience with that
21 particular round. We really didn't expect it. It had
22 been a 1960s program and literally forgotten about it.
23 And so once we discovered it, I think we were pretty
24 forthcoming, coming back out and saying, hey, we found
25 these. And at that time, we didn't know what we didn't

1 know. We really spent the last four years trying to
2 gather that information. And when you're dealing with
3 40-year-old documents, that's a difficult task. That's
4 what part of that archive search report was, and we've
5 had people going back and doing a lot of records.

6 So I think a lot of the depleted uranium, we
7 can answer for the modern penetrator, yeah, we have
8 not -- to our knowledge, we just don't have it there.
9 We haven't been able to find any records of that.

10 Going back to what we have found, we have
11 actual -- there were only 75,000, just little over, I
12 think 75,318 rounds, produced in Lake City Army
13 ammunition plant. We have great shipping records on all
14 those records; were those rounds ever shipped. So we're
15 pretty confident in what was shipped to the islands. So
16 far we've really only found about 300 pounds, I'll give
17 you the number of 714, and that's what we've been able
18 to find and so we've got that.

19 As to any firing from the other services, one
20 thing you have to do, as this group will tell you,
21 before I can use depleted uranium in the United States,
22 we have to do it under the NRC license program. We
23 can't take rounds (inaudible) for the Warthog
24 (inaudible) or some of the other depleted munitions and
25 actually fire them. We've only got a couple sites that

1 are licensed to do that firing and so we couldn't do it
2 here. Neither could any of the other services without
3 violating their terms of the NRC agreement.

4 KYLE KAJIHIRO: So that was the state of
5 affairs in (inaudible). They didn't have a license for
6 DU and it turned out they used it.

7 GREG KOMP: Right, they did. And we've gone
8 back. We've asked our sister services, do they have any
9 record at all of use and everybody has come back and
10 said, no, they did not.

11 KYLE KAJIHIRO: Does the Army have DU inventory
12 in the islands?

13 GREG KOMP: From my knowledge, we do not.

14 KYLE KAJIHIRO: That would require another
15 permit, right, if you had the actual munitions stored
16 somewhere.

17 CHRIS MCKENNEY: In a very weird sense because,
18 again, we're civilian not military oversight, we
19 regulate the production of the depleted uranium rounds
20 if they were to be produced. And we regulate after
21 they've been fired, if they are in the tank or, you
22 know, in possession of storage of the military, that is
23 considered part of the Department of Defense weapon
24 system and it's under their control. And so we don't
25 have jurisdiction over actual, direct weapons

1 themselves, but if after they've actually decided to
2 close a depo and stuff like that, they have to make sure
3 that they don't leave contamination behind, and then
4 they have to deal with us for clean up.

5 KYLE KAJIHIRO: You know, but I saw a DU
6 license -- I mean, a license for Lualualei that the Navy
7 had and they store DU over there, is that a different
8 kind of thing?

9 REBECCA TADESSE: Basically, we license for the
10 manufacturing, storage, and then disposal. Once it gets
11 into the weapon, we're not regulating it. Once it gets
12 out of the weapon, and it happens to be United States,
13 we regulate it. So there is a storage license where,
14 you know, the Navy has a master material license where
15 they can store and use and they have a license with us.
16 So it's at the point where it's being fired. And if
17 it's being fired for training purposes, like GPG, they
18 used to fire it. They're licensed. So it's just when
19 it gets into the gun or the weapon, then we don't have
20 jurisdiction of that material at that point.

21 CHRIS MCKENNEY: The U.S. Navy also has what's
22 called a master material license which is different from
23 the Army. They actually put like mini licenses
24 underneath their license for different uses. So they
25 could actually have put a NRC-like license for a storage

1 facility, which is really a Department of Defense or
2 weapon system which is more Department of Defense
3 actually oversight control, but just for their on
4 records.

5 Department of Army have individual licenses
6 with each site as they need them. And so there's a
7 little bit of difference between the Department of Navy,
8 Department of Air Force, both have these master material
9 abilities to, as they move things around, set up a new
10 one, which our inspection can still go to those, look at
11 the various things through the process, but it's a
12 little bit more flexible for them as they change their
13 programs. Department of Army has chosen to just license
14 each fort and each Army base separately as they have
15 used them over the years. Same thing with the U.S. Army
16 Corps. of Engineers and the old bunkers that were used
17 way back in World War II.

18 KYLE KAJIHIRO: So they would -- so, like, the
19 Navy would report to you what they have at Lualualei.

20 CHRIS MCKENNEY: Right. Exactly.

21 REBECCA TADESSE: The master material,
22 basically, gets oversight from the region. I think the
23 Navy is Region 1. So the various master material
24 license gets an oversight and we go to the sites. We
25 oversee any other activities. We review what they've

1 done. So they're just, basically, handling most of
2 their activities, and they have their own NRC and that
3 gets oversight from NRC.

4 CHRIS MCKENNEY: But it's also not necessarily
5 for the material like this. It's much more for like the
6 flexibility for like the medical programs. Because like
7 one of the things we have in our medical license is we
8 have a list in our license of the doctors who are
9 authorized to work at that facility with the radioactive
10 materials. Navy can modify those people by when they
11 move them around, instead of having to contact us every
12 time to change the names, they can handle that through
13 their master material list.

14 JACK WHITTEN: We write the licenses so that
15 they're broad enough in order for the individuals to be
16 able to do that. They have their own committee and they
17 are able to -- they have their own licensing or
18 permitting. So before we issue a license, they issue a
19 permit and they're able to do all the different things
20 they need to do. For example, if it was munitions
21 testing or something, if that was one of the things they
22 wanted to do and it was authorized under their master
23 materials license in the broad scope sort of way, then
24 they could go ahead and do that activity.

25 KYLE KAJIHIRO: I have just one more thing.

1 Just it seems -- it just seems to go against common
2 sense to me -- okay. If I dropped a glass jar or a
3 glass in my kitchen, the glass shattered everywhere, I'm
4 gonna stop what I'm doing and tip toe out of there and
5 try not to disturb that environment so I can pick up all
6 the pieces and make sure that I'm not gonna have any
7 shards left behind. So with the DU situation like we
8 have up here where it's been scattered around, I would
9 think that the best way to ensure that we would have the
10 ability to clean it up in the end would be to secure
11 that thing so it's not being disturbed and then, you
12 know, even if it's not cleaned up right away, is to not
13 have activity that's gonna disburse that, it's gonna
14 grind it into the ground or move it around in any way,
15 right. So that's what seems counterintuitive to me
16 about this application, and I think this is a concern
17 that many of us have in the community.

18 CHRIS MCKENNEY: We understand that. Yeah, we
19 do.

20 KYLE KAJIHIRO: Thank you.

21 GREG KOMP: If I might address just one other
22 question, just so for your knowledge. We do have at
23 Schofield Barracks for all the construction activities,
24 even from our survey activities, we do have site
25 archeologists that are working with and also contractors

1 from U.H. who are actually coming in and doing those
2 cultural and historical archeological sites, and there's
3 negotiation process. I can put you in contact with the
4 appropriate person to find all those details. But just
5 so we are working to try to accommodate that as much as
6 we can.

7 DARLENE RODRIGUES: Hi. Thank for coming down
8 and taking the time. I learned a lot from this, so
9 thank you. My name is Darlene Rodrigues, and I'm a
10 resident of Mililani, which is a community close by.
11 Sorry, I'm all new to this whole thing. So I understand
12 that there's a heavy metal toxicity that happens from
13 DU, like other heavy metals. So who would be
14 responsible for monitoring the heavy metal toxicity and
15 the safety to the public, and is that you folks? In the
16 environment, the heavy metal toxicity that happens.

17 KEITH McCONNELL: As it relates to uranium,
18 that is our responsibility. In terms of monitoring what
19 the Army does to ensure that it doesn't become an issue,
20 it's the Army's responsibility to monitor the site. We
21 go back in and independently verify what they do to make
22 sure that it is working and that health and safety is
23 being protected, but it's really the Army's
24 responsibility to set up the monitoring system and
25 ensure that there's no impacts.

1 DARLENE RODRIGUES: Okay. So not just
2 radiological, but the chemical effects as well. So like
3 the FIDLER -- no?

4 CHRIS MCKENNEY: Actually, there's a slight
5 variation. The levels that we have for -- we generally
6 don't look at the chemical toxicity directly for members
7 of the public because the dose limits are generally so
8 low for members of the public that the chemical -- that
9 they'll also be below chemical toxicity if we're below
10 the radiation levels.

11 We have specific limits, though, in our
12 regulation for workers, because that's not necessarily
13 true for workers. There is a possibility that a worker
14 could get a chemical dose or enough in them to cause a
15 chemical problem before they cause a radiation dose
16 issue. And so, it's not apparent in the regulations
17 (inaudible) we're actively looking at chemical toxicity
18 for members of the public, but we have through the fact
19 that our public dose limit of 10 millirem per airborne
20 releases, which is also consistent with EPA's standard
21 for airborne releases for particulates. The limit in
22 our regulations is approved by for the EPA for the
23 airborne releases for all types of radioactivity through
24 their program called (inaudible) emission standards,
25 can't remember what the H stands for.

1 And in water, EPA has established their
2 drinking water standard based on chemical toxicity. And
3 in the end, they would actually be the ones who would be
4 most responsible for making sure the water systems,
5 because that's part of the drinking water standards,
6 whether it's natural uranium or anything else, they have
7 a standard that says you gotta keep it way below this so
8 that nothing happens. But in most cases, our radiation
9 standards, because they're low, will protect from a
10 chemical toxicity.

11 And the one we look at directly, because it can
12 happen in reverse, the chemical can happen before the
13 radiological, is for workers. A lot of times they're
14 also exposed to more times the type of uranium that is
15 much more likely to cause chemical toxicity. There's
16 uranium oxide, which is what the uranium metal will turn
17 to when it's in the environment over time, because
18 uranium metal is not chemically stable. It likes to be
19 oxidized. Uranium likes to be oxidized. And so in the
20 presence, that's why it turns yellow. You'll have
21 uranium metals, greyish with sort of depending on what
22 alloy is in it, but when it's uranium oxide, it will
23 have a yellow tint to it. That's why it's called yellow
24 cake. But the uranium oxide is not as -- doesn't get
25 taken up into your body as well. If you ingest uranium

1 oxide, it tends to just go right through you. Uranium
2 metal and other forms of highly, or what's called -- one
3 version of uranium which is called tetravalent --

4 KEITH McCONNELL: You may be getting into a
5 little bit too much detail.

6 CHRIS MCKENNEY: Sorry. Anyways, some forms of
7 it, which are not usually present in the environment
8 after the uranium has been in the environment for a long
9 time, are the ones that are more soluble and, therefore,
10 more likely to get into the bloodstream and cause
11 chemical. And those soluble forms are more generally
12 present in industries that are using like enrichment
13 plants, like the mills, stuff like that. So in those
14 cases, those workers have issues to see if they have
15 chemical toxicity issues, and so we have exact
16 regulations for that.

17 JOHN HULL: Chris, just to clarify. I think
18 when you're talking about workers, you're talking about
19 on-site workers.

20 CHRIS MCKENNEY: On-site radiation workers.

21 REBECCA TADESSE: And to be clear, our
22 expectation is that there is not going to be a radiation
23 worker in the Army's application. I mean, there might
24 be workers that are going in to do construction and
25 things like that, but they should be less than 10% of

1 our requirement for workers. So, therefore, there
2 should not be a radiation worker on this site. So all
3 the chemical toxicity and things like that that would be
4 applicable for radiation workers, should not be applied
5 here due to the fact they have small amount of material
6 and they're not likely to meet the 10% of the regulation
7 for a radiation worker, so, therefore, our expectation
8 is that there isn't unless, Greg, if you...

9 GREG KOMP: That's accurate.

10 REBECCA TADESSE: So enrichment facilities and
11 things like that are different and we have those
12 requirements for them, but that's not the case for here.

13 DARLENE RODRIGUES: That's fine. Thank you.
14 The other question I have is about, so I know you gave a
15 list of the documents that are gonna be on the ADAMS
16 site. Will this be, I guess, translated in a way that
17 real -- I mean not real people, but the average Joe
18 could be able to read this and understand, and then will
19 this also be available in other languages? Hawaii has a
20 large English-as-a-second-language population, a lot of
21 them who live around here, and I'm wondering if that's
22 on your purview in terms of the safety and health of the
23 community and if language access is something that is on
24 your radar?

25 KEITH McCONNELL: Well, generally, I guess to

1 answer the first question, what's on our website is
2 basically what's submitted and then also what we provide
3 back, as well as summaries like this and the transcript
4 that will be provided. If we haven't done an effective
5 job in communicating any aspect, why don't you catch us
6 after this meeting in terms of maybe we can provide a
7 little bit better answer. In terms of alternative
8 languages, we generally don't do that.

9 CHRIS MCKENNEY: We have, especially in areas
10 which have had large environmental justice issues,
11 sometimes we have pursued that, but not as a general
12 matter.

13 REBECCA TADESSE: And our goal was if there
14 were members of the public that were concerned and
15 wanted to discuss, we did have a translator here and our
16 hope was that we'll have that available.

17 KU'UMEAALOHA GOMES: It's primarily for
18 Hawaiian. The translator is a translator for Hawaiian
19 language, not, I think, for the population that Darlene
20 is referring to.

21 DARLENE RODRIGUES: Which would be in Ilocano
22 or Tagalog or the other immigrant populations that live
23 here in Hawaii. And that would be my question in terms
24 of the violations that would happen and if there was any
25 danger or harm to the public, notification would only be

1 in English, I'm thinking about there are people and
2 immigrants who fish downstream in these gullies, you
3 know, when the water comes and, you know, they catch --
4 there's (inaudible) that comes down. I'm just wondering
5 if that's of concern and how would you do that public
6 outreach if there was some kind of public health or
7 safety issue?

8 JACK HAYES: You know, one of the things we do
9 in terms of enforcement is usually there's a public
10 announcement in terms of when we take enforcement
11 action. And so I would guess that within your community
12 you have some community groups who, either newspapers
13 and that who may place that particular press
14 announcement into your paper dialogue or whatever it is
15 that you communicate to your population.

16 KEITH McCONNELL: I would say that we would be
17 out here talking to you all, and I would think that the
18 Department of Health, the Hawaii Department of Health,
19 could also be out here.

20 KU'UMEAALOHA GOMES: There's a member of the
21 Department of Health here and they translate a lot of
22 their material to several different languages.

23 KEITH McCONNELL: It's an interesting question
24 and I thank you for it, because this is not unique to
25 Hawaii. We have a lot of interactions with native

1 Americans in the western United States. So it's
2 something I think we'll take back with us to think
3 about.

4 DARLENE RODRIGUES: So I guess, I mean, that
5 leads to another comment that I have about like the, I
6 guess, the partnership between this Federal agency and I
7 guess the State agency and wondering, I guess, I mean,
8 can you -- I mean, rather than relying on the Department
9 of Public Health for that, the assurance on those issues
10 and, you know, they've got the skills to do this
11 translation, but then it's good to hear that, you know,
12 this would not be the only case where that has happened,
13 so it wouldn't be something new.

14 Then the other question I had about was, does
15 the public have any say in terms of, the question came
16 up about the integrity and the trust issue with the
17 licensee or asking for the license and if the public has
18 any kind of say in that, you know, if the public has any
19 weight in that question of that integrity to that
20 licensee or that person who's requesting the license?

21 KEITH McCONNELL: I'm sorry, I don't know that
22 I --

23 DARLENE RODRIGUES: Well, the question is,
24 like, say, if there's a lack of confidence, say, the
25 Department of the Army and assuring our safety around,

1 you know, this issue based on past -- I'm just thinking
2 about this whole thing about it's like creating
3 something in a closet and you find that there's rotting
4 meat, you know, like 40 years later, that kind of
5 concerns me as a person in the community that how could
6 I trust that the Army would know what's in its closet,
7 you know. And so, I guess, that's the question I have
8 is if the public would have any weight on saying, well,
9 you know, okay, you might find that they meet all these
10 standards, but what if we, the public, who has to live
11 here 24/7, doesn't trust this licensee, if that has any
12 weight in your granting of that license?

13 KEITH McCONNELL: I think the reason we're here
14 is to hear that sort of comment from you. So this is, I
15 think, your opportunity to go on record as expressing
16 that concern and that becomes part of the licensing
17 record, but also part of our consideration of this
18 application. I think to be fair, the Army, recognizing
19 that there were issues in the past and it was 40 years
20 ago, has made a valid attempt to identify what went on
21 at these two sites, Schofield Barracks and Pohakuloa.
22 So I think they made a sincere effort to work through
23 this process. They actually came to us and identified
24 this is an issue and now we're in the licensing process.
25 But we do encourage you. That's one reason why we're

1 here.

2 CHRIS MCKENNEY: And also, if you have more
3 information or you want to make a stronger (inaudible)
4 other things, of course doing a written comment also to
5 back it up is also another opportunity, up until
6 October 14th, is always if you come away from this
7 meeting you wanted to -- you went through all your
8 questions, but you want to go through another one,
9 remember that's another opportunity for you to put in
10 information or, you know, to get things considered as
11 part of the process.

12 ROB EVANS: Could I just say one more thing, is
13 the NRC also has something called an allocation process
14 that we actually have telephone numbers and we have a
15 program where if an individual has a concern, whatever
16 that concern happens to be, is they can present to the
17 NRC, in a sometimes confidential way, though usually we
18 prefer the name so we can get back to the individual,
19 they can present the issue, I've got this concern,
20 here's my concern. And then what we will do is we'll
21 take that information, maybe glean a little bit more out
22 of you to make sure we understand what the issue really
23 is, and then we'll present to what we call an allocation
24 review board. And that board, which includes
25 management, NRC management-type people, will go through

1 the allegations, all of them that come in within a
2 certain timeframe, and then they will make a decision as
3 to how they want to (inaudible). And my understanding
4 is the NRC has a pretty low threshold. So if something
5 comes in and we feel there's any merit at all, we will
6 actually do an on-site investigation, inspection or
7 investigation, to actually see if there's any merit to
8 it. So even after the license is issued, if something
9 comes up, there is a process that we follow religiously
10 to do reviews of concerns.

11 CHRIS MCKENNEY: If, for example, you're
12 saying, I don't think they're actually doing the
13 radiation monitoring. As a citizen, you can always use
14 this process to call in. And then what would likely
15 happen is, we would send Rob out here to come out here
16 for an inspection to say, we'd like to see how you've
17 been doing your monitoring and that sort of thing, which
18 would be the likely sort of process that would happen.
19 And then as the person who called, you would actually
20 get an individual response to what was the actual
21 result. And depending on how long it took to review the
22 whole process, you may get in-process responses, so that
23 it's not like, okay, we'll deal with you when we're
24 done, we'll get back to you, and three years later we
25 actually get back to you. On a regular basis, you would

1 actually get, hey, we're working this issue. This is
2 what we've done so far. This is what we're looking at
3 next.

4 ROB EVANS: We have internal deadlines and NRC
5 management takes it very seriously to meet those
6 deadlines.

7 JACK HAYES: Understand that the NRC licensing
8 process is based upon trust. But in the mortal words of
9 one president, trust but verified. And the NRC takes
10 its verification very seriously, that's why we have
11 standard procedures in terms of what time period we
12 verify or inspect certain facilities and what we do
13 inspect. So, you know, it's how we know that that
14 license is being adequately implemented.

15 DARLENE RODRIGUES: And so that kind of
16 monitoring would be available to the public, that's
17 something we could be able to access?

18 JACK HAYES: Yes.

19 REBECCA TADESSE: Everything we do is in ADAMS.
20 That docket number provides you the inspection reports,
21 any correspondence we might have with the Army or the
22 State on that topic. Everything that we do regarding
23 this site would be in that docket file.

24 JACK HAYES: For example, when we do an
25 inspection, that inspection report is publicly

1 available. So anyone can read that. If we have
2 enforcement action, you know, that enforcement action is
3 publicly available. If we have an enforcement
4 conference, people can participate by a phone or be in
5 attendance to that enforcement conference. All that is
6 publicized. And then what ultimately comes out of that
7 enforcement conference is published. So we believe
8 we're very transparent.

9 JACK WHITTEN: And also, depending on the
10 complexity of the situation, we would also probably
11 issue a press release, too, and let individuals know
12 that we are taking enforcement action, what that
13 enforcement action was, and also a statement probably
14 from our regional administrator talking about what
15 situation occurred and why.

16 KU'UMEAALOHA GOMES: There's no more coming. I
17 I want to thank both of you very, very much, because
18 your questions, I think, were extremely helpful to the
19 panel. And it's, I think for our community, we're
20 honored to have people like you here, too, who are so
21 well-informed and taking time to inform the community.
22 I think this is probably one of the times we get most
23 information out of people like this.

24 The panel, NRC, is on its way to the Big Island
25 for two more meetings, one in Kona and one in Hilo. So

1 if you know any folks there who are curious and want to
2 know about the process, invite them to come out. So
3 Rebecca, or whoever.

4 KEITH McCONNELL: Well, again, we thank you and
5 we do appreciate you speaking up because it does help
6 us. So thank you very much. We thank everybody who
7 came out to the meeting.

8 (Meeting concluded at 8:07 p.m.)
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C E R T I F I C A T E

STATE OF HAWAII)
CITY AND COUNTY OF HONOLULU)

I, BARBARA ACOBA, Certified Shorthand Reporter and Notary Public, State of Hawaii, do hereby certify:

That on Tuesday, August 25, 2009, at 6:20 p.m., the foregoing Public Meeting was taken down by me in machine shorthand and was thereafter reduced to typewriting under my supervision; that the foregoing represents, to the best of my ability, a true and correct transcript of the proceedings had in the foregoing matter.

I further certify that I am not an attorney for any of the parties hereto, nor in any way concerned with the cause.

Dated this 8th day of September, 2009, in Honolulu, Hawaii.



BARBARA ACOBA, CSR NO. 412
Notary Public, State of Hawaii
My Commission Exp: 10-22-2012