

MEETING REPORT

DATE: November 16, 2010

TIME: 10:00 am – 3:00 pm

PLACE: Commission Hearing Room
US NRC Headquarters
11545 Rockville Pike
Rockville, MD 20852

PURPOSE:

The purpose of this meeting was to discuss with U.S. Army Installation Management Command (“IMCOM”) licensing matters associated with IMCOM’s request to possess depleted uranium at various Army installations. The notice for the meeting is enclosed as Attachment 1. In addition, the transcript of the meeting is enclosed as Attachment 2.

ATTENDEES:

A list of attendees is enclosed as Attachment 3.

DISCUSSION:

On Nov. 6, 2008, U.S. Army IMCOM submitted a materials license application to possess residual quantities of depleted uranium from spent M101 spotting rounds at multiple sites across the United States, including Hawaii, Georgia, Kentucky, Colorado, Texas, Washington, and Kansas. Since the filing of the application, IMCOM has identified other installations where, in its belief, depleted uranium contamination from spent M101 spotting rounds is located. As part of its introductory remarks, the NRC staff communicated the following goals for the meeting:

- To discuss the need for license amendment applications to be filed for the additional installations, apart from Schofield Barracks and PTA.
- To discuss NRC expectations for the contents of those license amendment applications.
- For the NRC to better understand IMCOM’s planned activities to locate additional facilities believed to contain depleted uranium contamination.
- For the NRC to better understand what progress IMCOM has made in preparing licensing materials for each of the previously identified installations believed to contain depleted uranium contamination.
- For the NRC to better understand IMCOM’s path forward in submitting future licensing materials for both the previously identified installations believed to contain depleted uranium contamination and also any to-be-discovered sites that contain depleted uranium contamination.

In furtherance of the foregoing goals, the NRC staff made presentations regarding the following topics:

- The classification of depleted uranium as source material within NRC's licensing jurisdiction.
- Whether IMCOM could be an NRC licensee.
- The history of NRC licensing of the M101 spotting round.
- How additional installations, apart from Schofield Barracks and PTA, would need to be licensed by amendment.
- What NRC anticipates to be the contents of the license amendment applications as would be filed by IMCOM for additional installations.
- How the public can participate in NRC licensing and regulatory processes.
- What activities IMCOM can and cannot engage in at the identified installations in the absence of a license to possess the material.
- The NRC inspection process for licensees of the type IMCOM would be once licensed to possess the material at the identified installations.

The slides for those presentations are enclosed as Attachment 4. Of particular note, the NRC staff communicated to IMCOM that routine maintenance activities that would occur within the radiation control area of any of the installations believed to be contaminated with depleted uranium would require the operation of a radiation safety program approved by the NRC. IMCOM expressed that this was a cause of concern as IMCOM would potentially need to suspend training operations at the identified installations. Such suspension would, according to IMCOM, potentially impact Army readiness. The NRC staff indicated that it would be willing to work with IMCOM to develop an interim solution.

IMCOM discussed generally the process and associated search criteria it had employed to discover and evaluate installations for potential contamination from spent M101 spotting rounds. IMCOM indicated that it was in the process of preparing archive search reports for the installations identified through that search process. As IMCOM stated, the archive search reports would generally rely upon shipping records to determine the estimated quantity of M101 rounds that were expended as part of training exercises at each of the identified installations. IMCOM listed those installations, apart from those already identified in its November 6, 2008, license application, where it believed there is a potential for depleted uranium contamination. IMCOM also pointed out that it possessed information which indicated that M101 spotting rounds had been sent to U.S. Army installations in foreign countries. However, IMCOM was not at liberty to discuss that information. IMCOM indicated that it would work with NRC if NRC believed that it needed that information.

The NRC staff asked a variety of questions relating to IMCOM's communications with the NRC and IMCOM's plans regarding the installations believed to contain depleted uranium contamination. The NRC staff questioned whether IMCOM planned to conduct aerial surveys or gamma walkovers, as it had done at Schofield Barracks and PTA, at the other identified

installations. IMCOM responded that it had no plans to do so. The NRC staff asked whether IMCOM had implemented personnel radiation monitoring at any of the other installations for those times when Army personnel would need to enter areas believed to contain depleted uranium contamination. IMCOM responded that it had not yet implemented personnel monitoring at the other installations. IMCOM indicated that it would need to evaluate the need for personnel monitoring based on the particular activities occurring at each of the identified installations. The NRC staff asked whether IMCOM had implemented the Department of Defense prohibition of firing high explosives into locations believed to contain depleted uranium. IMCOM stated that it had communicated that prohibition to the range operators of the identified installations but was not necessarily aware of whether the prohibition had been actually implemented—though IMCOM indicated that it had no reason to believe that the prohibition would not have been implemented.

PUBLIC PARTICIPATION:

The public was invited to observe the meeting and ask questions during specified periods identified on the meeting agenda. Ms. Linda Modica asked a series of questions related to the Aerojet facility in Tennessee. She indicated that she had information regarding offsite radiological contamination at that facility and would like to share that information with the NRC. Paul Michalak of the NRC staff indicated that he would follow up with her regarding this issue. Ms. Modica also asked some general questions regarding environmental monitoring for offsite migration of contaminants. The NRC staff responded that it expected IMCOM to submit comprehensive environmental monitoring plans for each of the identified installations to address potential pathways for human exposure to depleted uranium, to be tailored to the site-specific conditions at each of the installations.

ATTACHMENTS:

1. November 4, 2010 Notice of Forthcoming Meeting with U.S. Army IMCOM.
2. Transcript of November 16, 2010 Meeting with U.S. Army IMCOM at NRC Headquarters.
3. November 16, 2010 Meeting Attendee List.
4. Slides of NRC Presentations at November 16, 2010 Meeting with U.S. Army IMCOM.

Attachment 1

November 4, 2010

MEMORANDUM TO: Catherine Scott, Assistant General Counsel
Materials Litigation and Enforcement
Office of General Counsel

FROM: Brett Klukan, Attorney */RA/*
Materials Litigation and Enforcement
Office of General Counsel

SUBJECT: NOTICE OF FORTHCOMING MEETING WITH U.S. ARMY
INSTALLATION MANAGEMENT COMMAND (IMCOM) TO
DISCUSS LICENSING MATTERS ASSOCIATED WITH IMCOM'S
REQUEST TO POSSESS DEPLETED URANIUM AT VARIOUS
ARMY INSTALLATIONS.

DATE & TIME: Tuesday, November 16, 2010
10:00 a.m. – 6 p.m.

LOCATION: U.S. Nuclear Regulatory Commission (NRC)
Commissioners' Hearing Room
One White Flint North, O1-F16/O1-G16
11555 Rockville Pike
Rockville, Maryland 20852-2738

PURPOSE: To discuss with U.S. Army IMCOM licensing matters associated
with IMCOM's request to possess depleted uranium at various
Army installations.

CATEGORY*: This is a Category 1 meeting. The public is invited to observe this
meeting and will have one or more opportunities to communicate
with the U.S. Nuclear Regulatory Commission at designated
points identified on the agenda.

NOTES: Interested members of the public can participate in this meeting
via a toll-free audio teleconference. For details, please call or
email Brett Klukan (contact information below).

* Commission's Policy Statement on "Enhancing Public Participation in NRC Meetings," (67 FR 36920) May 28, 2002.

A webcast of the meeting will be available to members of the public. If interested, please contact Brett Klukan for further information.

Presenters during the meeting may make use of Powerpoint presentations. This meeting notice will be amended to include such presentations when they become available.

Seating may be limited and will be available on a first-come basis. Please inform (by telephone call or email) Brett Klukan of your intention to attend by November 13, 2010. This step will ensure that sufficient copies of meeting materials are available.

The NRC provides reasonable accommodation to individuals with disabilities where appropriate. If you need a reasonable accommodation to participate in this meeting, or need this meeting notice or the transcript or other information from the meeting in another format (e.g., Braille, large print), please notify Brett Klukan. Determinations on requests for reasonable accommodation will be made on a case-by-case basis.

Because meetings are sometimes cancelled or rescheduled as a result of unforeseen circumstances, please confirm the meeting schedule.

CONTACT:

Brett Klukan
301-415-3629
Brett.Klukan@nrc.gov

PARTICIPANTS:

The meeting will include NRC participants from the Office of Federal and State Materials and Environmental Management Program, the Office of General Counsel and, likely, one or more of the regional offices. Representatives from U.S. Army IMCOM will also participate in the meeting.

DOCKET:

40-9083

Enclosure:

Agenda

DOCKET: 40-9083

Enclosure:
Agenda

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ADAMS Accession No.:

OFFICE	OGC/MLE	OGC/MLE	OGC/MLE
NAME	C. Scott	C. Safford	B. Klukan
DATE	10/04/2010	10/04/2010	10/04/2010

OFFICIAL RECORD COPY

Agenda for Meeting with U.S. Army IMCOM
Re: Licensing of DU from Spent “Davy Crockett” Test Rounds

November 16, 2010

- **Introduction of Participants**
 - *Office:* NRC Office of Federal and State Materials and Environmental Management Programs (FSME).
 - *Est. Time:* 10 minutes (10:00 – 10:10).

- **Overview of NRC Authority to Regulate Depleted Uranium (DU)**
 - **DU as “Source Material” within NRC Jurisdiction**
 - *Office:* NRC Office of General Counsel (OGC).
 - *Est. Time:* 10 minutes (10:10 – 10:20).

 - **The U.S. Army as a Potential NRC Licensee**
 - *Office:* OGC.
 - *Est. Time:* 10 minutes (10:20 – 10:30).

 - **Short History of Materials Licenses re: the Manufacture and Testing of Rounds Containing DU for Use with the “Davy Crockett” Weapon System**
 - *Office:* OGC.
 - *Est. Time:* 20 minutes (10:30 – 10:50).

 - **U.S. Army IMCOM’s Current Licensing Status**
 - *Office:* OGC.
 - *Est. Time:* 5 minutes (10:50 – 10:55).

- **Break (15 minutes) (10:55 – 11:10)**

- **U.S. Army IMCOM’s Site Identification Process**
 - *Office:* U.S. Army IMCOM.
 - *Est. Time:* 45 minutes (11:10 – 11:55).

- **Public Questions (35 minutes) (11:55 – 12:30)**

- **Break (1 hour) (12:30 – 13:30)**

- **The Licensing Process for U.S. Army IMCOM to Possess DU at Identified Sites**
 - **How Additional Installations will be Licensed by Amendment**
 - *Office:* FSME / OGC.
 - *Est. Time:* 15 minutes (13:30 – 13:45).

- Public Participation in the NRC Licensing / Regulatory Process
 - Office: OGC
 - Est. Time: 15 minutes (13:45 – 14:00).
- **Future Interactions with U.S. Army IMCOM**
 - Future U.S. Army IMCOM License Amendment Applications
 - Office: FSME.
 - Est. Time: 30 minutes (14:00 – 14:30).
 - Future Licensee Activities
 - Office: FSME.
 - Est. Time: 15 minutes (14:30 – 14:45).
 - NRC Inspections of Licensees
 - Office: Regional Office.
 - Est. Time: 30 minutes (14:45 – 15:15).
- **Break (15 minutes) (15:15 – 15:30)**
- **U.S. Army IMCOM's Progress in Preparing License Amendment Applications for Additional Sites (Site-by-Site)**
 - Office: U.S. Army IMCOM.
 - Est. Time: 90 minutes (15:30 – 17:00).
- **Conclusion and Continuation of Public Questions (1 hour) (17:00 – 18:00)**

Attachment 2

Official Transcript of Proceedings
NUCLEAR REGULATORY COMMISSION

Title: Public Meeting with INCOM
RE: Possession of Depleted Uranium

Docket Number: (n/a)

Location: Rockville, Maryland

Date: Tuesday, November 16, 2010

Work Order No.: NRC-562

Pages 1-137

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1 U.S. NUCLEAR REGULATORY COMMISSION

2 + + + + +

3 PUBLIC MEETING WITH U.S. ARMY INSTALLATION MANAGEMENT

4 COMMAND (IMCOM) TO DISCUSS LICENSING MATTERS

5 ASSOCIATED WITH IMCOM'S REQUEST TO POSSESS DEPLETED

6 URANIUM

7 AT VARIOUS ARMY INSTALLATIONS

8 + + + + +

9 TUESDAY, NOVEMBER 16, 2009

10 + + + + +

11 The meeting convened in the Commissioners'
12 Hearing Room, One White Flint North, O1-F16/O1-G16,
13 11555 Rockville Pike, Rockville, Maryland, at 10:00
14 a.m., Brett Klukan, Office of General Counsel,
15 presiding.

16 NRC PARTICIPANTS:

17 BRETT KLUKAN, Materials Litigation and Enforcement,
18 Office of General Counsel

19 JOHN J. HAYES, JR., FSME

20 PAUL MICHALAK, Branch Chief, Materials Decommissioning
21 Branch, FSME

22 CARRIE SAFFORD, Office of General Counsel

23 CATHERINE SCOTT, Assistant General Counsel, Materials
24 Litigation and Enforcement, Office of General
25 Counsel

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NRC PARTICIPANTS: (CONT.)

KIMBERLY ANN SEXTON, Office of General Counsel

D. BLAIR SPITZBERG, PhD, Chief, Repository and Spent

Fuel Safety Branch, Division of Nuclear

Materials Safety, Region IV

U.S. ARMY PARTICIPANTS:

COLONEL GREG BALDWIN, Staff Judge Advocate,

Installation Management Command

ROBERT CHERRY, Radiation Safety Staff Officer,

Installation Management Command

LT. COL. KENT HERRING, Environmental Law Division

JOAN HUTTON, Southeast Region, Installation Management

Command (by phone)

GREGORY R. KOMP, Radiation Safety Officer

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TABLE OF CONTENTS

1		8
2	Introduction of Participants	8
3	Overview of NRC Authority to Regulate Depleted	
4	Uranium (DU)	10
5	DU as "Source Material" within NRC	
6	Jurisdiction	10
7	The U.S. Army as a Potential NRC	
8	Licensee	13
9	Short History of Materials Licenses	
10	re: the Manufacture and Testing of	
11	Rounds Containing DU for Use with	
12	the "Davy Crockett" Weapons System	16
13	U.S. Army IMCOM's Current Licensing	
14	Status	21
15	U.S. Army IMCOM's Site Identification Process	22
16	Public Questions	38
17	The Licensing Process for U.S. Army	
18	IMCOM to Possess DU at Identified	
19	Sites	45
20	How Additional Installations will be	
21	Licensed by Amendment	45
22	Public Participation in the NRC	
23	Licensing/Regulatory Process	52
24	Future Interactions with U.S. Army IMCOM	59
25	Future U.S. Army IMCOM License	

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		4
1	Amendment Applications	59
2	NRC Inspections of Licensees	60
3	Future Licensee Activities	61
4	U.S. Army IMCOM's Progress in Preparing	
5	License Amendment Applications for	
6	Additional Sites (Site-by-Site)	76
7	Conclusion and Continuation of	
8	Public Questions	132
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
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22		
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P R O C E E D I N G S

10:05 A.M.

1
2
3 MR. KLUKAN: Welcome, everyone. My name
4 is Brett Klukan. I'm an attorney with the Office of
5 General Counsel in the Division of Materials
6 Litigation and Enforcement.

7 I would like to welcome everyone in
8 attendance in person and on the phone and watching via
9 the web stream to this public meeting with the U.S.
10 Army Installation Management Command, or IMCOM for
11 short, to discuss licensing matters associated with
12 IMCOM's request to possess depleted uranium from spent
13 spotting rounds at various Army installations across
14 the United States.

15 I would like also to take this opportunity
16 to thank U.S. Army IMCOM for agreeing to participate
17 in this meeting today.

18 Before introductions, I would like to lay
19 out some background for our discussions here today.
20 And subsequently to sort out what the NRC sees as the
21 goals for this meeting.

22 On November 6, 2008, U.S. Army IMCOM
23 submitted a materials license application to possess
24 residual quantities of depleted uranium from spent and
25 101 spotting rounds in multiple sites across the

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1 United States including Hawaii, Georgia, Kentucky,
2 Colorado, Texas, Washington, and Kansas.

3 Since the filing of the application, IMCOM
4 has identified other installations where, in its
5 belief, depleted uranium contamination from spent and
6 101 spotting rounds is located.

7 On August 13, 2009, the NRC published in
8 the Federal Register a Notice of Opportunity for the
9 public to request a hearing associated with two Hawaii
10 locations and IMCOM's license application. Schofield
11 Barracks on Oahu and Pohakuloa Training Area, or PTA
12 for short, on the big island of Hawaii.

13 As one final background note, U.S. IMCOM
14 has submitted site-specific environmental monitoring
15 plants for Schofield Barracks, PTA, Fort Benning in
16 Georgia, Fort Campbell in Kentucky, and Fort Knox in
17 Kentucky.

18 So with that background laid out, the NRC
19 sees for the goals for this meeting as these: to
20 discuss the need for the license amendment
21 applications to be filed for the additional
22 installations apart from Schofield Barracks and PTA;
23 to discuss NRC expectations for the contents of those
24 license amendment applications; for the NRC to better
25 understand IMCOM's planned activities to locate

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1 additional facilities, believed to contain depleted
2 uranium contamination; for the NRC to better
3 understand what progress IMCOM has made in preparing
4 licensing materials for each of the previously
5 identified installations believed to contain depleted
6 uranium contamination; and finally, for the NRC to
7 better understand IMCOM's path forward in submitting
8 future licensing materials for both the previously
9 identified installations and also any yet to be
10 discovered sites that contained depleted uranium
11 contamination.

12 A couple of housekeeping matters before I
13 turn to introductions. This is a Category 1 meeting
14 pursuant to the NRC's public meeting policy. As such,
15 the public is invited to observe this meeting and will
16 have one or more opportunities to communicate with the
17 U.S. Nuclear Regulatory Commission at designated
18 points as laid out on the agenda.

19 The public is free to ask IMCOM
20 representatives questions during those designated
21 portions of the meeting, but IMCOM is not required to
22 answer.

23 There is a sign-in sheet located by the
24 door. I would ask that all in attendance in person
25 today here please sign that form before you leave.

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1 There are also located by the door
2 feedback forms that you are invited to fill out. If a
3 member of the public participating the teleconference
4 or watching via web screen would like to fill out a
5 feedback form, please email brett -- B-R-E-T-T dot
6 klukan, K-L-U-K-A-N at nrc.gov to receive a copy of
7 the form.

8 If you are participating in the meeting by
9 teleconference, I would ask that when you are not
10 speaking, please keep your phone muted, if possible.
11 I would also ask for the convenience of the court
12 reporter, that when you speak on the phone, please
13 identify yourself by name first.

14 Now with that, I'll turn to introductions.
15 Again, my name is Brett Klukan. I am an attorney in
16 the Office of the General Counsel in the Division of
17 Materials Litigation and Enforcement.

18 MS. SAFFORD: Carrie Safford, Office of
19 the General Counsel.

20 MS. SCOTT: Catherine Scott, Office of the
21 General Counsel.

22 MR. MICHALAK: Paul Michalak, Branch
23 Chief, Materials Decommissioning Branch.

24 MS. SEXTON: Kimberly Sexton, Office of
25 the General Counsel.

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1 MR. KLUKAN: I'll now turn to U.S. Army
2 IMCOM, if you can identify who you have here in person
3 with you today.

4 COL. BALDWIN: Colonel Greg Baldwin. I'm
5 the IMCOM Staff Judge Advocate.

6 DR. CHERRY: I'm Bob Cherry. I'm the
7 IMCOM Radiation Staff Officer. I'm also the Radiation
8 Safety Officer named on the license application.

9 MR. KOMP: Greg Komp. I'm the Radiation
10 Safety Officer.

11 LT. COL. HERRING: I'm Lt. Colonel Ken
12 Herring from the Army's Environmental Law Division.

13 MR. KLUKAN: Now if I could have those
14 members of the public on the phone please identify
15 themselves at this time.

16 MS. MODICA: This is Linda Modica, calling
17 in for the Sierra Club from Jonesborough, Tennessee.

18 MR. KLUKAN: Thank you. Anyone else at
19 this time?

20 MS. HUTTON: Joan Hutton, Army IMCOM
21 Southeast Region, Fort McPherson.

22 MR. KLUKAN: Thank you. Anyone else?

23 MR. TANAKA: Hello, this is Jason Tanaka
24 with the Army Corps of Engineers Honolulu district.

25 MR. KLUKAN: Thank you, Mr. Tanaka.

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1 Anyone else?

2 Hearing none, we'll proceed with the
3 meeting.

4 I want to ask first at this time if U.S.
5 Army IMCOM have any questions regarding how this
6 meeting will proceed here today?

7 COL. BALDWIN: I don't think we have any
8 questions. Thank you.

9 MR. KLUKAN: Okay, great. Then I'll
10 proceed with the first of our presentations here
11 today, depleted uranium as a source material.

12 The purpose of this presentation is to
13 discuss briefly NRC's treatment of depleted uranium as
14 a source material subject to NRC's licensing
15 jurisdiction.

16 The first question, why does it matter
17 whether or not depleted uranium is considered a source
18 material?

19 To answer that question, we turn to
20 Section 62 of the Atomic Energy Act which provides in
21 pertinent part, unless authorized by a general or
22 specific license issued by the NRC which the NRC is
23 authorized to issue, no person may transfer or receive
24 in interstate commerce transfer, deliver, receive
25 possession of, or title to, or import into or export

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1 from the United States any source material after its
2 removal from its place in deposit in nature except
3 that licenses shall not be required for quantities of
4 source material which, in the opinion of the NRC, are
5 unimportant.

6 So to sum that up, pursuant to Section 62
7 of the Atomic Energy Act, a license is required in
8 order to possess, use or transfer source material
9 after its removal from its place of deposit in nature
10 in quantities the NRC considers not unimportant.

11 So what is source material? The Atomic
12 Energy Act defines source material as uranium,
13 thorium, or any other material which is determined by
14 the NRC pursuant to the provisions of Section 61 of
15 the Atomic Energy Act to be source material or as
16 containing one or more of the following materials in
17 such concentrations as the NRC made by regulation to
18 determine from time to time.

19 Section 61 of the Act simply provides that
20 the NRC may determine from time to time that other
21 material is source material in addition to those
22 already specified in the definition laid out in our
23 slide, in accordance with the criteria established in
24 Section 61.

25 How does the NRC then define source

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1 material? In 10 CFR 40.4 the NRC defines source
2 material as uranium or thorium or any combination
3 thereof in any physical or chemical form or which is
4 contained by weight 1/20th of 1 percent or more of
5 uranium, thorium or any combination thereof. I forgot
6 to click that forward.

7 There you see the definition.

8 However, source material does not include
9 special nuclear material. The NRC defines special
10 nuclear material as plutonium, uranium-233, uranium
11 enriched in the isotope 233 or in the isotope 235 or
12 any other material which the Commission pursuant to
13 the provisions of Section 51 of the Atomic Energy Act
14 determines to be special nuclear material or any
15 material artificially enriched by any of the
16 foregoing.

17 So with all that, what does the NRC or how
18 does the NRC then define depleted uranium or what does
19 the NRC consider depleted uranium to be? The NRC
20 defines depleted uranium as source material uranium in
21 which the isotope uranium-235 is less than .711 weight
22 percent of the total uranium present.

23 So is what IMCOM seeks to possess or seeks
24 NRC authorization to possess at various Army
25 installations against spent M101 spotting rounds

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1 within NRC's definition of depleted uranium and as
2 such licensable source material? Based on NRC's
3 understanding of the composition of the M101 spotting
4 rounds in question, the answer in short, is yes.

5 Any questions on this presentation by U.S.
6 Army IMCOM?

7 Hearing none, we will move to the next
8 presentation which is the U.S. Army as a potential NRC
9 licensee.

10 The purpose of this presentation is to
11 discuss briefly how U.S. Army IMCOM is within NRC
12 licensing jurisdiction for the possession of depleted
13 uranium which is again, as previously discussed, a
14 type of source material or considered by the NRC to be
15 a type of source material.

16 And again, we turn to Section 62 of the
17 Atomic Energy Act. This time the question with which
18 we concern ourselves, however, as opposed to what is
19 source material is instead whether IMCOM is a person
20 subject to Section 62 of the Atomic Energy Act.

21 So is IMCOM a person subject to Section
22 62? With that, we turn to the Atomic Energy Act's
23 definition of person. The Atomic Energy Act defines
24 person as any individual, corporation, partnership,
25 firm, association, trust, estate, public or private

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1 institution, group, government agency other than the
2 Commission, or any state or any political subdivision
3 of, or any political entity within a state, any
4 foreign government or nation or any political
5 subdivision of any such government or nation or other
6 entity.

7 Note here I have emphasized government
8 agency other than the Commission. It is with this
9 term that we now turn our attention.

10 So is IMCOM a government agency within the
11 meaning as used within the definition of person by the
12 Atomic Energy Act? The Atomic Energy Act defines
13 government agency as any executive department,
14 commission, independent establishment, corporation,
15 wholly or partly owned by the United States of America
16 which is an instrumentality of the United States, or
17 any board, bureau, division, service, office, officer,
18 authority, administration or other establishment in
19 the Executive Branch.

20 As you can see, this definition is fairly
21 broad. And based on this definition, IMCOM would
22 appear to be a government agency. And as such, being
23 a government agency, IMCOM is a person subject to
24 Section 62 of the Atomic Energy Act.

25 We now turn our attention to 10 CFR 40.3

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1 of the NRC or the Commissions regulations. Section 62
2 of the AEA, 10 CFR 40.3 provides that a person subject
3 to the regulations in this part may not receive Title
4 2, own, receive, possess, use, transfer, provide for
5 long-term care, deliver or dispose of by-product
6 material or residual radioactive material as defined
7 in this part or any source material after its removal
8 from its place in deposit in nature unless authorized
9 in a specific or general license issued by the
10 Commission under the regulations in this part.

11 So again, like before, the question is is
12 IMCOM a person or within the definition of person? To
13 that we turn to the NRC's definition of person which,
14 in part, is any individual, corporation, partnership,
15 firm, association, trust, estate, public or private
16 institution, group or government agency. Again, as
17 before the next question is whether or not IMCOM is a
18 government agency within the meaning of the
19 Commissions regulations in this part.

20 So is IMCOM a government agency as defined
21 by the NRC? The NRC defines government agency
22 similarly to Section 62 of the Atomic Energy Act, as
23 any executive, department, commission, independent
24 establishment, corporation, wholly or partly owned by
25 the United States of America, which is an

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1 instrumentality of the United States or any board,
2 bureau, division, service, office, officer, authority,
3 administration or other establishment of the Executive
4 Branch of the government.

5 Based on this definition, IMCOM is a
6 government agency within the meaning of the
7 Commission's regulations, and again as such, IMCOM is
8 a person subject to 10 CFR -- or to prohibition in 10
9 CFR 40.3.

10 Any questions on that?

11 Okay, hopefully, we'll turn to a
12 presentation not quite as dry. This is a short
13 history of NRC licensing spotting rounds for use with
14 the Davy Crockett Weapon System.

15 The purpose of this presentation is to
16 discuss briefly the history of NRC licensing spotting
17 rounds containing depleted uranium for use with the
18 Davy Crockett Weapon System. Pictured on this slide
19 is the Davy Crockett Light Weapon M28. The Davy
20 Crockett M28, 120 millimeter recoilless gun was
21 designed to fire a low-yield atomic weapon at a
22 minimum range of about 550 meters and a maximum range
23 of about 2,000 meters. For verification of range
24 estimates, the M28 employed the M6920 millimeter
25 spotting round.

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1 What we are concerned with today is the
2 spotting round, the M101 designed to be fired by the
3 M69 spotting rifle.

4 This is a picture of the M101 spotting
5 round. The M101 was a low-velocity cartridge used to
6 determine the impact point for the projectile fired by
7 the 120 millimeter gun which would be the low yield
8 atomic weapon. Upon impact, the M101 would emit a
9 puff a white smoke two or three meters in diameter and
10 two to five meters in height. Again, this was to
11 determine the range of the weapon.

12 The M101 was approximately 7.5 inches long
13 and weighed about a pound. In order to achieve the
14 desired range, accuracy, and ballistic efficiency, the
15 projectile body of the M101 was manufactured to *
16 (10:22:10) a depleted uranium alloy.

17 Now we turn to NRC's history with the Davy
18 Crockett Weapon System and the M101. What is shown on
19 this slide is an excerpt from a letter dated September
20 16, 1961 from A. Tyler Port, Acting Assisting
21 Secretary from the Army to Harold L. Price, Director
22 of Regulation for the U.S. AEC, which is the
23 predecessor to the U.S. Nuclear Regulatory Commission.

24 In this letter, Assistant Secretary Port
25 indicates that the Army is planning to use depleted

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1 uranium in applications unrelated to its potential use
2 as a source material. One such application of
3 depleted uranium that Assistant Secretary Port
4 highlights is spotting rounds for the Davy Crockett
5 Weapons System. Assistant Secretary Port notes that
6 Lt. General Hinrichs, Chief Hinrichs, Chief of
7 Ordnance for the Army at that time, had already sought
8 and obtained a license from the AEC to authorize the
9 possession, fabrication, and testing of spotting
10 rounds containing depleted uranium for use with the
11 Davy Crockett Weapons System. I'll discuss that
12 license in a moment.

13 However, the license obtained by Lt.
14 General Hinrichs did not permit the transfer of
15 spotting rounds to field units, nor did it
16 consequently according to Assistant Secretary Port
17 provide for the expenditure for spotting rounds by
18 field units in practice or combat. Moreover, the
19 license issued to the Chief of Ordnance did not
20 provide for other potential uses of depleted uranium
21 as received by the Army at that time.

22 As such, due to those restrictions present
23 in the license issued to the Ordnance Corps, Assistant
24 Secretary Port requested that the license be withdrawn
25 and a new license be issued to the Department of the

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1 Army as opposed to the Ordnance Corps. This new
2 license would, according to Assistant Secretary port,
3 authorize the possession of depleted uranium without
4 quantity of limitation and allow permit -- permit
5 fabrication, testing, export, and issue to support
6 organizations within the Army and the expenditure of
7 this material for uses other than the production of
8 special nuclear material.

9 We now turn to the NRC license 307 which
10 is pictured on this slide, or one iteration of that
11 license as pictured on this slide. This was a license
12 issued to the Chief of the Ordnance. This license
13 permitted without quantity restriction the fabrication
14 of spotting rounds at Lake City Arsenal and Frankford
15 Arsenal and for the testing of those spotting rounds
16 at locations designated by the Chief of Ordnance.

17 The license also authorized the export of spotting
18 rounds containing uranium in connection with military
19 activities. In the letter from AEC transmitting
20 License SUB-307 to the Chief of Ordnance, it was noted
21 that an application for the authority to transfer
22 spotting rounds with the Department of the Army should
23 be submitted by the properly-authorized representative
24 of the Department of the Army. Thus, as discussed,
25 the AEC did not interpret SUB-307 as authorizing the

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1 Chief of the Ordnance to transfer spotting rounds to
2 other divisions within the Department of the Army.

3 Also, in the transmittal letter, it was
4 noted that the data presented in the application by
5 the Ordnance Corps indicated no significant
6 contamination in the impact area due to limited
7 testing. However, consideration should be given to
8 possible contamination at firing ranges and
9 precautions to prevent contamination of persons who
10 enter such areas such as those who may uncover
11 unexploded rounds.

12 We now turn to NRC license SUB-459 which
13 is pictured on this slide. This license was issued to
14 the Department of the Army in response to Assistant
15 Secretary Port's September 19th letter as previously
16 discussed. According to the AEC transmittal letter
17 for this license, License SUB-459 authorized the
18 Department of the Army to perform those activities
19 previously approved to the Ordnance Corps under
20 License SUB-307 and which further authorized the
21 distribution of spotting rounds to field units of the
22 Army and for the use and export of those rounds for
23 military purposes. Thus, according to the transmittal
24 letter, the AEC considered License 307 as previously
25 discussed now canceled.

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1 If you remember, Assistant Secretary Port
2 also requested in his September 19th letter that the
3 new license, the one to replace SUB-307 provide for
4 other potential uses of depleted uranium as foreseen
5 by the Army. The transmittal letter made clear that
6 NRC License SUB-459 did not cover unspecified
7 fabrication or other operations for source material.

8 As far as the NRC is able to tell from
9 assisting documentation, the Army was not required by
10 License SUB-459 to report to the AEC or the NRC where
11 the Army had distributed spotting rounds for testing.

12 It is the NRC's belief that spent M101 spotting
13 rounds, IMCOM now seeks a license to possess it at
14 various installations were distributed for testing
15 pursuant to License SUB-459.

16 License SUB-459 was allowed by the NRC to
17 expire on April 28, 1978, as it was thought that the
18 source material held pursuant to that license was
19 either transferred to other valid license holders or
20 disposed of as radioactive waste. As far as the NRC
21 is aware, at this time, there has been no active
22 license since the expiration of SUB-459 which would
23 permit the Army to possess spent M101 spotting rounds
24 at the installations identified in the Army's November
25 6, 2008 application.

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1 And with that, I conclude. Any questions?

2 Hearing no questions, we'll take a --
3 let's see what time it is. We'll take a 15-minute
4 break and reconvene at 10:45. Thank you.

5 (Off the record.)

6 MR. KLUKAN: Hello, this is Brett Klukan
7 again for the NRC. The next section, we're actually
8 skipping U.S. Army IMCOM's current licensing standards
9 which we incorporated into the introduction and moving
10 to U.S. Army IMCOM's Site Identification Process. And
11 so with that, I'll turn it over to the IMCOM
12 representatives here today.

13 DR. CHERRY: Hi, I'm Bob Cherry, IMCOM
14 Radiation Safety Staff Officer.

15 Before we begin, I have a few introductory
16 remarks. The Army asked for this meeting. We
17 appreciate that the NRC has taken us up on our offers
18 so that we might move forward more effectively and
19 efficiently on the processing of this license
20 application than we have done to date.

21 First, we thank the NRC for hosting this
22 meeting and for allowing the Army the opportunity to
23 present information to the NRC in a public forum.
24 Throughout this licensing process, which to date has
25 been primarily focused on our Hawaii installations,

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1 the Army and the Army Installation Management Command
2 have strived to be open and transparent. We plan to
3 continue that policy today and in the future.

4 Second, the Army fully recognizes the
5 NRC's authority to license us for possession and use
6 of radioactive material, including the current use of
7 legacy depleted uranium from the licensed firing of
8 Davy Crockett spotting rounds in the 1960s on several
9 of our training ranges. The Army and the NRC, to
10 include its predecessor, the Atomic Energy Commission,
11 have a long history of working together as the NRC
12 regulates the nation's use of byproduct, source, and
13 special nuclear material to ensure adequate protection
14 of public health and safety, to promote the common
15 defense and security, and to protect the environment.

16 We intend full cooperation with the NRC during the
17 licensing process.

18 This legacy Davy Crockett depleted uranium
19 caught us unaware because we had lost institutional
20 memory that it was fired on our ranges. Since its re-
21 discovery, we have made extensive efforts to determine
22 the nature and extent of this depleted uranium on our
23 ranges. Also, as the NRC has requested, we have
24 attempted to design environmental radiation monitoring
25 plans acceptable to the NRC for each of our affected

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1 installations.

2 The Cartridge, 20-millimeter Spotting
3 M101, which is the nomenclature for what I am calling
4 the Davy Crockett spotting round, consisted of a body
5 manufactured of D-38 uranium alloy. That is, each
6 spotting round contains about 206 grams of 92 percent
7 DU, 8 percent molybdenum alloy. This is equivalent to
8 about 190 grams of DU per spotting round.

9 We emphasize that the Army was authorized,
10 in accordance with an approved AEC license, to fire
11 spotting rounds in the 1960s on its training ranges.
12 The Army ceased firing these spotting rounds at all of
13 its training ranges in 1968. In 1973, at the Army's
14 request, the AEC removed the license condition that
15 allowed firing of these spotting rounds on Army
16 training ranges.

17 After 1973, the NRC, which replaced the
18 AEC with regard to the AEC's licensing functions,
19 terminated source material licenses relevant to the
20 spotting rounds. As part of the license termination
21 processes, the NRC required decontamination at the two
22 spotting round manufacturing sites. When its
23 decommissioning regulations changed in the 1980s, the
24 NRC revised the license and required additional
25 decontamination efforts at the manufacturing sites.

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1 However, as far as current Army personnel know, the
2 NRC never required the Army to decontaminate its
3 ranges as part of these license termination processes.

4 Nor before 2006 did the NRC require the Army to apply
5 for a source material license for possession of the
6 spotting rounds that have lain on its ranges since the
7 1960s.

8 In 2006, shortly after the Army notified
9 the NRC about finding spotting rounds on Schofield
10 Barracks ranges, the NRC required the Army to apply
11 for a possession-only source material license for the
12 Davy Crockett DU. The Army began the current source
13 material license application process that among, other
14 things, has brought us to this meeting.

15 The Army used this cartridge for target
16 spotting for the training round Projectile, Atomic
17 Supercaliber 279 millimeter Practice M390 and for the
18 tactical nuclear warhead fired by the Davy Crockett
19 Light Weapon M28. "Supercaliber" means the diameter
20 of the projectile was greater than the diameter of the
21 barrel of the weapon. The projectile was sent
22 downrange by virtue of a piston that fit in the barrel
23 and transferred energy to the projectile when the
24 weapon fired. Pistons still remaining on some of our
25 ranges provide direct evidence that the Davy Crockett

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1 Weapons System was fired there. However, we have not
2 found pistons on every range on which we suspect the
3 Davy Crockett Weapons System was fired.

4 The Davy Crockett Weapons System consisted
5 of the Davy Crockett Light Weapon M28 and the Davy
6 Crockett Heavy Weapon M29. Design and testing
7 commenced in 1958. The weapons were scheduled for
8 issue during Fiscal year 1961. The US Continental
9 Army Command announced that Davy Crockett Sections
10 would be activated and trained during Fiscal Year 1961
11 through Fiscal Year 1962. Initial qualification
12 training was the responsibility of the US Army
13 Infantry School at Fort Benning, Georgia.

14 By June 1968, the Department of the Army
15 inactivated all Davy Crockett M28 units and
16 reorganized all of these units with the M29 weapon
17 system. The Department of the Army notified the US
18 Army Infantry School during June 1968 that resident
19 training for Military Occupational Specialty 11C3N,
20 that is the Davy Crockett Gunner, was discontinued.

21 In August 2005, a contractor discovered 15
22 M101 Davy Crockett spotting round tail assemblies
23 while conducting range clearance activities for US
24 Army Garrison, Hawaii. In 2006, a limited survey
25 confirmed the presence of depleted uranium fragments

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1 from the spotting rounds on a portion of Schofield
2 Barracks' impact area. After confirming the presence
3 of DU, the Army notified the US Nuclear Regulatory
4 commission and also disclosed that information to the
5 public. The US Army Joint Munitions Command, which
6 provides low-level radioactive waste disposal for the
7 Army, issued a contract for a survey of Hawaii ranges
8 at Schofield Barracks, at Makua Military Reservation,
9 and at Pohakuloa Training Area starting in August 2007
10 to determine the extent of the residual depleted
11 uranium. After surveys turned up no evidence of Davy
12 Crockett weapon system use at Makua Military
13 Reservation, we removed it from our list of Davy
14 Crockett DU-affected installations.

15 To determine the facts and in response to
16 public concerns in Hawaii, the Army works with
17 representatives from Federal and Hawaii agencies
18 responsible for radiation and chemical remediation.
19 These agencies include the Nuclear Regulatory
20 Commission, the Centers for Disease Control and
21 Prevention, the Hawaii Department of Health, and the
22 Department of Geology and Geophysics at the University
23 of Hawaii at Manoa. Similarly, we are prepared to do
24 this for affected ranges on other Army installations.

25 In October 2007, with funding from the

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1 Office of the Deputy Assistant Secretary of the Army
2 for Environment, Safety, and Occupational Health, the
3 US Army Joint Munitions command engaged the US Army
4 Corps of Engineers, St. Louis District to perform
5 relevant research for and to subsequently produce
6 archive search reports, which I'll call ASRs, for
7 installations on which the Army may have DU spotting
8 rounds. The project consists of an archive search
9 effort to collect and analyze information concerning
10 the use of the spotting rounds during training with
11 the Davy Crockett Light Weapon System at US Army
12 installations worldwide. The scope of the project
13 encompasses the research, investigation, and reporting
14 for Army installations in the continental United
15 States, CONUS, and for Army installations outside
16 CONUS, OCONUS, suspected of having used the spotting
17 round.

18 The ASR project is being performed in
19 three phases: Phase I consists of the development of
20 the Project archive search report and installation-
21 specific archive search reports for each of the
22 currently identified CONUS installations suspected of
23 having used the spotting round. Phase II is a follow-
24 on effort to address OCONUS installations and
25 additional CONUS installations determined during Phase

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1 I to merit further investigation. Phase III, if
2 implemented, will address those installations that
3 have been linked to the Davy Crockett weapon system,
4 but sufficient evidence to support use of the spotting
5 round was not available through the end of the Phase
6 II effort.

7 The project archive search report is a
8 single project-level report that describes the
9 research and information collection process and
10 presents information common to the Davy Crockett
11 weapon system and to the affected installations. The
12 project archive search report also contains a cross-
13 walk to the installation-specific archive search
14 reports developed for each potentially affected
15 installation.

16 The installation-specific archive search
17 reports are provided as annexes to the project ASR and
18 are stand-alone archive search reports developed for
19 each installation where the Army might have fired the
20 spotting round. Each installation-specific ASR will
21 contain only information and conclusions specific to
22 that installation.

23 Each installation-specific archive search
24 report will present: History of the installation
25 during the target timeframe in order to establish

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1 whether a garrisoned Army unit was authorized to field
2 the Davy Crockett weapon system; referenced historic
3 documents and maps showing known firing ranges
4 during possible Davy Crockett firing; known quantity
5 of subject spotting rounds shipped to that
6 installation according to shipping records;
7 delineation of known ranges at which the spotting
8 round was used; identification of ranges outside
9 of the installation proper on which the Davy
10 Crockett weapon may have been used; description of
11 installation's munitions disposal practices during
12 subject time frame; summary of range inspections and
13 weapon system components found' findings related to
14 the installation's use of the Davy Crockett weapon
15 system; and installation-specific conclusions.

16 Appendices will be included in both the
17 project and installation-specific archive search
18 reports. All of the records reviewed during the
19 research process will be listed. This includes all
20 archival information including the depository, record
21 groups, and boxes reviewed, current still photographs
22 and historical photographs of Davy Crockett range
23 debris found on ranges will be shown. Interviews
24 conducted and plates and maps used in the archive
25 search report will be included.

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1 Federal and regional National Archives and
2 Records Administration repositories were searched for
3 applicable textual records, historical still
4 photographs, maps and motion pictures. Historical
5 data and information were gathered from various
6 military repositories including museums and technical
7 libraries. Local research was conducted at each
8 installation's record holding area, Department of
9 Public Works, history office, environmental office,
10 and library.

11 The research team searched for and
12 contacted veteran Davy Crockett team members and
13 active and retired civilians associated with
14 ammunition supply points and range management at
15 active Army installations. The interviews focused on
16 where the Davy Crockett veteran was stationed, CONUS
17 and OCONUS, his recollections of any ranges at these
18 installations that were designated for Davy Crockett
19 training, training techniques, ammunition allocations,
20 and other useful information.

21 The research team conducted an on-site
22 visit at each installation to gather information from
23 the installation's Department of Public Works,
24 Environment Division, Range Management, Record Holding
25 Areas, and other local sources. If the team found

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1 evidence that indicated the use of the Davy Crockett
2 weapon system, in particular the spotting round, on a
3 specific range, a range inspection was coordinated
4 through Range Control and conducted to search for Davy
5 Crockett components for physical verification of use.
6 Other "probable" ranges that could have safely
7 accommodated the Davy Crockett weapon were also
8 inspected.

9 The research team used ten criteria to
10 determine and verify the use of the spotting round
11 during training on specific installations. These
12 criteria are as follows:

13 1. Was there a unit garrisoned or that
14 trained at the installation that was authorized to
15 field the Davy Crockett weapon by a Table of
16 Organization and Equipment or O&E? As an aside, a
17 "table of organization and equipment" is a document
18 the Army uses to prescribe the organization, staffing,
19 and equipment of units. It also provides information
20 on the mission and capabilities of a unit and can be
21 used to assess the unit's current status. A general
22 TOE is applicable to a type of unit, for example, a
23 field artillery battery, rather than a specific unit,
24 for example, C Battery, 3rd Battalion, 82d Field
25 Artillery Regiment. In this way, all units of the

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1 same type follow the same structural guidelines.

2 2. Was the authorized unit at the
3 installation during the relevant time frame,
4 1958 to 1968?

5 3. Were spotting rounds recorded on DD
6 Forms 550 as shipped to the installation? And as an
7 aside DD Forms 550 were Ordnance Corps ammunition lot
8 records.

9 4. Were M415 or M466 37 millimeter rounds
10 shipped to the installation? As an aside, these are
11 other ammunition rounds associated with the Davy
12 Crockett weapon system.

13 5. Was there any historic textual
14 information documenting usage?

15 6. Were there any historical still
16 photographs or moving pictures information?

17 7. Were there any "Davy Crockett" ranges
18 identified on range maps?

19 8. Were any of the ranges on the
20 installation capable of meeting the surface
21 danger area and security requirements of the Davy
22 Crockett weapon system?

23 9. Was there any significant information
24 from personnel interviews?

25 10. Was Davy Crockett ammunition debris

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1 found during the range inspections?

2 The team compiled relevant findings and
3 evaluated them against these ten criteria to determine
4 which, if any, of the criteria were met. The most
5 heavily weighted criterion is No. 10, physical
6 evidence of Davy Crockett ammunition components or
7 debris on a range. Based on this evaluation process,
8 the team made conclusions pertaining to the use of the
9 spotting round at specific installations and
10 determined the degree of confidence to place on the
11 conclusions.

12 The archive search reports are still in
13 draft form, except for the Hawaii range ASR, which is
14 final. I am told to expect that USACE St. Louis
15 District will provide final versions of all ASRs in
16 the first quarter of 2011, and that the Hawaii range
17 ASR will be revised and reissued to match the format
18 of the later ASRs.

19 IMCOM range personnel supported the
20 research team's site visits and are now aware of what
21 Davy Crockett ammunition debris looks like. If they
22 find new evidence of the use of Davy Crockett spotting
23 rounds on ranges we have not already identified, they
24 will let us know. For example, Fort Benning range
25 personnel recently found a Davy Crockett piston on a

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1 range that previously was not an area of interest to
2 the research team. We notified the NRC of this new
3 finding via email and will incorporate it in our next
4 draft of the Fort Benning environmental radiation
5 monitoring plan.

6 We have not initiated any actions to
7 determine whether other radioactive material might be
8 present at the DU-affected installations or at any
9 other installations. This is because we have no reason
10 to believe that such radioactive material might be
11 present. As far as we know, the only munitions that
12 contain radioactive material that the Army has fired
13 on its training ranges are the Davy Crockett spotting
14 rounds.

15 Through the Archive Search Report Project,
16 we have made our best efforts to identify ranges where
17 the spotting rounds were fired. In what follows,
18 please remember that DU penetrators are distinctly
19 different from Davy Crockett spotting rounds in their
20 design, purpose, and firing mode. The Army fires
21 depleted uranium penetrators only on special test
22 ranges that the NRC has licensed. These ranges were
23 designed with and have used catch boxes for the last
24 30 years or so to capture as many of these munitions
25 as we can during firing. The Army does not fire DU

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1 penetrators on its training ranges for any purpose.
2 The Army does not want to do so and the NRC has not
3 licensed the Army to do so.

4 That's all I have.

5 MR. KLUKAN: Thank you for that. We'll
6 turn to questions at this point. I guess I'll go
7 first. To go back to a little bit of a licensing
8 history, it seems that your records may be far more
9 extensive than what I've had access to regarding the
10 history of SUB-459.

11 Did your search indicate or show any
12 evidence or any documentation that the Army at the
13 time, whether through the Department of the Army or
14 the Ordnance Corps had ever told the AEC or the NRC
15 where it had fired the Davy Crockett outside of the
16 two manufacturing sites?

17 DR. CHERRY: Well, first, most of the
18 records that we have we got from the NRC files.

19 MR. KLUKAN: Fair enough.

20 DR. CHERRY: But to answer your question,
21 I don't know. We haven't seen anything to that
22 effect, that I know of.

23 MR. KOMP: I'd have to look at the
24 specific records, but I do believe they're contrary to
25 what Bob Cherry just said. I think we did have some

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1 additional records that the NRC is not privy to. Some
2 are internal records. Some are actually some NRC
3 inspection records that we discovered during the
4 search also. And I believe there is some discussion
5 in those inspection records that some of the sites may
6 have been disclosed, but there's no complete record of
7 all of the sites that we've been able to find.

8 MR. KLUKAN: Thank you for that. If U.S.
9 Army IMCOM could provide whatever records of those,
10 those inspection records to the NRC at a convenient
11 time, we would appreciate that.

12 I think just for clarification that you
13 mentioned that you were also evaluating locations
14 outside the continental United States. Have you
15 determined at this time whether the Davy Crockett was
16 ever used while testing in other countries?

17 DR. CHERRY: I was going to discuss that
18 this afternoon in the second session.

19 MR. KLUKAN: Okay, fantastic. So I'm
20 trying to wrap my head around the archive search
21 report process. And so at this point you're
22 developing installation specific or the Army Corps of
23 Engineers out of St. Louis. Correct me if I'm wrong,
24 is developing installation specific archive search
25 reports. Do you have a -- do you know off the top of

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1 your head, aside from those listed in the application
2 for what sites it's developing those archive search
3 reports?

4 DR. CHERRY: Again, I was going to talk
5 about that this afternoon, too.

6 MR. KLUKAN: Fair enough. As there are no
7 more NRC questions, we're going to turn it over to the
8 first of the two public question portions. I would
9 ask now at this time that if you did not identify, if
10 you joined the teleconference and you have not
11 identified yourself previously at the start of the
12 meeting, to please do so now.

13 So has anyone joined us since the start of
14 the meeting? Okay.

15 Does the public or start with Ms. Modica,
16 if I'm saying your name correctly, do you have any
17 questions?

18 MS. MODICA: It's close enough. It's
19 Modica.

20 MR. KLUKAN: Modica, I apologize.

21 MS. MODICA: No problem. I have a
22 question for either the Army or the NRC, whether it's
23 known at what facilities in the United States the Davy
24 Crockett was manufactured?

25 And if they don't know, I'm also wondering

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1 if any of the material was prepared for that weapon by
2 Aerojet Ordnance, Tennessee, because -- well, and then
3 I have a third question. And I'm pretty sure it's
4 something that we may need to follow up on outside of
5 this public meeting and my third question is whether
6 the NRC or the Army is aware of off-site contamination
7 with the depleted uranium that seems to have sourced
8 from Aerojet Ordnance, Tennessee, which is located in
9 Jonesborough, about five miles from my house.

10 So that's it for me -- well, one more
11 question, the question about contaminants, the
12 gentleman from the Army who made the last presentation
13 said that the DU spotting rounds seemed to only
14 contain DU, but I understand from the Christian
15 Peacemaker Team with whom I work rather closely on
16 depleted uranium issues, that DU has sometimes been
17 found to contain americium and plutonium, so I'm
18 wondering if those issues are being addressed by the
19 Army as it works toward a good goal in that the
20 public, I'm sure, generally would applaud, that a
21 clean up and decontamination is happening.

22 So thank you very much.

23 MR. KLUKAN: Thank you for your questions.

24 This is Brett Klukan for the U.S. Nuclear Regulatory
25 Commission.

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1 To answer, in part, your first question,
2 and then I'll turn it over to the Army, U.S. Army
3 IMCOM, in the SUB-459 and SUB-307, the two facilities
4 that I'm aware of at least where it was -- the Army
5 was authorized to construct or manufacture the
6 spotting rounds with Lake City Arsenal in
7 Independence, Missouri and Frankford Arsenal in
8 Philadelphia. And with that, I'll turn it over to
9 U.S. IMCOM for their response.

10 Again, the applicant is not required to
11 answer these questions, but may choose to do so if
12 they so desire.

13 MS. MODICA: Yes, I understand that. And
14 I didn't hear what you said, you said Lake City
15 Arsenal?

16 MR. KLUKAN: Lake City Arsenal and
17 Frankford Arsenal in Philadelphia, Pennsylvania are
18 the two that are listed as far as I'm aware on license
19 459.

20 MS. MODICA: Okay, thank you.

21 DR. CHERRY: This is Bob Cherry. Lake
22 City Army Ammunition Plant in Missouri is one of the
23 places and the other one is Frankford Arsenal, F-R-A-
24 N-K-F-O-R-D in Philadelphia. That's where the two
25 licenses for manufacturing. And so they were not

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1 manufacturing anywhere near Jonesborough.

2 MS. MODICA: So they were not manufactured
3 at -- your voice trailed off. I'm sorry. I know it's
4 a long way from here to there. So the -- you're
5 saying that they were -- the Davy Crockett was
6 produced at military facilities and not by corporation
7 contractors?

8 DR. CHERRY: You're asking just about the
9 depleted uranium spotting rounds, is that correct?

10 MS. MODICA: Yes, yes, yes. The Davy
11 Crockett, the M101.

12 DR. CHERRY: Right, as far as I know, they
13 were only manufactured at the two locations I
14 mentioned. I don't know, but I suspect they might
15 have been contractor-operated facilities, but I really
16 don't know.

17 MS. MODICA: All right, thank you.

18 MR. KLUKAN: Any other questions from
19 individuals participating via the teleconference at
20 this time? Again, there will be another opportunity
21 this afternoon. I forgot to mention this is Brett
22 Klukan again for the U.S. NRC. There will be other
23 questions -- other opportunities to ask questions at
24 the conclusion of this meeting in the afternoon.

25 MS. MODICA: If I may, then a follow up on

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1 the Missouri and Philadelphia operations of the
2 arsenal.

3 MR. KLUKAN: Sure.

4 MS. MODICA: Is the Army looking any off-
5 site -- possibility that there may have been off-site
6 contamination of -- or with the depleted uranium at
7 those manufacturing sites in this project or is it
8 solely looking at the contamination at its ranges and
9 training facilities?

10 MR. KLUKAN: This is Brett Klukan for the
11 NRC. The NRC staff at this time has not determined
12 what additional actions are necessary to the two
13 manufacturing facilities. As noted by U.S. IMCOM,
14 these facilities were decommissioned by the NRC and
15 released for either restricted or unrestricted use as
16 far as I'm aware.

17 But again, I can't speak at this time to
18 whether the NRC believes in light of the new
19 information regarding Davy Crockett what additional
20 actions the NRC will need to take at the locations
21 where these two facilities were situated.

22 As an NRC response to your previous
23 questions, we're not aware, again, just to make clear,
24 that the M101 was manufactured at the Aerojet's
25 facility and as such, we're not aware that there would

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1 be off-site contamination at Aerojet. We're also not
2 aware at this time that the M101 contained trace
3 amounts of americium or plutonium.

4 Again, as part of their on-going
5 activities, the U.S. Army IMCOM has committed the
6 survey and testing of the munitions or the spent
7 munitions that it is able to find or at least has done
8 so at Schofield and Pohakuloa Training Area. I assume
9 the tests would reveal plutonium. To my knowledge,
10 they have not at this time. Again, thank you for your
11 question.

12 MS. MODICA: You're welcome and I do have
13 information on off-site contamination. I would ask
14 Aerojet Ordnance, Tennessee and my question is who at
15 the NRC should receive that information once we have
16 our chemist finalize his analysis and whether the Army
17 would also want to share this information since
18 Aerojet Ordnance is currently a contractor with the
19 U.S. Army? But maybe we can talk off line about that.

20 MR. KLUKAN: This is Brett Klukan. We
21 will, the NRC will contact you after the meeting to
22 let you know where you are to submit that information
23 or to whom to submit that information at the NRC.

24 MS. MODICA: Okay, great. Thank you.

25 MR. MICHALAK: Ms. Modica, this is Paul

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1 Michalak. Call me at 301/415-7612. That's my office
2 line. And then we can talk offline about this
3 information.

4 MS. MODICA: Okay, thanks, Paul.

5 MR. MICHALAK: You're welcome.

6 MR. KLUKAN: Any other questions from the
7 public at this time? Hearing none, pursuant to our
8 agenda, we're going to break for lunch. It's 11:15,
9 11:20 right now. Why don't we have a little bit of a
10 longer lunch and then come back at 12:30 which gives
11 us a little over an hour.

12 Does that sound fair to everyone? Okay,
13 fantastic. We will again return or reconvene at
14 12:30.

15 (Whereupon, at 11:15 a.m., the
16 teleconference was recessed, to reconvene at 12:30
17 p.m.)

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1
2 A F T E R N O O N S E S S I O N

3 12:33 P.M.

4 MR. KLUKAN: Okay, with that concluded,
5 I'd like to welcome everyone back.

6 Before we start, have any members of the
7 public joined the phone call who did not identify
8 themselves previously?

9 Region 4, if you could mute your phone at
10 this time, we're getting a little feedback. But
11 again, if any members of the public or anyone has
12 joined the telecon who has not previously identified
13 themselves, if they could do so now.

14 Okay, our first presentation this
15 afternoon is by Paul Michalak who is on my right, who
16 is the Branch Chief for the Materials Decommission
17 Branch in the NRC Office of Federal and State
18 Materials and Environmental Programs and also by
19 Kimberly Sexton, further to my right, who is an
20 attorney in the Office of the General Counsel with me
21 in the Materials Litigation Enforcement Division.

22 I'll turn it over to them.

23 MR. MICHALAK: This segment is how
24 additional installations will be licensed by
25 amendment. The initial materials license related to

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1 the Davy Crockett DU will cover the Schofield and
2 Pohakuloa PTA sites.

3 Typically, additional sites, for instance,
4 for example, other continental U.S. installations
5 would be added to the license through license
6 amendment process.

7 Now the next couple of slides are really
8 bookkeeping, but I think this is important because I'm
9 going to explain how to get the material, application
10 material and reports into us in a proper form. Right
11 off from the start, application amendment should be
12 addressed either using premium mail services, for
13 instance, FedEx, that they would come to the Document
14 Control Desk and you'll notice it's a Rockville
15 address, 11555 Rockville Pike, Rockville, Maryland
16 20852.

17 If you use the Postal Service first class,
18 you're going to write to the NRC, but it's going to be
19 a Washington, D.C. address, ZIP Code 20555.

20 We also accept material or the material
21 that came in, when you submitted it, could be
22 submitted electronically. You could put it on a CD.
23 And a really good source of information on how to do
24 that correctly can be found on our public website and
25 there's a link to Guidance for Electronic Submission

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1 to the NRC. And I've got the link there on the slide.

2 And Section 2.9 of that guidance document
3 contains requirements for creating PDFs, Adobe PDFs
4 from native applications such as MS Word, Wordperfect,
5 Excel, or from a scanner.

6 Materials for an electronic submissions,
7 there's guidance documents and training videos that
8 will instruct you on how to configure your Adobe
9 Acrobat Distiller, how to check your PDF to see if
10 they complied with NRC requirements and download NRC's
11 recommended Distiller Profile to generate compliant
12 PDFs. This is particularly important. We constantly
13 get CDs that we can't get into the system because
14 they're not constructed properly, the files on there,
15 when they're converted to PDFs.

16 License amendments must be submitted on
17 NRC Form 313 in accordance with 10 CFR 40.44 and
18 40.31. Now Form 313 is an application for a materials
19 license and I brought one along with me. It's a one-
20 page application. There are points of contact. It's
21 somewhat of a generic application form.

22 This can be found at the NRC public
23 website under Electronic Reading Room Document
24 Collection Forms.

25 Now here's the meat of it. The license.

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1 Typically, NRC materials license contain license
2 conditions. For this Davy Crockett DU license, likely
3 conditions would include tying the license into
4 technical documents required for application review.
5 These would be the radiation safety program,
6 environmental radiation monitoring program, range
7 access radiation related, and radiation training
8 requirements and programs.

9 I'm going to talk about this in a little
10 detail in my next presentation, but it's important.
11 This condition is really important because we inspect
12 off the license. So we would inspect you when site-
13 specific documents having to do with radiation safety
14 programs and environmental radiation programs and
15 monitoring programs. And what's come in so far, we
16 talked about it earlier, it's just a little too high.

17 If they're pamphlets, they're at 20,000 feet. We
18 need to come down a little bit in terms of the
19 material that we're going to use, because we will
20 inspect off of this condition.

21 Another likely condition would be a
22 requirement to notify and eventually to submit a
23 license amendment to incorporate new installations
24 within a certain amount of days of identification of
25 DU at that installation. And what that would entail

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1 is the metrics on notification, confirmation,
2 amendment submittals, plans. The NRC would negotiate
3 these metrics with you.

4 We don't want to place a condition on the
5 license that you can't meet, but at the same time, we
6 will negotiate a condition that entails timely
7 submittals on the Army's part.

8 And another typical condition would be no
9 decommissioning, and that's with a capital D,
10 activities without an approve decommissioning plan.
11 And essentially, if you want to have a partial site
12 release, you want to take part of radiation control
13 area, that license area and then release it from the
14 license, you're going to have to come in with a plan.

15 We'll talk a little later. Cabrera has been doing
16 some work with you in Hawaii. They can take you part
17 of the way. And we'll talk about that. They'll take
18 you to the 20-yard line. The last 20 is going to have
19 to come within an approved plan to us from the
20 licensee, which will be the U.S. Army.

21 License amendment applications require 30
22 to 90-day acceptance reviews depending upon the
23 complexity of the proposed action. You've actually
24 been through this before with your original
25 application, but any time something comes in, whether

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1 it's an amendment or an application for a new license,
2 we do an acceptance review and we look at it for its
3 completeness and continuity of it. And we would rate
4 it on that and if we found it insufficient, we would
5 hand it back to you.

6 Most license amendments require noticing
7 in the Federal Register with a 60-day period to
8 request a hearing. Kimberly will talk about that in a
9 minute. And a 90-day period to provide comments on
10 the proposed action.

11 The NRC, and this is important, may hold
12 public meetings related to license amendments near
13 locations of the other continental U.S. installations,
14 similar to what happened in Hawaii, it was a year and
15 a half, two years ago.

16 MS. SEXTON: We've already been through a
17 little of this process with the Schofield and
18 Pohakuloa license application, but just after the U.S.
19 Army IMCOM submits each subsequent site-specific
20 environmental monitoring plan license amendment, the
21 NRC has performed an initial acceptance review and
22 determined the plan meets the threshold criteria, the
23 NRC will publish an opportunity for hearing in the
24 Federal Register which we've already seen with the two
25 Hawaii sites.

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1 So therefore, interested members of the
2 public will be able to request a hearing on each newly
3 submitted site-specific license amendment. So there
4 could still be more of these requests for hearing
5 coming down the pike.

6 MR. KLUKAN: So one of the key things the
7 NRC would like the U.S. Army IMCOM to take away from
8 this is that the additional facilities listed on the
9 application, apart from Schofield Barracks and PTA
10 will need to be resubmitted or submitted as part of
11 license amendment applications. And with that, I'll
12 open it up to questions by U.S. Army IMCOM.

13 DR. CHERRY: The stuff I've already
14 submitted for Benning, Campbell, and Knox, would you
15 want that resubmitted with the NRC Form 313? Tell me
16 how you want it and we will do it, right?

17 MR. MICHALAK: Well, I was going to talk
18 about that a little later in terms of our
19 expectations, but essentially, we've developed a
20 letter. I've mentioned it before offline. We've got
21 a comment letter on those submittals and they need
22 some work, but as I said before, we suspect that
23 you've got 95 percent, based on your pamphlets.
24 You've got what we need. It just needs to be put
25 together and what I'm going to talk about later is the

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1 cohesive packages per site. So essentially they would
2 be submitted again. But let's get that letter in
3 front of you which talks about some of the
4 deficiencies. They're just a little too high.

5 MR. KLUKAN: To supplement that, as part
6 of the process, the NRC would perform acceptance
7 review and would let you know or inform the applicant
8 when it has acceptance of these additional
9 installations per license amendment application for
10 review and then as Kimberly noted, would subsequently
11 issue Notice of Opportunities in the Federal Register.

12 Any other questions? Okay, we will turn
13 it over to the next presentation which is public
14 participation in the NRC licensing process. Again, by
15 Kimberly Sexton of the Office of the General Counsel.

16 MS. SEXTON: This is to kind of go over
17 all the different ways the public can participate
18 throughout the licensing process so that nobody gets
19 taken aback or feels like we're adding stuff to the
20 process. This is just what normally goes on any time
21 we get license applications.

22 So there are a number of different ways
23 that the public can participate. Some of those are
24 public meetings, general correspondence with the NRC
25 staff, 10 CFR 2.206 petitions and requests for

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1 hearing.

2 Now a public meeting at the NRC is a
3 planned formal encounter, open to public observation
4 between one or more NRC staff members and one or more
5 outside persons physically present at a single meeting
6 site with the expressed intent of discussing
7 substantive issues that are directly associated with
8 the NRC's regulatory and safety responsibilities.

9 It's kind of a mouthful, but that's just how we define
10 public meetings here at the NRC.

11 Meetings between staff and licensees or
12 trade groups to discuss technical issues or licensee
13 performance are normally open because they may lead to
14 specific regulatory decisions or actions. There are a
15 number of reasons that the NRC would close a meeting,
16 however, such as if the meeting would involve
17 discussions of safeguards or otherwise classified
18 information, proprietary information, personal privacy
19 information, investigatory information, or if it
20 involves a general information exchange.

21 However, if a closed meeting involves
22 general information exchange, and if those discussions
23 approach issues that might lead to a specific
24 regulatory decision or action, the NRC staff may
25 propose discussing the issues in a future open

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1 meeting.

2 All staff-sponsored meeting are posted
3 approximately ten days in advance on the NRC's website
4 at www.nrc.gov and the NRC announces major meetings
5 and press releases which are posted to the NRC's
6 website, faxed to news media and mailed to more than a
7 thousand addressees.

8 The NRC has three different types of
9 public meetings which the NRC refers to as Category 1,
10 2, and 3 public meetings. The meetings were mainly
11 concerned with here today are Category 1. Examples of
12 Category 1 meetings are annual public meetings to
13 discuss licensing performance, regulatory conferences,
14 pre-decisional enforcement conferences, and meetings
15 held on licensing applications and amendments.

16 In Category 1 meetings, the public is
17 invited to observe the meeting consistent with past
18 practice and the public will have the opportunity to
19 communicate with the NRC after the business portion of
20 the meeting, but before the meeting is adjourned.

21 And right here, as Brett told you guys
22 earlier, we're in a Category 1 public meeting.

23 Now with general correspondence, at any
24 time a member of the public can request information in
25 writing or identify concerns about facilities through

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1 regular correspondence with the NRC. And so that you
2 guys are aware, routine correspondence between the NRC
3 and its licensees is made publicly available,
4 obviously, subject to any other reason they would need
5 to withhold the information.

6 And Section 2.206 petitions. Section
7 2.206, Title 10 of the Code of Federal Regulations,
8 describes the petition process which is the primary
9 mechanism for the public to request enforcement action
10 by the NRC in a public forum. This process permits
11 anyone to petition the NTC to take enforcement action
12 related to NRC licensees or a licensed activity.
13 Depending on the results of its evaluation, the NRC
14 could modify, suspend, or revoke an NRC-issued license
15 or take any other appropriate enforcement action to
16 resolve a problem.

17 Requests that raise health and safety
18 issues without requesting enforcement action are
19 reviewed by other means outside the Section 2.206
20 process.

21 Under the Section 2.206 process, the
22 petitioner submits a request in writing to the NRC's
23 Executive Director for Operations, identifying the
24 affected licensee or licensed activity, the requested
25 enforcement action to be taken, and the facts the

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1 petitioner believes provide sufficient grounds for the
2 NRC to take enforcement action.

3 After receiving a request, the NRC
4 determines whether the request qualifies as a 2.206
5 petition. If the request is accepted for review as a
6 2.206 petition, the NRC sends an acknowledgement
7 letter to the petitioner and a copy to the appropriate
8 licensee and publishes a notice in the Federal
9 Register.

10 If the request is not accepted, the NRC
11 notifies the petitioner of its decision and indicates
12 that the petitioner's underlying safety concerns will
13 be considered outside the 2.206 process.

14 A petition technical review meeting will
15 be held whenever the staff believes that it would be
16 beneficial and serves not only as a source of
17 potentially valuable information for the NRC to
18 evaluate a Section 2.206 petition, but also affords
19 the petitioner substantive involvement in the review
20 and decision-making process through direct discussions
21 with the NRC and the licensee.

22 The meeting can be offered at any time
23 during NRC's review of a petition and is open to
24 public observation. Also, throughout the evaluation
25 process, the NRC sends copies of all pertinent

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1 correspondence to the petitioner and the affected
2 licensee and makes publicly available all related
3 correspondence that should not otherwise be withheld.

4 The NRC's official response to a 2.206
5 petition is a written decision by the director of the
6 appropriate office that addresses the concerns raised
7 in the petition. The director's decision includes the
8 professional staff's evaluation of all pertinent
9 information from the petition, correspondence with the
10 petitioner and the licensee, information from any
11 meeting, results of any investigation or inspection,
12 and any other documents related to petition issues.

13 Following resolution of any comments
14 received on the proposed decision, the director's
15 decision is provided to the petitioner and the
16 licensee and is also made publicly available. A
17 notice of availability is then published in the
18 Federal Register.

19 And finally, we go back to requests for
20 hearing. Through the Atomic Energy Act, Congress made
21 it possible for the public to receive a full and fair
22 hearing on civilian nuclear matters. The public can
23 participate in NRC hearings by submitting written
24 statements for consideration, making oral
25 presentations at limited appearance sessions, or

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1 becoming intervenors in hearings with full
2 participatory rights as parties.

3 As previously stated, all future Army
4 possession-only license amendments and any requests to
5 decommission will be subject to a Notice of
6 Opportunity for the public to request a hearing.
7 Individuals or entities whose interests are affected
8 by an NRC licensing action may participate in
9 hearings. Any person whose interest may be affected
10 by a proceeding and who desires to participate as a
11 party must file a written request for hearing and a
12 specification of the contentions which the person
13 seeks to have litigated in the hearing.

14 Those persons must meet a number of
15 requirements such as timeliness and standing and must
16 also meet the contention admissibility requirements
17 set forth in 10 CFR Section 2.309(f)(1).

18 Evaluation of a petitioner's request for
19 hearing are conducted by the independent Judges of the
20 NRC's Atomic Safety and Licensing Board Panel.
21 Generally, a group of three Judges drawn from the
22 Panel conduct contested hearings of the NRC. The
23 three-Judge Atomic Safety and Licensing Board normally
24 consist of one lawyer Judge and two non-lawyer
25 technical Judges with expertise in scientific subject

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1 matter at issue in the case.

2 That pretty much goes over all the ways
3 the public can participate throughout the process.

4 MR. KLUKAN: Are there any questions by
5 IMCOM regarding this presentation?

6 Hearing none, we will turn to the next
7 presentation on our agenda which is NRC expectations
8 for future Army IMCOM license amendment applications.
9 Which will be presented by Paul Michalak, again Branch
10 Chief for the Materials Decommissioning Branch.

11 MR. MICHALAK: License amendment
12 applications typically comprise a cohesive package of
13 information containing the following elements: site
14 description in the case before us, background
15 regarding M101 spotting round use at the
16 installations. I've edited my slide. I think we
17 would know if they were actually Davy Crockett used
18 there. Somebody would have heard about it.

19 And a description of present and future
20 firing range uses.

21 This is related to the license condition I
22 just talked about a few minutes ago. The application
23 would contain the following documents with information
24 on a site-specific basis: radiation safety program,
25 environmental radiation monitoring program, range

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1 access, radiation control area related, radiation
2 training requirements and programs. And this
3 information, as I mentioned is used as a basis for NRC
4 inspections.

5 Now my points to stress are NRC inspectors
6 inspect to the information provided in the documents
7 above, thus, we need site-specific information. In
8 the NRC approach, environmental monitoring, which is
9 the second bullet is not determined or triggered by
10 dose levels. Rather, it is conducted to determine
11 whether material has been released off-site. And I
12 think that's the difference between what we receive
13 and how we approach it.

14 Also, exposure pathways are not dismissed
15 simply because there is low dose. Rather, we expect
16 an evaluation of all pathways, rigorously eliminating
17 pathways through technical arguments and data, dose is
18 then assessed through the remaining valid pathways.
19 That is the approach the NRC takes.

20 A review, and I mentioned this, a review
21 of the radiation-related pamphlets referenced in your
22 application and other submittals indicate that you
23 already have much of the information we need in terms
24 of site-specific information. If you follow your
25 pamphlets, I suspect that you've already got this

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1 stuff.

2 And a good guidance for standards of
3 protection against radiation would be NUREG 1736. And
4 what we'll do is at some point after this meeting,
5 we'll get together with you and we'll walk you
6 through, we will point you at the references you need
7 to follow to get on board and get the proper material
8 in front of us.

9 MR. KLUKAN: Thank you, Paul. Any
10 questions regarding that presentation by IMCOM
11 representatives?

12 No, hearing none, we will turn to the next
13 presentation which is NRC expectations for future
14 licensee activities, again presented by Paul Michalak.

15 MR. MICHALAK: For the DU at Schofield
16 Barracks, as long as the material is collected,
17 packaged, and prepared for shipment under the Cabrera
18 license, the Joint Munitions Command license or
19 another NRC license authorizing the activity to
20 transport in accordance with all applicable
21 regulations and requirements, their material may be
22 removed from the installation. So essentially,
23 Cabrera has a license with a 520-odd page application
24 to perform source removal at the Schofield Barracks.

25 The Schofield Barracks burn can be

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1 performed under the Cabrera license. The Cabrera
2 license, I believe, has a 14-day notification. It is
3 likely that when that burn occurs, there will be NRC
4 inspectors present at the burn.

5 Routine Army activities that would occur
6 within the radiation control area of any of the Davy
7 Crockett DU sites would require the operation of a
8 radiation safety program approved by the NRC via
9 license.

10 And areas of Schofield Barracks or any of
11 the other Davy Crockett DU sites that cannot be
12 released for unrestricted or restricted use, until the
13 NRC has approved a decommissioning plan for these
14 areas to be released, and it has been demonstrated
15 that the areas have been decommissioned in accordance
16 with an approved plan. And NUREG 1757 is a good
17 guidance for that.

18 So essentially, the decommissioning plan
19 -- Cabrera can take you, as I said, to about the 20
20 yard line, but you'll need to submit derived
21 concentration guideline levels, DCGLs, and final
22 radiological survey, status surveys, to get an
23 unrestricted release for the Schofield Barracks, for
24 the areas of interest.

25 MR. KLUKAN: Before we turn to questions,

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1 I would only emphasize one point, based on NRC's
2 reading of the license held by Cabrera Services,
3 Incorporated, routine maintenance activities related
4 to -- maintenance activities related to the ranges at
5 Schofield Barracks would not fall within the scope of
6 Cabrera's license which primarily, if you look at the
7 license, the activities authorized by the license
8 related to site remediation and source removal and the
9 surveying associated with that, but again, however,
10 routine maintenance associated with ranges were other
11 day-to-day operations of the facility, the operations
12 of the firing ranges would not fall within the scope
13 of Cabrera Services, Incorporated licenses, held by
14 the NRC or as issued by the NRC.

15 So with that, any questions by U.S. IMCOM?

16 DR. CHERRY: I'm looking at this bullet in
17 routine Army activities would require the operation of
18 a radiation safety program approved by the NRC.

19 Of course, we have ranges that we need to
20 perform routine activities on, for example, target
21 replacement, these sorts of things. I'm reading this
22 to say we have to cease doing that until we get an
23 approved radiation safety plan on all of our ranges?

24 MR. KLUKAN: That is the legal position. I
25 would say that the NRC is willing to work with U.S.

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1 Army IMCOM regarding their needs and we want to hear
2 from you regarding what activities that need to hear
3 at these facilities at Schofield Barracks or Pohakuloa
4 Training Area or other installations. And again,
5 we'll work with you, but as it stands this is the
6 baseline legal position regarding routine maintenance.

7 Again, we don't know if there are other
8 licenses the Army currently possesses that might cover
9 this activity. We're just simply referring --

10 DR. CHERRY: Speaking for myself, this
11 essentially shuts down ranges on maybe a dozen Army
12 installations that we've been using for the last 40
13 years. I'm trying to understand this correctly.

14 If I understand it correctly, that means
15 we have to cease using these ranges.

16 MS. SAFFORD: I think what we're trying to
17 say here is that the authority must be in place from
18 the NRC and the way that we have been approaching it
19 so far is through the license and the license
20 amendment, so long as that authority is in place it
21 would be appropriate to continue that activity, but
22 without authority from the Agency, it would not be
23 allowed.

24 MR. HAYES: If I may bring an item up,
25 there may be some confusion. And that is when we talk

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1 about the limitations on ranges, are we talking just
2 the DU portion of the ranges or are we talking about
3 the entire range. I think that clarification needs to
4 be provided --

5 DR. CHERRY: Yes, that's all I'm talking
6 about also.

7 MR. KLUKAN: Yes, to clarify for the
8 public listening in as well, under -- the way this
9 would normally work were IMCOM to have a license is
10 IMCOM would then be subject to Part 20 dose
11 limitations. And as part of its Part 40 license would
12 have a radiation safety program to make sure that it
13 is complying with the dose limitations in Part 20.
14 And as such, the way NRC sees it as is there is a
15 radiation risk, however limited, or potentially
16 limited in these areas to personnel going out to do
17 routine maintenance within the radiation control area,
18 thus necessitates the operation of an NRC radiation
19 safety program, thus to ensure that workers are not
20 exposed beyond the dose limitations in Part 20 of the
21 NRC's regulations.

22 DR. CHERRY: And so we already have
23 radiation safety plans in place, our program is in
24 place at the 20Y ranges, but they're not approved by
25 the NRC. So I'm thinking I would have to ask for some

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1 sort of expedited review of any plants because this
2 impacts our readiness. We have to talk about this in
3 a little more detail. This is really significant to
4 me.

5 Thanks, but I understand what you're
6 saying.

7 MR. KLUKAN: Any other questions at this
8 time? If you would -- I'm sorry to interrupt. If you
9 would like some time to caucus regarding this issue
10 before we move on with other presentations. We're
11 ahead of schedule, so if you would like 15 minutes, 10
12 to 15 minutes to caucus. Fifteen minutes? Okay.
13 It's 1 o'clock right now. We'll reconvene at 1:15 to
14 continue with questions. Thank you.

15 (Off the record.)

16 MR. KLUKAN: This is Brett Klukan. We had
17 a bit of a failed start there with our AV system.
18 But, again, we just returned from a 15-minute caucus
19 to provide US INCOM, again, time to coordinate
20 regarding the presentation on future licensee
21 activities. And we will resume with questions from US
22 Army INCOM representatives.

23 COL. BALDWIN: During the recess, we
24 discussed the last two points you made concerning
25 routine Army activities at ranges, as well as

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1 unrestricted and restricted use. And what we -- our
2 concern is, is on a training impact about that, kind
3 of a global training impact on the Army, and it could
4 have, potentially, serious effects on readiness. So,
5 what we would like to do is, based upon your comments
6 here, is to work with you on an interim solution to
7 watch you've raised. And I think based upon what you
8 said, and what we've talked about offline, that we
9 have an eminently reasonable interim solution, I
10 believe that we've already discussed with you before
11 the meeting started, so we'd like to do that follow-on
12 to today's meeting, and talk about how we do this
13 interim solution, and then develop a plan for a longer
14 term solution, so that we can minimize the impacts on
15 us.

16 MR. MICHALAK: We discussed also when we
17 were caucusing that if you feel this is an undue
18 burden on you, you can -- you're welcome to make that
19 argument to us in a submittal, and provide a basis for
20 why this is an undue burden, and we would consider
21 that.

22 COL. BALDWIN: I think that that's what I'm
23 referring to. We'll propose to you what we think we
24 can do as an interim solution to address your
25 concerns.

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1 MR. MICHALAK: Okay.

2 COL. BALDWIN: And then work on a longer
3 term solution, so we can find a common ground that
4 would not in a deleterious manner impact the Army as
5 far as training, and readiness.

6 MR. KLUKAN: Are there other questions?
7 You indicated, Colonel Baldwin, that you talked also
8 about the decommissioning section of the site.

9 MR. MICHALAK: For if you're trying to
10 release parts of the site. Okay.

11 MR. KLUKAN: Okay. Any other questions by
12 US IMCOM? One thing I might add, if there -- was
13 there anything more to the -- you mentioned -- this is
14 just for the sake of the record, Colonel Baldwin, that
15 you mentioned an interim solution. Did you
16 essentially just cover it right now coming up with
17 some alternative proposal? I just want to make sure
18 that we get it on the record for the public, if there
19 has been something proposed to the NRC already about
20 what to do in the interim.

21 COL. BALDWIN: No, not yet.

22 MR. KLUKAN: Okay. Thank you. With that,
23 we'll turn to the next presentation with the NRC
24 Inspection Program by Blair Spitzberg.

25 DR. SPITZBERG: Good afternoon. Can you

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1 hear me?

2 MR. KLUKAN: Yes, we can, Blair. Thank
3 you.

4 DR. SPITZBERG: Okay. Thank you. I
5 appreciated being able to participate in this. My
6 name is Blair Spitzberg. I'm the Chief of the
7 Repository and Spent Fuel Safety Branch in Region IV.
8 The Region IV office is located in Arlington, Texas,
9 and we have responsibility for inspection of materials
10 licensee sites, basically in the western half of the
11 United States going out into Hawaii. We have been
12 involved in site visits to the Pohakuloa and Schofield
13 sites. And I'm going to be giving a presentation from
14 a high altitude on what the inspection program
15 consists of, keeping in mind that we have four
16 regional offices, three of which have responsible for
17 materials inspections. So, any licensing of depleted
18 uranium at Army installations in the future will be
19 inspected by the respective regions, in general.

20 Let me start by asking the question, what
21 is an NRC inspection? This is Slide 2. And in broad
22 terms, it's just an assessment of licensee performance
23 to determine whether the licensee is using radioactive
24 material safely and in compliance with established
25 requirements, such as orders, regulations, license

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1 conditions, and commitments.

2 When I mentioned license conditions, this
3 was what Paul Michalak explained in his earlier
4 presentation on commitments that the applicant makes
5 in their license application, which after undergoing a
6 technical review, and safety evaluation, we then
7 approve as part of the license. And it's actually
8 referenced and tied down in the license, and we would
9 inspect against those conditions.

10 If we could move to the next slide. In
11 general, I've tailored this toward what we would
12 expect of an Army license for depleted uranium. The
13 scope of NRC inspections would depend on the nature of
14 the license. For example, if you have a license for
15 possession only, then we would just inspect those --
16 perform routine inspections so the activities that
17 are authorized on the possession only license. And
18 for that reason, there's not a lot of safety
19 significant activities that are normally taking place
20 for a possession only license, so the frequency of our
21 inspection would be somewhat less. On the other hand,
22 if you are licensed to remediate a site, or
23 decommission a site, we would perform more frequent
24 inspections that would be tailored toward the level of
25 activities on the site.

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1 The other areas that we inspect include
2 any allegations that we may receive, and we also may
3 involve inspections of one or more facilities under a
4 license. For example, a single license may authorize
5 use at a number of different locations, so we may
6 inspect a number of inspections, and roll those up
7 into a single inspection.

8 If I can move to the next slide, please,
9 talk about the conduct of inspections, briefly.
10 Generally, as I mentioned, the inspections are
11 performed by the regional office that's responsible
12 for the geographic location of the inspected
13 activities. For example, in Hawaii at the Schofield
14 and Pohakuloa sites, the Region IV office has been
15 responsible for those inspections. We've also done
16 inspections at Fort Hood, for example. In other sites
17 located across the country, those inspections would
18 fall to the regional office responsible for that
19 geographic area. I don't have a map showing where the
20 geographic boundaries are of the regional offices, but
21 that is located on our website for anyone to find.

22 If I can move to the next slide, please.
23 Oh, I'm sorry. Continuing on with the conduct of
24 inspections, we have announced inspections and
25 unannounced inspections that, generally speaking, our

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1 inspections are announced for the purpose of wanting
2 to have the proper people there in attendance to
3 interact with during the inspection. However, in some
4 cases, if we want to identify activities that are
5 ongoing that we may have some concerns about, or if
6 there's allegations, we can conduct unannounced
7 inspections, as well.

8 An inspection will always involve an
9 entrance and an exit meeting with licensee management
10 and representatives, and we'll schedule that in
11 advance, at least as far as the entrance meeting. The
12 exit meeting will be scheduled sometime during the
13 inspection when we have a good feel for when the
14 inspection will be concluded.

15 Typical inspection activities include site
16 tours, observation of licensed activities in progress,
17 review of program-related records, interviews with
18 workers and responsible personnel, and we may conduct
19 independent measurements, as well.

20 If I can move to the next slide, please.
21 The other category that we likely will be performing
22 inspections of at these Army installations include
23 decommissioning inspections. And this is where we
24 will review and observe the implementation of whatever
25 decommissioning activities are authorized by your

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1 license.

2 We'll inspect the organization and the
3 management controls, the procedures, the training,
4 equipment, instrumentation, radioactive waste
5 disposal, surveys, and documentation associated with
6 your decommissioning. We may also conduct
7 confirmatory measurements, or have confirmatory
8 measurements conducted by one of our contractor labs.

9 Next slide, please. As I mentioned, we
10 also perform independent surveys and confirmatory
11 measurements. In particular, we do these at
12 decommissioning sites. The NRC does have
13 instrumentation available to each of the regional
14 offices that's suitable for measurement of depleted
15 uranium, such as the FIDLER probes, and sodium iodide
16 detectors. We also have instrumentation that can be
17 coupled with GPS instrumentation for detailed survey
18 mapping. And, again, we have NRC contractors that we
19 can task to perform more extended surveys, as needed,
20 to confirm the adequacy of licensee's surveys, and
21 final status.

22 Moving on to the next slide, please. Just
23 want to mention briefly where you can find our
24 inspection guidance. For possession only licenses,
25 the inspection guidance would consist of the

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1 Inspection Manual Chapter 2800, and it would call for
2 normally initial inspections to be completed within 12
3 months of issuance of the license. And, normally,
4 biennial inspections thereafter.

5 We do have flexibility to adjust the
6 frequency of inspections according to what previous
7 inspections reflect in terms of compliance, and also
8 in terms of any concerns or allegations that we might
9 receive in the interim.

10 For decommissioning inspections, the
11 guidance is covered by NRC Manual Chapter 2602, and
12 this would involve more frequent inspections where we
13 would target inspections for the more significant
14 decommissioning activities involving removal of
15 radioactive material, contaminated materials,
16 packaging, any handling of such materials, and, of
17 course, the final status surveys. Decommissioning
18 inspections, we conduct these inspections until
19 decommissioning is complete.

20 As I mentioned, the manual chapters that
21 I've listed there can be located on our website, and
22 I've given a website address there where you can find
23 both the manual chapters, and the individual
24 inspection procedures which are referenced in the
25 manual chapters.

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1 If we could look at the next slide,
2 please. Inspection results. Normally, we have
3 criteria for timeliness of inspections. For a routine
4 inspection involving a single or maybe two inspectors,
5 the inspection reports are issued within 30 days of
6 the final exit briefing. For team inspections, which
7 involve multiple individuals, the due date is 45 days
8 following the exit briefing.

9 I will mention that if there are any
10 violations identified where you are out of compliance
11 with conditions of your license, or with the
12 regulations, we have an enforcement process that we
13 undertake. It classifies the violations according to
14 their safety significance, and we have a number of
15 different enforcement options available to us. Among
16 them include a Notice of Violation, which would
17 require you to respond unless we have already received
18 adequate response from you on the docket. We also
19 have available to us for more significant enforcement
20 violations and infractions civil penalties. We can
21 issue orders, and there's other avenues of enforcement
22 that we can take. We can have pre-decisional
23 enforcement conferences, and management meetings with
24 the licensee. And, again, these are all discussed on
25 our website, and I've given you the address where you

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1 can obtain additional information for your purposes on
2 enforcement.

3 So that concludes my brief high altitude
4 overview of the inspection program. And I welcome any
5 questions you may have.

6 MR. KLUKAN: Hearing no questions, the next
7 item on our agenda is a break. Would -- I know we
8 just had a 15-minute recess for caucus. Would IMCOM
9 -- we're way ahead of schedule, so if IMCOM would
10 like a break before its presentation, that would be
11 fine. So, 10-minute break. We'll return at 1:40.
12 Thank you.

13 (Whereupon, the proceedings went off the
14 record at 1:31:05 p.m., and went back on the record at
15 1:45:44 p.m.)

16 MR. KLUKAN: All right. This is Brett
17 Klukan. We're returning from a 15-minute recess,
18 well, 10-minute, but turned out to be more like 15.
19 And the next part of our meeting is a presentation by
20 U.S. Army IMCOM regarding its progress in preparing
21 license amendment applications for additional sites,
22 site-by-site. And, as part of that, I would ask that
23 if the Army could -- U.S. Army IMCOM could generally
24 talk about each of the sites in terms of how much they
25 believe is there, and what type of activities are

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1 going on at the sites, as well. And with that, I'll
2 turn it over to U.S. Army IMCOM.

3 COL. BALDWIN: I just wanted to make one
4 comment before we started this next part of the
5 presentation; and that is back to the prior briefing,
6 where you were referring to routine Army activities
7 that would occur within radiation controlled areas,
8 and would require operation of a radiation safety
9 program approved by the NRC via license. And I just
10 wanted to make it clear for the record that no one on
11 this side of the table, certainly not me, is in a
12 position to make a -- to take a position for the
13 Department, and what that would mean for training and
14 readiness.

15 What I am in a position to do is
16 acknowledge what you said, was your intent for this
17 bullet comment, and to take it back to the Department,
18 and notify them of what you've said, and then to work
19 with you on an interim solution where we can find
20 common ground on what your intent here is, and then
21 find a longer term solution, so that we can move
22 forward.

23 MR. KLUKAN: Understood. Thank you.

24 DR. CHERRY: I'm going to go off script for
25 just a second to say that some of the comments that I

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1 made in here you've addressed to some extent, but I'm
2 going to stick to the script anyway, so if you just
3 bear with me. I don't want to do any extemporaneous
4 material here. I'm not a very good ad libber.

5 Please allow me to preface my remarks by
6 saying that I returned to the Army, this time as a
7 civilian, last November. I will be discussing events
8 that occurred since the rediscovery of Davy Crockett
9 DU in Hawaii in 2005, and before the Army hired me.
10 Accordingly, I will be speaking from my understanding
11 of my communications with the current Army Radiation
12 Safety Officer, Mr. Greg Komp.

13 Before I arrived, he was the primary
14 Action Officer for IMCOM's license application with
15 the support and encouragement from the Deputy
16 Assistant Secretary of the Army for Environment Safety
17 and Occupational Health. Mr. Komp prepared the
18 license application that IMCOM Commanding General at
19 the time, Lieutenant General Robert Wilson, signed on
20 November 6, 2008, and sent to the NRC. Mr. Komp was
21 named as Licensed Radiation Safety Officer on that
22 application. I replaced him on the license
23 application in February 2010.

24 Mr. Komp wrote in Item 10 Radiation Safety
25 Program of the application, "Since each site has

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1 unique geological and climatic conditions, whether a
2 site-specific environmental radiation monitoring plan
3 will be necessary for every installation where M101
4 spotting round fragments are located, will be
5 considered subject to availability of funding. Any
6 monitoring plan must be agreed to by both the Army and
7 the NRC, where feasible, and where existing
8 environmental monitoring plans are in place to
9 demonstrate that other constituents of concern are not
10 being transported off range. DU will be added to
11 those monitoring efforts. The original application
12 did not contain any environmental radiation monitoring
13 plans.

14 On July 2009, General Wilson signed a
15 letter to the NRC that transmitted a generic physical
16 security plan, a generic environmental radiation
17 monitoring plan, and site-specific environmental
18 radiation monitoring plans for ranges at Schofield
19 Barracks, and Pohakuloa training area in Hawaii. As
20 the letter states, the site-specific plans were
21 intended to show how the generic plan would be
22 followed.

23 Mr. Komp told me that he had the
24 impression that the NRC would provide comments to the
25 Army on the two site-specific plans that would allow

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1 us to then revise those plans, and also write all
2 additional plans for other installations that would
3 meet NRC expectations. I found this impression to be
4 reasonable, and plausible, and did not start actions
5 to produce additional plans immediately upon my hire.

6 However, without providing comments on the previously
7 submitted plans, the NRC sent us a letter dated March
8 11, 2010 that asked for plans for the seven other Army
9 installations named on the original application.

10 I do note that in September 2010, NRC
11 staffers told me that their comments on the Hawaii
12 plans were ready. I asked them to hold them, because
13 I was about to send them my Fort Benning plan, and
14 since my plans differed from Mr. Komp's plans to some
15 extent, they and I agreed that the NRC should look at
16 my Fort Benning plan first, and provide comments
17 before I began to respond to their comments on the
18 Hawaii plans. This was because I might have already
19 addressed their concerns in my version.

20 At this time, I also want to address an
21 apparent misunderstanding on my part. The original
22 license application said in Item 3, namely, the
23 address where license material will be used or
24 possessed, "This license will authorize the possession
25 of residual quantities of depleted uranium systems at

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1 U.S. Department of the Army installations." The
2 application then said, "Installations where M101
3 spotting round has been -- where the M101 spotting
4 round has been found include Fort Benning, Georgia;
5 Fort Campbell, Kentucky; Fort Carson, Colorado; Fort
6 Hood, Texas; Fort Knox, Kentucky; Fort Lewis,
7 Washington; Fort Riley, Kansas; Schofield Barracks,
8 Hawaii; and Pohakuloa Training Area, Hawaii.
9 Installations currently subject to further
10 investigations include Aberdeen Proving Ground,
11 Maryland; Fort Dix, New Jersey; and Makua Military
12 Reservation, Hawaii. The NRC will be notified upon
13 confirmation that depleted uranium is present at a
14 given installation, and that installation will then be
15 incorporated into this permit."

16 The March 11 letter from the NRC to IMCOM
17 said, "Applications for the other seven facilities
18 should be submitted within six months of the date of
19 this letter." I wrote in our September 14 response to
20 the NRC, "We interpret your statement as a request to
21 add the environmental radiation monitoring plans for
22 those installations to our application." That is, I
23 did not intend to send a separate new application for
24 each installation, but, instead, intended to send what
25 I considered to be supplemental information to the

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1 original application for all the named installations,
2 albeit not at the same time.

3 Now we see on your agenda, "Future U.S.
4 Army IMCOM License Amendment Applications," so we
5 have an original application, November 2008, that
6 names the same installations as the NRC lists in its
7 March 11 letter. The March 11 letter, apparently,
8 asked for new applications. Today's agenda, which the
9 NRC wrote, mentions amendments to the original license
10 application for those same installations. I hope the
11 NRC understands my confusion about exactly what format
12 the NRC wants me to use - as I say, we've got that
13 clarified now, but I'm reading it anyway - to submit
14 additional environmental radiation monitoring plans.
15 And excuse me for any misunderstandings. I'm sure you
16 will clarify the format you want me to use for
17 submitting additional plans.

18 As to the schedule for submitting license
19 amendment applications, we realized following receipt
20 of the NRC's March 11, 2010 letter, that the NRC
21 wanted the remaining plans, even though we did not yet
22 know what the NRC thought of the generic plan, and the
23 two site-specific Hawaii plans we had previously
24 submitted.

25 Before my hiring, Mr. Komp had sought a

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1 source for all the additional plans that might be
2 required. We had the expectation that an Army Command
3 that specialized in environmental matters would write
4 the plans. However, it became apparent to me in July
5 that I would have to write them myself. I began
6 writing the Fort Benning plan, and finished it in
7 about three weeks. Staffing began in August, and
8 minor revisions resulted. We completed staffing and
9 the IMCOM Executive Director signed the transmittal
10 letter to the NRC on September 14th, as I stated
11 previously.

12 I had to locate environmental information
13 to include in the plan, and this took up most of my
14 plan preparation time. I eventually found a source in
15 the Army Environmental Command, who provided me with
16 environmental documents for each of the affected
17 installations. These documents were generated in the
18 last few years as a result of the Army's Operational
19 Range Assessment Program, which I'll call ORAP.

20 A statement from the Executive Summary of
21 an ORAP report follows. I edited it slightly to make
22 it generic. "The U.S. Army is conducting qualitative
23 assessments at operational ranges to meet the
24 requirements of Department of Defense policy, and to
25 support the U.S. Army's Sustainable Range Program.

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1 The Operational Range Qualitative Assessment is the
2 first phase of the U.S. Army Operational Range
3 Assessment Program, or ORAP.

4 This assessment evaluates the operational
5 range area at U.S. Army garrisons to assess whether
6 further investigation is needed to determine if
7 potential munitions constituents of concern, MCOC, are
8 or could be migrating off range at levels that pose an
9 unacceptable risk to human health or the environment.

10 In conducting this assessment, MCOC sources potential
11 off range migration pathways, and potential off range
12 human and ecological receptors are evaluated, as
13 appropriate."

14 As you can tell from this description, the
15 Army is considering multiple munitions constituents of
16 concern as part of ORAP. ORAP began before our
17 rediscovery of the Davy Crockett depleted uranium in
18 Hawaii, and so initially did not include depleted
19 uranium as one of its munitions constituents of
20 concern. However, two drafts of ORAP reports are
21 written for Davy Crockett depleted uranium affected
22 ranges, depleted uranium is being added as a munitions
23 constituent of concern.

24 I am concentrating at the moment in
25 developing the plans that the NRC asked for in its

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1 March 11 letter. Following completion of that effort,
2 I will turn attention to the Operational Range
3 Assessment Program, to see how it might help us meet
4 our future license conditions for environmental
5 monitoring.

6 We understand an environmental radiation
7 monitoring plan to be a plan that outlines the
8 collection and analysis of environmental samples. The
9 NRC's environmental monitoring fact sheet is a general
10 discussion about monitoring discharge of radioactive
11 effluents from routine nuclear power plant operations.

12 Since it is the only NRC fact sheet we found on the
13 subject of environmental monitoring, we extracted what
14 we thought is pertinent to our license application.

15 Specifically, we believe that the NRC
16 expects the Army to do the following, which we are
17 doing. Keep releases of radioactive material to
18 unrestricted areas during normal operations as low as
19 reasonably achievable, and comply with radiation dose
20 limits for the public. The fact sheet references
21 annual reports from nuclear power plant licensees. We
22 translated this for the purposes of our environmental
23 monitoring plans to be a requirement for annual
24 sampling.

25 Finally, before I begin describing our

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1 progress installation by installation, I will mention
2 that in our September 14 letter, transmitting our Fort
3 Benning plans, I asked you to allow us to delete
4 periodic soil sample collection requirements from all
5 of our environmental radiation monitoring plans,
6 including the two we previously submitted in
7 accordance with the NRC's risk-based regulatory
8 decision making policies. This was on the basis that
9 all estimated doses caused by Davy Crockett spotting
10 rounds to the public, or to onsite workers are
11 essentially indistinguishable from background. Any
12 reasonable modification of the assumptions and
13 parameters I used to make those estimates will not
14 change this basic conclusion. I understand that you
15 are reviewing that request. And, again, going off
16 script, you've actually already addressed that for me.
17 I'm just following my script here.

18 To begin the installation by installation
19 presentation, I state that we have not taken any
20 actions to implement the monitoring plans that we have
21 submitted or to write. We do not know whether what we
22 have already proposed is acceptable to the NRC. The
23 only environmental monitoring for Davy Crockett
24 depleted uranium that has already occurred, and of
25 which I am aware, occurred at the two Hawaii ranges.

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1 Reports of those monitoring events are available to
2 the public on an Army website,
3 www.IMCOM.PAC.Army.Mil/du.

4 My general comment about the proposed
5 schedule for submitting license amendment applications
6 is this. It took me about three weeks to write the
7 Fort Benning plan. Once I learned about the ORAP
8 reports, it became easier for me to generate the
9 plans. Our goal is to submit at least one plan a
10 month, on the average. Our rate of production can be
11 impacted by such things as vacations, and staffing
12 requirements, so we prefer setting a goal, rather than
13 a standard.

14 And, finally, I have a few stipulations
15 about what follows as I discuss each installation.
16 The Archive Search Reports are all still in draft
17 form, except for the Hawaii ASRs. However, the Hawaii
18 ASRs are under revision to match the format of the
19 later ASRs and will be reissued. When I say ASR not
20 reviewed, that means that I personally have not yet
21 read the ASR for that installation. The estimated
22 number of rounds comes from an August 2010 update of
23 Army Corps of Engineers-St. Louis District progress on
24 the ASRs. The numbers could change. Some, or all the
25 estimated number of rounds that I list as unknown

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1 could turn out to be none. Please do not infer that
2 an installation with an unknown estimated number of
3 rounds is actually affected by the Davy Crockett
4 spotting rounds. I have not yet reviewed the ASRs for
5 such installations. And, again, the reports are still
6 in draft form. As I work my way down the list of
7 installations, I will let the NRC know of additional
8 DU affected installations as I discover them.

9 So, the following are installations that
10 the ASR project have identified as possibly affected
11 by Davy Crockett DU. For Schofield Barracks and
12 Pohakuloa Training Area, as the NRC already knows, 714
13 estimated number of rounds, and we submitted the
14 environmental radiation monitoring plan on July 8th,
15 2009. For Fort Benning, Georgia, the estimated number
16 of rounds from the ASR is 9,700. We submitted the
17 plan to the NRC on September 14th, 2010. For Fort
18 Campbell, Kentucky, the estimated number of rounds
19 from the ASR is 681. We submitted the plans to the
20 NRC, the environmental radiation monitoring plan to
21 the NRC on October 26, 2010. For Fort Knox, Kentucky,
22 the estimated number of rounds from the Archive Search
23 Report is 3,956. The plan was submitted to the NRC on
24 October 28th, 2010. Fort Carson, Colorado, the ASR
25 lists the estimated number of rounds as unknown. What

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1 I did there for Fort Carson was, I estimated
2 personally the number of 7,722. I estimated that from
3 training protocols, the number of qualified infantry
4 units, and I emphasize this number is subject to
5 change, as I make similar estimates for other
6 installations. I do have an upper limit. The total
7 number of rounds that we believe were fired on all
8 installations is 29,207. So, as I go through the
9 other additional ranges where I have to make an
10 estimate, I have a feeling that I'll probably have to
11 downgrade the Fort Carson numbers, because otherwise
12 I'd be exceeding that total of 29,000. So, that's a
13 very soft number there.

14 Fort Hood, Texas, the ASR provides an
15 estimated number of rounds from the Archive Search
16 Report of 4,038. And I -- the plan writing is in
17 progress. For Fort Lewis, Washington, the estimated
18 number of rounds from Archive Search Report is 1,756.

19 I have not started writing the plan, and I have not
20 reviewed the ASR. For Fort Riley, Kansas, 105
21 estimated number of rounds from the Archive Search
22 Report. I have not started writing the plan. I have
23 not looked at the ASR. Yakima Training Center,
24 Washington, unknown, the number is unknown in the ASR.

25 I will make an estimate upon review of the ASR, as I

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1 did for Fort Carson. The plan writing has not
2 started. I have not reviewed the ASR.

3 Aberdeen Proving Ground, Maryland, 200
4 rounds estimated from the ASR. I have not reviewed
5 the ASR, but I want to note that the Army Materiel
6 Command, a sub-command of the Army Materiel Command,
7 holds the NRC research, development, testing, and
8 evaluation license, and that will cover the Davy
9 Crockett depleted uranium at Aberdeen Proving Grounds,
10 so no IMCOM plan is required, as far as I know. That's
11 covered under a different license, I believe. I'm
12 sure you'll tell me different, if I'm wrong.

13 Fort Polk, Louisiana, again, the number is
14 unknown according to ASR, and I'll make an estimate
15 upon review of the ASR, as I did for Fort Carson. I
16 have not started writing the plan, and I haven't
17 reviewed the ASR yet. Fort Dix, New Jersey, and
18 Frankford Arsenal, Philadelphia, Pennsylvania, again,
19 the number is unknown. I will make estimate upon
20 review of the ASR, as I did for Fort Carson for Fort
21 Dix. I have -- and there's no estimate required for
22 Frankford Arsenal, that location has been
23 decommissioned, and with approved decommission by the
24 NRC. I haven't started writing any plans for Fort
25 Dix. I haven't reviewed the ASR. The NRC terminated

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1 the license covering Frankford Arsenal following
2 decommissioning, so no IMCOM plan is required for
3 Frankford Arsenal, as far as I know.

4 Yuma Test Center, formerly called Yuma
5 Proving Ground, Arizona, and the Nevada National
6 Security Site, formerly known as the Nevada Test Site,
7 estimated number of rounds according to ASR is 50. I
8 have not reviewed the ASR. As for Aberdeen Proving
9 Ground, the Army Materiel Command organization holds
10 NRC RDT licenses that will cover the Davy Crockett
11 depleted uranium at Yuma Test Center, so no IMCOM plan
12 is required. The Nevada National Security Site is
13 under Department of Energy jurisdiction, so no IMCOM
14 plan is required, again, as far as I know.

15 Installation, Fort Greely, Alaska, unknown
16 number there. I will make an estimate based upon
17 review of the ASR, as I did for Fort Carson. I
18 haven't started writing the plan, and I've not
19 reviewed the ASR yet. Fort Hunter-Liggett,
20 California, according to ASR the number is unknown. I
21 will make an estimate upon review of the ASR, as I did
22 for Fort Carson. The plan writing has not started. I
23 have not yet reviewed the ASR. Fort Jackson, South
24 Carolina, unknown according to the ASR. I will make
25 an estimate upon review of the ASR, as I did for Fort

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1 Carson. I haven't started writing the plan, I have
2 not yet reviewed the ASR.

3 Fort Gordon, Georgia, according to ASR the
4 estimated number of rounds is unknown. I will make an
5 estimate upon review of the ASR, as I did for Fort
6 Carson. Plan writing has not started. I have not yet
7 reviewed the ASR. Fort Sill, Oklahoma, according to
8 ASR the estimated number of rounds is unknown. I will
9 make an estimate upon review of the ASR, as I did for
10 Fort Carson. I haven't started writing the plan. The
11 ASR is not yet reviewed.

12 Finally, the August 2010 Army Corps of
13 Engineers-St. Louis District Update, to which I
14 referred, and where I got the information I just read
15 to you, lists some ranges in foreign countries. I'm
16 not at liberty to discuss these yet, because of the
17 obvious sensitivity. I believe this information will
18 eventually be released, but it is all still in draft
19 form. I suggest that if the NRC requires this
20 information before I am able to provide it, you should
21 send a written request to Mr. Komp at Headquarters
22 Department of the Army. That's it.

23 MR. KLUKAN: Thank you for that
24 presentation. Just -- I think my first question, to
25 touch on your last point, just so the NRC is clear,

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1 under what authority would that information be
2 withheld from the NRC? Like what protection, or
3 privilege?

4 DR. CHERRY: Well, I'm not saying I want to
5 withhold it. I said I don't believe I have permission
6 to release that information, because it is in foreign
7 countries, and has some obvious -- should be obvious
8 sensitivity. But there are other people working that
9 issue. As I say, if the NRC needs more information,
10 we'll have to figure out how you can get it. I'm not
11 denying it to you, but I'm not at liberty to provide
12 it.

13 COL. BALDWIN: I don't think that point
14 would be an IMCOM issue, per se. Certainly, if the
15 NRC is interested in that, we can staff it within the
16 right quarters, so that you would have a point of
17 contact for that. But those locations, to my
18 knowledge, and we would have to verify that, are not
19 controlled by IMCOM.

20 MR. KLUKAN: One further point of
21 clarification on that, which doesn't actually go to
22 the actual countries, but I guess it's your belief
23 that those were exported pursuant to SUB-459, and the
24 later export license.

25 MR. KOMP: No. The reason is the way the

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1 Army treats the exported material, if we are using
2 material in another country, we consider that under
3 our jurisdiction, and work with the host nation.
4 There are some sensitivities on countries where these
5 rounds may have been used, so once the reports are
6 final, and I have those numbers, I'd be happy to come
7 back. I don't think it's appropriate to release those
8 in an open session.

9 MR. KLUKAN: Okay. My question was maybe -
10 - I was probably unclear. Was not that the NRC would
11 have jurisdiction once you exported it to a different
12 country, but whether the export, itself, was pursuant
13 to NRC license --

14 DR. CHERRY: No, they weren't exported.
15 They were only fire by Army organizations. They
16 weren't transferred to another country, as far as I
17 know. They were not exported. They were issued to
18 Army field units under the condition in the licenses.
19 Those Army field units happen to be overseas.

20 MR. KLUKAN: The reason I ask is that SUB-
21 459 in a later -- there is a later license
22 specifically for the export of these rounds. I'm just
23 trying to get a sense of --

24 MR. KOMP: Yes. There was, for example, we
25 had an agreement with Germany at the time that we may

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1 have provided those weapons. We did train with that
2 Army, and those rounds could have been exported to
3 that Army at the time. We're operating under a NRC
4 legal review or opinion that when we take radioactive
5 materials overseas that we are not exporting, that
6 that is maintained under the Army program, and the
7 program we have with host nation. And the Army treats
8 that as if we were still under the NRC license, so the
9 same rules apply, because we do plan on bringing all
10 that material back. If there's a change of that, then
11 we would come back in for an export license. Again,
12 this is prior to current set of rules.

13 DR. CHERRY: I'll mention, as you said,
14 there is an NRC opinion on this, sometime in the 1980s
15 it was posted. If you're not aware of it, I'll get a
16 copy for you. We got it from you.

17 MR. KLUKAN: Let me turn first to my
18 compatriots, if they have questions, and then I'll ask
19 mine. Nothing. Okay.

20 All right. A couple of questions, which
21 link back to this morning, that go back to the history
22 that the NRC staff and the audience have asked me to
23 ask. Do you know who or what entity originally
24 supplied the Ordnance Corps, and then later the
25 Department of Army with the depleted uranium used to

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1 manufacture the M101?

2 MR. KOMP: Okay. I can partially answer
3 that question from some of the records we dug up. At
4 the time that the depleted uranium was issued to the
5 Army, it was actually controlled in much the same way
6 as today you'd control special nuclear material.
7 There's actually a source material data sheet that's
8 provided, and we have the track of DU according to
9 weights and balances, just the same way as we have to
10 do today with the special nuclear material.

11 A couple of years in that program, that
12 requirement was dropped, because it's pretty obvious
13 that uranium -- the depleted uranium could not be used
14 into making a fissile weapon, so that was dropped.

15 I believe that the material did come from
16 the AEC under that agreement, and one of the
17 documents I'll provide you will answer that question.

18 MR. KLUKAN: Is it -- and, again, this may
19 require speculation, so I understand. Is it your
20 understanding that the Army then upon receipt took
21 possession of it, or did ownership maintain control
22 with the AEC, or did ownership remain with the AEC, or
23 did Army then take title to the material upon receipt?

24 MR. KOMP: At some point, we took title,
25 and that was under the license. There were two

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1 different ones, the initial one you mentioned,
2 bringing current on the number, and then the final one
3 of 459.

4 MR. KLUKAN: Thank you. My next question,
5 Dr. Cherry, you brought up in the original license,
6 you mentioned that there were budgetary constraints on
7 the preparation of site-specific environmental
8 monitoring plans. And just so the NRC understands,
9 and can have a better sense of what the schedule is,
10 are those budgetary constraints still in place? And
11 if you could elaborate a little bit on what they are.

12 DR. CHERRY: As I said, I expected that
13 someone else was going to be writing these plans,
14 somebody had quite a bit more expertise in
15 environmental matters than I did. And, basically, all
16 I can say is I found out that that wasn't going to
17 happen, and I had to write them myself. I prefer
18 someone else to answer any questions about budget,
19 because I'm not a budget expert.

20 COL. BALDWIN: Well, I can just tell you
21 that whatever the NRC is going to require of us, I
22 don't think there'll be a budgetary constraint to
23 complying with your intent, or your rules, or
24 regulations, so that we can move forward, so there's
25 not really a budgetary issue.

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1 MR. KLUKAN: Kay. So, there won't be any
2 issue with budget in terms of scheduling. Okay.

3 COL. BALDWIN: I don't think so. Again, I
4 can't speak for the agency, myself, but based upon my
5 knowledge of it, I'm reasonably confident that we will
6 find the funding necessary to move forward.

7 MR. KLUKAN: Fair enough. Thank you. My
8 next question relates to the March 11th, 2010 letter
9 that the NRC sent to U.S. Army IMCOM. You indicate
10 that it was your -- you interpreted the letter, though
11 it said license application, as rather a request for
12 supplemental information. And my question is, is what
13 -- trying to understand that interpretation. What was
14 the basis for that interpretation?

15 DR. CHERRY: The reason I thought about it
16 that way was because we did name all those seven
17 installations in the original application. So, in my
18 view, we had already applied for them, so I thought
19 that maybe you really meant you just wanted that
20 additional information. But I now see you wanted
21 separate Form 313. I have no problem with that.

22 MR. KLUKAN: Okay. And just so I
23 understand, as well, to make sure there wasn't some
24 kind of communication put down here, did you try to
25 ask the NRC about that, or contact them regarding do

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1 you actually mean license applications, or you just
2 mean EMRPs, Environmental Monitoring --

3 DR. CHERRY: No, I didn't pursue it.

4 MR. KOMP: However, this is Greg Komp, I
5 did. One of our discussions with previous Project
6 Manager was the fact that we'd already submitted a
7 313, then supplemental Environmental Plans could come
8 in under just a letter, since the 313 had already been
9 supplied.

10 The other thing that's important to note
11 here is, when I submitted the initial license
12 application, my expectation is it would receive a, if
13 you will, an interim type approval for authority to
14 possess the material with restrictions on what would
15 happen on each side. For example, I put in the case,
16 Bob Cherry has already read the Environmental
17 Statement I put in the plan. The intent was that
18 would cover, be enough to issue the license across the
19 Army, and then we would come back in and work in
20 detail on specific plans for each site. And sometime
21 along the way, that changed.

22 MR. KLUKAN: Okay. I would ask two things
23 regarding that, is do you know -- do you remember the
24 name of that Project Manager who you spoke to about
25 only the need for a letter?

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1 MR. KOMP: Well, I go down the whole list.
2 I don't remember exactly who it could have been.
3 Obviously, when we were doing this project, Rebecca
4 Tadesse was a Branch Chief, Regional Project Manager
5 was Tom McLaughlin, and then Tom was supplemented by
6 Jack Hayes to my left.

7 MR. KLUKAN: Again, and if the NRC is
8 sending conflicting messages, we apologize. We're
9 just trying to get a handle on this. Also, if you have
10 any written documentation of that position, or of the
11 other statement you posed, which was regarding the
12 interim license, if there's any written documentation
13 of that, the NRC would appreciate it if you could
14 provide it to us, or point out where it is.

15 MR. KOMP: Unfortunately, I went back
16 through and I moved this spring, and when I did, a lot
17 of my handwritten stuff was -- did not make the move
18 with me. It was tossed. Unfortunately, I didn't
19 expect it to be needed. We all know better than that,
20 don't we. Part of this, too, you've got to
21 understand, when we first discovered this, this was a
22 unknown relationship. We didn't know what we had, we
23 didn't know where we had it, so there was an ongoing
24 relationship between the Army and the NRC of trying to
25 work together and find a solution to this issue. So,

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1 a lot of the things were done in meetings and phone
2 calls, just to try and figure a way ahead.
3 Unfortunately, I don't think either side took the time
4 to document those, as we should have.

5 MR. KLUKAN: All right. Two further
6 points, maybe, on the communication issue, just so we
7 can avoid these type of issues in the future. The
8 March 11th letter, if I remember correctly, because I
9 helped draft it, indicated that if you couldn't meet
10 the six month schedule that we laid out, that we'd ask
11 you to submit a proposed schedule that would work for
12 you. You indicated, Dr. Cherry, that in around July
13 you learned that you would not have assistance in
14 preparing these licenses. What I'm trying to
15 understand is, did you at that time tell the NRC that,
16 or communicate that we're now operating under limited
17 resources, and thus, the schedule needs to change?
18 Because, as far as I'm aware, and you can correct me
19 if I'm wrong, the first communication we received back
20 from IMCOM regarding that was in September regarding a
21 two-week extension due to vacations.

22 DR. CHERRY: I don't think the request for
23 extension was due to vacations. I think what happened
24 there was, one of the people I needed to staff it with
25 was away from his desk, and it sat on his desk while

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1 he was somewhere else. I lost a whole week there.
2 Those things happen. No, I didn't contact the NRC in
3 the meantime. My primary motivation was, I didn't
4 have authority to produce -- to provide official
5 communication with the NRC, and my concern was it
6 going into the public record as an official
7 communication representing IMCOM, when I didn't have
8 the authority to make an official communication with
9 IMCOM, on behalf of IMCOM, I mean.

10 MR. KLUKAN: Okay. So, you're concerned,
11 just to make clear I understand that, your concern was
12 that you weren't -- maybe there were two concerns
13 there. One, you didn't have the authority to make
14 those type of communications with the NRC.

15 DR. CHERRY: Right.

16 MR. KLUKAN: And that, two, you were afraid
17 that these type of communications would appear on the
18 public record?

19 DR. CHERRY: I wouldn't say afraid, but if
20 I provide communication to you that appeared on the
21 public record, that didn't bother me. What bothered
22 me was it might be construed as an official IMCOM
23 communication, which I did not have authority to make.

24 MR. KLUKAN: Who do you believe would have
25 the authority to communicate with the NRC regarding

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1 the license --

2 DR. CHERRY: I'll let Colonel Baldwin
3 answer that.

4 MR. KLUKAN: Okay. Was there -- and what
5 I'm trying to get at, was there a -- and, again, was
6 there a reason why you didn't communicate that up to
7 Colonel Baldwin? If you didn't understand what was
8 going on -- I'm just trying to get a sense of where
9 the communication breakdown was regarding the March
10 11th, and if it was NRC's fault.

11 DR. CHERRY: No, no, it wasn't NRC's fault.

12 I believe that I was going to make that suspense to
13 get that response to you within the six months. I
14 didn't feel a requirement to notify you of anything,
15 since you just asked for a response within six months.

16 I did ask for that extension, because it looked like
17 I was going to miss the six months by a few days,
18 which I did. Again, it was because of staffing,
19 because I had to get the official authority to
20 communicate the answer to you. We're going to be
21 working on what exact authority I will have in the
22 future, in future communications when we get back, I
23 think.

24 MR. KLUKAN: Okay. Just to be clear, your
25 proposal, when you did respond to the March 11th

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1 letter, it was that you -- the plan was to submit one
2 a month. Correct?

3 DR. CHERRY: Right. That was my goal. As
4 I said, I discovered that the way I was doing them,
5 apparently, I'm going to be changing my style and
6 format a little bit, or to some extent, but the way I
7 was going then, I found that I could write one in
8 about a week, because I had all the reference
9 materials available now. And I had a template to
10 follow. But I still had the staffing requirements. I
11 couldn't write the plan and send it to you. If I
12 could do that, you'd get one a week, but I can't work
13 that way. I'm not authorized to do work that way. I
14 have to staff it not only with other headquarters
15 staff, of which Colonel Baldwin is one person. He'd
16 never help me out, by the way. But I also had to
17 staff them with the IMCOM region, in which the
18 installation is, and staff it with the Garrison
19 Commander for that installation. And sometimes that
20 takes some time.

21 MR. KLUKAN: So, correct me if I'm wrong,
22 you're not the only one then working on these
23 applications.

24 DR. CHERRY: I'm the only one that writes
25 them, but --

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1 MR. KLUKAN: The only one that writes them.

2 DR. CHERRY: -- everyone wants to have a
3 look. I think you work the same way, to some extent.

4 MR. KLUKAN: Fair enough. About what time
5 did you -- so you learned in July that you'd,
6 essentially, be the only one writing these things,
7 just to clarify.

8 DR. CHERRY: Yes, that's correct.

9 MR. KLUKAN: Okay. Thank you. Now,
10 regarding --

11 LT. COL. HERRING: Mr. Klukan.

12 MR. KLUKAN: Sure.

13 DR. GLAUBER: Just one note. Lieutenant
14 Colonel Herring from ELD. I was aware, also, the fact
15 that this letter that we were getting up close to the
16 six month mark. And if memory serves, and, again, I
17 don't have a written record of it, I believe we may
18 have talked on the phone a week or two prior, a sort
19 of informal notification that Mr., or Dr. Cherry,
20 rather, was having difficulty getting this letter
21 staffed completely through, as he has to file
22 procedure for his organization. And I just say that by
23 way of -- I believe IMCOM and the Army is making
24 efforts to communicate that we were working on this
25 letter, even though we were a few days late. We did

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1 try to communicate that in various venues. And my
2 call to you was just one of those.

3 MR. KLUKAN: Oh, I appreciate that, and I
4 do not in any way deny that we had a conversation
5 about that in the September time frame. I think Ms.
6 Sexton was also on that call.

7 All right. To turn to the individual
8 sites, I think what you said, and I just want to
9 clarify this, that while there's been environmental
10 monitoring done at Pohakuloa Training Area, and
11 Schofield, the Army has not conducted any
12 environmental monitoring at any of the other
13 identified sites.

14 DR. CHERRY: Not for DU, that I know of.
15 There may have been environmental monitoring for other
16 things, and probably have been, but I'm not aware of
17 any other surveys done for DU.

18 MR. KLUKAN: And so far, as I understand,
19 the way the site identification process is working is
20 based on the Archive Search Report. Have there been
21 any site fly-over surveys as the Army did for the
22 sites in Hawaii, at any of the other identified
23 locations?

24 DR. CHERRY: No, same answer applies.

25 MR. KLUKAN: Okay.

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1 DR. CHERRY: No surveys of any kind, that I
2 know of.

3 MR. KLUKAN: So, no source testing, as
4 well.

5 DR. CHERRY: Fly-overs, no gamma walkovers.

6 MR. KLUKAN: No gamma walkovers.

7 DR. CHERRY: Nothing.

8 MR. KLUKAN: Nothing. Okay. Does the Army
9 believe it will need, or does IMCOM believe it will
10 need to do any of those surveys in support of its
11 supplemental, or amendment applications? What I'm
12 trying to get at is, you did these for Hawaii, and I'm
13 just trying to get a sense of where they fit in with
14 the NRC --

15 DR. CHERRY: There was a reason we did them
16 for Hawaii, so I'll let Mr. Komp address that. I don't
17 think the same reasons are going to apply to any other
18 installation. Hawaii was a special case.

19 MR. KOMP: Yes. Let me address the two
20 installations in Hawaii. In most of our cases, most
21 of our installations, what you have, you have an
22 installation boundary, and this is described a lot in
23 our physical security plan. Within that, you have a
24 range boundary, and then within that we'll have some
25 isolated areas where we would have the targets where

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1 the DU would have been fired. And most of our
2 installations are big enough that we have separate
3 ranges that we could fire the recoilless rifle on,
4 which is the case of Davy Crockett, or might be one of
5 the other subsequent weapon systems. And there's no
6 need to do any more work, or more activities at that
7 site. At Schofield, they decided to build a battle
8 area complex. When they did that, they took part of
9 the old residual impact area and they first screened
10 it from UXO.

11 DR. CHERRY: And they decided that before
12 they found the DU.

13 MR. KOMP: That's right. This is long
14 before. In fact, it was part of the UXO clearance
15 procedures, what they did, they went out and picked up
16 all the metal they could find off on the range, and it
17 was that stack of metal that was sitting there where
18 they actually found the DU rounds, and identified
19 them. And that was in August 2005, and we moved
20 forward from there. That was the whole process there.

21 So, at Schofield, we spent, and I won't
22 quote the exact number, because I don't kind of have -
23 - spent millions of dollars just clearing the UXO out
24 of that site. And it is only done because we planned
25 on putting roads in, and running vehicles down those

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1 roads. So, it's completely different than we were
2 doing at any of the other installations. The other
3 installations I would have room to build the backs on
4 the outer edge of the perimeter, and never go into an
5 impact area. As we found with Schofield, this is
6 extremely costly trying to do that. At Pohakuloa, a
7 lot of the similar range patterns exist. We're
8 limited on maneuver areas, so there is a small, very
9 small area of the backs that impacts the DU area, but
10 there is that area.

11 MR. KLUKAN: Okay. Thank you for that.
12 So, the sense I'm getting is the aerial surveys and
13 such were done in support of backs construction.

14 MR. KOMP: Yes. And, specifically, the
15 aerial surveys were done for Pohakuloa. Pohakuloa,
16 it's a primarily lava field. You've got the two types
17 of lava out there, you've got the -- Jack has been out
18 there. You've got the A'a, which is the cinder-type
19 lava, you can't walk on without falling and cutting
20 yourself. The other type of lava is a pahoehoe, which
21 is basaltic, and it has all kinds of lava tubes, so
22 that is also unsafe to walk. So, we could not do the
23 ground survey that we did at Schofield. So, what we
24 did, we knew where the DU area is, so we flew it to
25 get us a baseline, and make sure the system would

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1 work, and then we took that system over Pohakuloa.
2 That was the only way we could even come up with a
3 method for finding any DU. And, as we mentioned, we
4 have not been successful other than basically three to
5 four rounds and fragments.

6 MR. KLUKAN: Okay. Thank you. The NRC was
7 made aware a while ago, well, maybe a couple of months
8 ago, that at least for I think one of the sites in
9 Hawaii, if not both, the members of the public were
10 permitted access in areas close to the proximity to
11 the DU contamination, to access historical or
12 religious significant sites, and they were required to
13 sign a release related to DU exposure. Is that the
14 case at any of the other of the ranges you've talked
15 about here?

16 MR. KOMP: No, it's not. In fact, that
17 release was not cleared. One of the environmental
18 guys thought it was running the contract for the
19 cultural monitors, decided it was a good idea to do,
20 and did not properly staff that for him. It is not
21 something we require. What we do require, before you
22 enter the range boundary, that you receive the DU
23 awareness training, and then when you do come out that
24 you're monitored out for DU contamination.

25 MR. KLUKAN: About how many -- so, that's

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1 just at Pohakuloa, and Schofield, or just one -- so,
2 at both?

3 MR. KOMP: I only know of it as happening
4 at Schofield.

5 MR. KLUKAN: Schofield, okay.

6 MR. KOMP: But I would not be surprised if
7 the same activities occurred somewhere at Pohakuloa.

8 MR. KLUKAN: Okay. And this may require
9 speculation. Do you know how many people make use of
10 that on a yearly basis, or just some estimate.

11 MR. KOMP: Yes, it's a limited number.
12 Most of them were done under contract to support the
13 backs construction. They came out to identify any
14 possible cultural sites so the Army could mark them
15 off, and not do construction in that area. It was
16 done during the design phase, and the initial
17 construction phase, and I have no knowledge, but I'm
18 assuming that there's probably some monitoring going
19 on now, cultural monitoring.

20 MR. KLUKAN: Cultural monitoring. What --
21 do you know exactly what those cultural significant
22 sites are at these things? Could you describe them,
23 generally?

24 MR. KOMP: Not being a Hawaiian historian,
25 probably not.

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1 MR. KLUKAN: Fair enough.

2 MR. KOMP: But there are -- the ones I can
3 mention you find, if you find a bone on a site that
4 may have religious significance, if you find a cluster
5 of rocks gathered, that may have significance. And
6 it's those type of activities that we're looking for,
7 and it takes a trained archeologist or cultural
8 monitor to do that.

9 MR. KLUKAN: Fair enough. So, these are
10 burial remains at these sites?

11 MR. KOMP: They could be.

12 MR. KLUKAN: They could be.

13 MR. KOMP: And the Army's plan, I guess I
14 can go to that, basically, we were marking them off
15 and building concrete coffins over the top to protect
16 them.

17 MR. KLUKAN: In consultation with the State
18 Historic Preservation Officer?

19 MR. KOMP: Yes. SHPO has been involved with
20 that, plus the University of Hawaii, I believe, has
21 had contract.

22 LT. COL. HERRING: This is Lieutenant
23 Colonel Herring again. By way of information, there's
24 ongoing litigation in Hawaii over -- it's been going
25 on for some time now over the Stryker, and a plan to -

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1 - it's a vehicle.

2 MR. KLUKAN: It's an artillery -- is it a
3 weapon, or is just --

4 LT. COL. HERRING: It's a weapon system, a
5 vehicle with a weapon on it. But also transports
6 soldiers, but the pertinent point is that as part of
7 that litigation, there is -- it's in federal court
8 now, whether the Army had surveyed archeological sites
9 within our control.

10 MR. KLUKAN: Was that Under Section 06 of
11 the National Preservation Act, that litigation, or was
12 it under NEPA?

13 LT. COL. HERRING: It was under NEPA.

14 MR. KLUKAN: Under NEPA.

15 LT. COL. HERRING: So, there is some
16 access, and by way of information, there's just a
17 great deal of -- there's been a great deal of
18 litigation, and local interest in site control by the
19 Army.

20 MR. KLUKAN: Does -- and you may not know
21 the answer to this question at this point, given that
22 the ASRs are in draft form at this time, but does the
23 Army plan in support of any of the license amendment
24 applications for the additional sites, to do any
25 cultural surveying regarding the areas believed to be

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1 contaminated with DU?

2 MR. KOMP: Since the DU is currently on
3 site, and we're not planning to add it to any of our
4 sites, we have no intention right now of going in and
5 doing any disturbing activities, looking for cultural
6 sites.

7 MR. KLUKAN: Would -- I guess my next
8 question related to that would be, would any of the --
9 and you may not know the answer to this at this time.
10 I recognize that this may purely be speculation on
11 your part, so if that's the case, I apologize. Would
12 any of the license amendment applications, to your
13 knowledge right now, ask or include a decommissioning
14 plan?

15 MR. KOMP: I'll just start. Let me go back
16 to the history. When we started this process, we
17 talked about two processing that this could go down
18 to. One aspect we got was the NRC license process
19 that we're undergoing now. We also discussed going
20 straight to a decommissioning type process. At that
21 time, the Project Manager and Branch Chief didn't
22 think we had enough environmental data to go straight
23 to a decommissioning plan. So, we went down to the
24 licensing process. As to what the Army would do in the
25 future, we have not made any plans for that yet.

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1 MR. KLUKAN: Okay. Thank you for that.
2 One additional question regarding the other sites. I
3 know for at least the licensing -- the license
4 application the Army made I think some commitment, and
5 I am not familiar with DOD regulations at all, that --
6 commitment to the prohibition against high explosives
7 in areas believed to contain DU. Is that an actual
8 thing? I guess that's my first question, is that an
9 actual DOD --

10 MR. KOMP: It's a DOD 1-4750.

11 DR. CHERRY: I can't remember the number.
12 That regulation, of course, was established well
13 before the Davy Crockett discovery.

14 MR. KLUKAN: Okay.

15 DR. CHERRY: I believe it was, primarily,
16 intended for DU penetrator, DRDT and E ranges, Proving
17 Ground where the density of the depleted uranium is
18 much greater than it is for the Davy Crockett impact
19 ranges. However, it doesn't exempt the Davy Crockett
20 impact ranges, so currently it applies to those also.
21 But it was not intended for that kind of --

22 MR. KLUKAN: Currently, you're applying
23 that regulation to the two sites in Hawaii.

24 DR. CHERRY: Yes.

25 MR. KLUKAN: How about for the other

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1 identified sites, or the sites believed to contain
2 depleted uranium contamination?

3 DR. CHERRY: I've made it known to the
4 Range Operators that this prohibition is in effect,
5 but I haven't checked on whether -- what the
6 compliance to it is.

7 MR. KOMP: And I've had similar meetings
8 with G3 ranges, or training range folks at,
9 Headquarters Department of the Army. They understand
10 the prohibition. Fortunately, we have enough in most
11 of our cases ranges where so far it has not been shown
12 to impact training.

13 DR. CHERRY: Are we talking about HE, or
14 we're talking about things like tank rounds, and
15 artillery shells and things, not small arms fire,
16 which doesn't explode.

17 MR. KOMP: And there's also sub-caliber
18 range for some of our big weapon systems that don't
19 contain the impact of the large amount of HE.

20 MR. KLUKAN: So, just to confirm, that you
21 communicated it to the range operators, but as of
22 right now, you're unaware of whether they've
23 implemented that, or not at the additional
24 installations.

25 DR. CHERRY: That's correct. Personally, I

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1 do not know if they've implemented or not.

2 MR. KLUKAN: Okay.

3 DR. CHERRY: I view that as -- I view this
4 whole license application process as a process. I
5 can't set everything in place instantaneously. And as
6 I move from installation to installation, then I will
7 make sure that those sorts of prohibitions are more
8 codified. But at the moment, all I've done so far,
9 just notified them of the DOD regulation, and they're
10 supposed to be complying with that, since we don't
11 have the license set up yet. Once the license is set
12 up, then I will then have the clout of the license to
13 let the operators know about it.

14 MR. KLUKAN: But it's your position, Dr.
15 Cherry, that that regulation does apply.

16 DR. CHERRY: Yes.

17 MR. KLUKAN: Or would apply to the Davy
18 Crockett.

19 DR. CHERRY: Yes.

20 COL. BALDWIN: Well, let me just make a
21 comment about that. If a range operator has been told
22 that something is a requirement from policy, or
23 regulation, or law, that you can or cannot do
24 something at the range, I would think that they would
25 comply with that. I think that would be the operating

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1 assumption we would have here, if they've been
2 notified of that, then they're, in fact, complying
3 until we're told otherwise. We can certainly verify
4 that, if you want us to.

5 MR. KOMP: And I would add, too, that the
6 Army's been very good about complying with the
7 environmental regulations. I personally have had lots
8 of training stopped because of running into a red-
9 cockaded woodpecker, or other environmentally
10 endangered species, so the range operators understand
11 that. They're used to dealing with environmental
12 impact statements within the range, or the
13 installation complex, so they understand those
14 environmental protection activities.

15 MR. KLUKAN: I guess to hinge on what you
16 just mentioned, MR. Komp, are there -- is the Army
17 aware that there aren't any endangered species under -
18 - species that would qualify under the ESA for
19 protection at any of these installations?

20 MR. KOMP: We've not looked, specifically,
21 but in the case I mentioned with the red-cockaded
22 woodpecker, there's a potential that the habitat
23 overlaps.

24 MR. KLUKAN: Okay. I have just one more
25 question.

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1 DR. CHERRY: Part of the ORAP process also
2 looks at endangered species. Obviously, we are
3 required to check out endangered species for lots of
4 reasons, other than NRC regulations, so I'm pretty
5 sure that they're pretty well aware of what they have
6 on each of their -- actually, the Army is kind of
7 proud of its record in that area.

8 MR. KLUKAN: I think my final question, and
9 I know I've had a lot, and I apologize. You
10 mentioned, Dr. Cherry, the number 29,207 for rounds in
11 total. How did you calculate that number?

12 DR. CHERRY: I'm speaking from memory right
13 now, but as I recall, the total number of manufactured
14 rounds was 77,000.

15 MR. KOMP: It was 75,318.

16 DR. CHERRY: Right. And then we are aware
17 of how many were turned in, that were not fired and
18 turned back in.

19 MR. KOMP: Yes, let me just take this
20 question. I've been doing the historical a lot, so --
21 what we did, the DA Form 550s, which is our
22 ammunition tracking record, we were able to show that
23 a certain number of rounds, and I've now forgotten the
24 total, were shipped from Lake City Army Ammunition
25 Plant to specific installations, and also to a couple

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1 of our depots. When you go through and add up all
2 those numbers, there's I want to say within a thousand
3 or two here, about 39,000 rounds that were available
4 for demilling that were left over from the depot.
5 When you go back and you look at 44,000 rounds that
6 were demilled at Lake City, we expect those rounds
7 came from not only the depots, but some of these
8 installations where they had additional rounds.
9 Unfortunately, we've not been able to track down those
10 records. They're typically held for three years, and
11 we've not been able to find them. I think we were
12 lucky in finding the initial 550s that showed the
13 distribution to the installations. I believe some of
14 that math is in our license application.

15 DR. CHERRY: Basically, without using the
16 numbers, we know what was shipped out, and we know
17 what was returned back, so the difference --

18 MR. KLUKAN: And you took the --

19 DR. CHERRY: Right.

20 MR. KLUKAN: -- difference.

21 DR. CHERRY: That's all it is.

22 MR. KLUKAN: All right. I'm going to
23 apologize again, mea culpa for one additional
24 question. I promise that's the last one. I know at
25 Schofield Barracks and Pohakuloa, that when personnel

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1 enter the ranges for routine maintenance, that you've
2 employed DOD personal monitoring, that you scan them,
3 or wave them out, check them for radiation after exit.

4 Have you implemented that at any of the other ranges
5 believed to be contaminated with DU?

6 DR. CHERRY: No.

7 MR. KLUKAN: Okay. Thank you.

8 DR. CHERRY: Let me add, most of these
9 ranges are active ranges, and people generally don't
10 go into those areas. But the short answer to your
11 question is no. But I'm not -- I would have to look
12 at each individual range to see what sort of routine
13 access occurs.

14 MR. KLUKAN: So, is Pohakuloa then, and
15 Schofield in some way generally different from other
16 ranges we're talking about in the type of weapons
17 being used there?

18 DR. CHERRY: I think Schofield is kind of
19 unique.

20 MR. KOMP: Schofield is definitely unique,
21 in that, one, it's an extremely tiny range, so you've
22 got a lot of overlapping activities. Most of our
23 ranges, if you look at them, a good example is Fort
24 Hood. Fort Hood is what I'd identify an ideal range
25 for the type of situation. It's got huge impact area,

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1 and there are hundreds of ranges all the way around
2 the perimeter where you're firing into the impact
3 area, so there's no need to even go into these areas.

4 Schofield, because of the size, you're overlapping
5 where the small targets are, and also where the DU
6 areas are, so we don't have the luxury of staying out.

7 MR. KLUKAN: Thank you. Would -- that's
8 the close of my questions. Would Army IMCOM like to
9 make any -- oh, I'm sorry. Excuse me.

10 MR. HAYES: Yes, if I may. You know, the
11 intent of this meeting, I believe a large part of it
12 was to enhance your understanding of the NRC process,
13 because to someone probably coming in, it's sort of --
14 it's rather vast, and it's possibly confusing.

15 In terms of something that may assist you
16 in terms of understanding our licensing process as to,
17 for example, when you submitted in November of 2008,
18 you know why, for example, your application was not
19 noticed in the Federal Register, and it wasn't until
20 after you in July of 2009, after you had submitted for
21 Schofield and Pohakuloa, those radiation environmental
22 monitoring programs that those two were noticed. And
23 that reason is because we had really no information
24 with respect to the initial two from Hawaii, and the
25 other seven. So, it is only when we have some

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1 information about your particular facilities that we
2 can go out and do a Federal Register notice, and then
3 have a public meeting to describe what particular
4 action is going to take place, and have some
5 information. Otherwise, if you can anticipate, we
6 would go out, for example, say Fort Lewis and say hey,
7 we understand from the Army's application that they
8 have depleted uranium. We don't know where, we don't
9 know how much. Well, that isn't a very effective
10 public meeting. So, I think for your understanding,
11 before we can go through some of the licensing process
12 for some of these facilities, we have to have the
13 information.

14 The other thing is, with respect to the
15 additional I think eight sites that you have named
16 that have unknown quantities, or certain amounts of
17 DU, is that amount based upon the shipping manifest
18 that you have in terms of the amount of rounds sent
19 out?

20 DR. CHERRY: Again, I haven't read the
21 ASRs, and I believe that these locations, for example,
22 Fort Sill, since I'm a former artilleryman, that's not
23 an infantry post. And these are infantry weapons, so
24 I believe they probably had some demonstrations there.
25 There wasn't any formal infantry training done at

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1 Fort Sill. Since this was an infantry weapon, there's
2 indications that it was fired there, but probably it
3 was fired by some infantryman that came in to do a
4 demonstration, or something. I don't know, but I
5 think the numbers -- because of that, I think the
6 numbers are going to be actually pretty small at these
7 other installations where it's unknown, except for
8 Fort Carson, which had plenty of infantry units, and
9 that's why I made such a large estimate.

10 MR. KOMP: If I can address that, too. One
11 thing we're dealing with here is a discovery process.

12 When we first found it at Schofield, we commissioned
13 the St. Louis Corps District to go out and do the ASR.

14 As part of that ASR process, they found the 550s that
15 we've mentioned previously that gave us the number.
16 Most of these numbers come from those 550s. We did
17 make some -- there are some mistakes in the Hawaii
18 ASR, for example, the training years was wrong, they
19 didn't find out until later that the 25th were deployed
20 to Viet Nam, so they were not on site for those three
21 years. So, the new ASR will correct some of that.

22 What you'll also find in this new set of
23 ASR when we deliver it to the NRC at the first quarter
24 of next year is, we've gone back through, and we've
25 looked at the type of unit that was there, the number

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1 of weapon systems, and the max rounds that could have
2 been fired on the site. So, you take that round, and
3 that's kind of what Bob did in his calculations, but
4 it will actually exist in each one of the ASRs based
5 on TO&E data. And that will give you the max number,
6 so the number fired will be max of either that number,
7 or what was shipped. But, probably, much less.

8 MR. HAYES: As a result of the
9 identification of these potential sites with DU, do
10 you intend to modify your license application? And,
11 if you are, do you have an idea of a time frame when
12 you might modify that?

13 DR. CHERRY: Well, this was the first time
14 I notified the NRC of these other sites, because it
15 was the first time I found out about them. I wouldn't
16 have told you about them today if I hadn't read them.

17 And to be open, as soon as I find out about them, I
18 let you know, so I presented them today.

19 But to specifically answer your question,
20 as I understand it, what we will do now is submit a
21 license amendment application for each one of these
22 sites, as we work through this process. I guess, some
23 of the things that we need to work out, again, it's
24 hard for me to write an amendment application when I
25 don't have all the plans ready, so I can't -- like I

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1 say, I can't do this instantaneously. I can't present
2 you with a 313 instantaneously for each one of these,
3 because I have to produce the supporting documents.
4 And I presume we'll be able to work out some sort of
5 schedule so that I can do that. So, as I say, as I
6 understand it, for each one of these places, we'll
7 have a 313 amendment application.

8 MR. KOMP: And just so you understand,
9 we're still finding out, too. Our last field survey
10 was done last week, so now we're going back and
11 rewriting all of the project ASRs, so we really didn't
12 have the data in a concise form. This August was a
13 fair guess, but we were running the risk of coming to
14 you every few weeks with a new number, or waiting
15 until we got the list coming back to you. And since
16 we're already working on the known issues, we waited
17 until now, really until the final ASR list is done to
18 present that to you.

19 DR. CHERRY: Also, as it came out at the
20 ASLBP, it wasn't a hearing, what did you call it?

21 MR. KOMP: It's a hearing.

22 DR. CHERRY: The one in January. Anyway,
23 it came out there. The actual numbers are not
24 critical to health safety and risk, and so on.
25 Whether it's 1,000, or 2,000, really doesn't make that

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1 much difference, so just the fact that it was there is
2 the important part of it. And we'll assess exactly
3 how much is there, as well as we can. But I don't
4 think to provide three or four digit significant
5 figures is as pertinent as that it was there, and was
6 it 10, or was it 1,000? Yes, that's a difference, but
7 if it's 1,000, 2,000, that really has no impact, I
8 think, on the way we would handle things.

9 MR. KLUKAN: Just so I understand, Dr.
10 Cherry, your position is not that the quantity doesn't
11 matter, it's that only significant changes in the
12 quantity matter. Because I can imagine a scenario
13 where 1,000 pounds versus 10,000 pounds in terms of
14 groundwater monitoring, or other pathways due to
15 precipitation, or other climatological activities
16 would change.

17 DR. CHERRY: Well, yes, certainly if you
18 have 10,000 instead of 1,000, then the amount going in
19 the groundwater would be 10 times as much. But what I
20 mean is the fact that -- the difference between 1,000
21 and 10,000 is significant, of course. But I'm saying
22 the difference between 1,000 and 2,000 really --

23 mR. KLUKAN: So, it's really, you're
24 saying, it's the -- there's a certain range which is -

25 -

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1 DR. CHERRY: Right. For example, in
2 Hawaii, we believe there's 714 rounds fired there
3 total. We assigned 714 rounds to each range for
4 calculation purposes. That actually was virtually
5 impossible if there's only 714 for both places, you
6 can't fire them in both places. And then somebody
7 pointed out that if you do calculations based on
8 training protocols, which is what I did with Fort
9 Carson, you end up with a larger number. Well, even
10 then it won't make that much difference in what
11 radiation safety plans we put in place. It won't make
12 that much difference in the doses people receive,
13 could receive. It might be instead of being a tenth,
14 just to throw out a number, instead of being a tenth
15 of a millirem in a year, it's two-tenths of a millirem
16 in a year. It really won't have that sort of impact.

17 Of course, the more accurate we know the numbers, the
18 more accurate we'll report them. But I don't see any
19 great significance in knowing it to any exact detail.

20 MR. KLUKAN: So, just to clarify, your
21 position is that between the two methods of
22 calculating, whether you look at training, or whether
23 you look at shipments, the difference in the numbers,
24 while training may lead to a more conservative number,
25 meaning a larger number, the difference for the sites

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1 we're talking about wouldn't be significant --

2 DR. CHERRY: Well, that would be your call.

3 I'm just -- that's my opinion. I don't see it would
4 have a significant impact on the monitoring plans, the
5 radiation safety protocols that we would put in place
6 for personnel going in out and of the areas. I don't
7 see that would make a big difference. But, of course,
8 that's your call, not mine.

9 MR. KLUKAN: But the differences would be
10 in the hundreds, the thousands, what would be the
11 differences, generally, between the two calculations?

12 DR. CHERRY: Well, definitely, for example,
13 the extreme is one of our RDT&E ranges, like Aberdeen
14 Proving Ground, or Jefferson, where lots and lots of
15 rounds were fired in a very definite pathway. And
16 those sorts of protocols will be -- I would expect to
17 be quite a bit more strict than what we would have for
18 Davy Crockett rounds that were fired over a much
19 larger area. I think we're getting into the weeds
20 here, but I'll try to answer your question as best as
21 I can.

22 MR. KOMP: Again, on the numbers, we talked
23 about this a little bit during the ASLBP hearing, is
24 we can probably upper bound this, but if you don't --
25 if you're not able to ship the right number, or the

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1 number of rounds needed for training, you're not going
2 to be able to ship them. For example, if you did the
3 full training schedule for Schofield, that would have
4 run into I think it was 1,800 rounds, whatever it is.

5 They only had 714 available for firing, so they
6 wouldn't have fired the larger number, although they
7 conceivably could have. And if you did the same thing
8 across the Army, without doing the numbers, it's
9 probably into the 60 or 70,000 rounds that would have
10 been fired under the full training protocol; yet, we
11 only had 29,000 that were fired, be available for
12 firing.

13 MR. BHACHU: My name is Ujagar Bhachu. I'm
14 with the FSME Licensing Branch, and I had the
15 opportunity to look at most of your licenses. One of
16 the things that appear that you have done the best
17 effort you can through documentation available using
18 the forms where the materials went. But it's not
19 terribly clear to me whether you have covered all the
20 commands that might have had these. Is there any way
21 of identifying, like Picatinny --

22 MR. KOMP: Yes. If I can go back and
23 describe the ASR process a little bit. What we did
24 when we delved into the records, we were looking for
25 evidence that they could have fired at Installation A,

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1 B, C, or D. We actually looked at 60 installations,
2 went out and did field sites on all 60 looking for the
3 possibility, any sort of evidence that we fired these.

4 And we ended up, I've forgotten the number now, 15 or
5 18 installations --

6 DR. CHERRY: Also, I listed the 10
7 criterion that we used, and those are applied at every
8 site. For example, if there was no infantry units at
9 the installation, then David Crockett round wasn't
10 fired there.

11 MR. BHACHU: I looked at the report in 1964
12 by the inspectors indicating that there were some
13 direct orders to transmit materials to Picatinny, and
14 places like that. And I didn't hear that name, so
15 that's why I'm asking this question.

16 DR. CHERRY: Those are arsenals for
17 storage. They weren't fired.

18 MR. BHACHU: I see.

19 MR. HAYES: I had one more comment, Brett.
20 You know, over my few years working for the NRC, I've
21 noticed sometimes there's been entities who've had a
22 certain amount of frustration dealing with the NRC.
23 And that degree of frustration, I think, is a function
24 of the amount of information that the NRC has. The
25 more information that we have, I think the less

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1 frustration there is on the part of the entity dealing
2 with the NRC. So, I would encourage you all, like in
3 terms of as you develop information, as you find
4 information, even though you may want to have a
5 complete product, in some cases it may be beneficial
6 to you to share the information ahead of time with the
7 NRC.

8 MR. KLUKAN: I would ask, does Region IV
9 have any questions or comments at this time? I don't
10 know why I'm looking up, but --

11 DR. SPITZBERG: We don't have any questions
12 here.

13 MR. KLUKAN: Thank you.

14 DR. SPITZBERG: Thank you.

15 MR. KLUKAN: Would IMCOM like to make any
16 closing statements at this time, before we open it up
17 to public questions?

18 COL. BALDWIN: Well, I think you've kind of
19 opened up the door for my last comment. To a certain
20 extent, Dr. Cherry and I are new at IMCOM, so this NRC
21 process is relatively new, particularly for me. And I
22 appreciate the opportunity today to have this meeting,
23 so that we can start our dialogue back and forth. And
24 I think, to a certain extent, if mistakes were made in
25 the past, they were unintentional, certainly on our

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1 part, just through lack of communication. And I think
2 we've gone -- made a step in the right direction to
3 establish lines of communication so that we can
4 address our issues of mutual interest, and that we can
5 move forward. And I believe today, certainly for me,
6 has been somewhat illuminating, as to how we would
7 navigate our way through those issues. And I
8 appreciate the opportunity for that, for the time
9 today, and I think that based upon what I've heard, we
10 can move in the right direction, from our perspective,
11 in an expeditious manner to resolve these issues.
12 Something that would be of mutual satisfaction between
13 us, and I just thank you for today.

14 MR. KLUKAN: Thank you. Before I open it
15 up for public questions, I would ask that any
16 individuals on the teleconference who have not
17 previously identified themselves to please do so now.

18 So, is there anyone on the phone who has not already
19 identified themselves? Okay. Are there any public
20 questions at this point?

21 MS. MODICA: Yes. This is Linda Modica in
22 Jonesboro, Tennessee. I have a -- just to clarify
23 what I thought I heard, and that's that offsite
24 monitoring of groundwater and surface water, and
25 possibly land looking for DU contamination that might

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1 have been brought via the air currents offsite is
2 going to be required by this license, or did I get
3 that wrong?

4 MR. MICHALAK: This is Paul Michalak,
5 Linda, and we will base that findings on the submittal
6 that the Army brings us. We're expecting a
7 comprehensive environmental monitoring program that
8 will evaluate all the potential pathways for the DU to
9 get off the site.

10 MR. KLUKAN: Yes, I would add to that, when
11 we say site, we mean sites.

12 MR. MICHALAK: Sites, plural. Right.
13 Site-specific. And then based on that, because there
14 may be some pathways that are not viable, and they
15 could make a technical argument to support that, then
16 we may eliminate that pathway.

17 MS. MODICA: Okay.

18 MR. KLUKAN: For that particular site.

19 MR. MICHALAK: Exactly.

20 MR. KLUKAN: This is a site-specific --

21 MS. MODICA: I see. I understand that each
22 of the site's geography, geology, and also proximity
23 of offsite public differs, and so I get that. That's
24 great. So then there's going to be an environmental
25 report, or is it going to be different than what we

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1 typically see from private corporate licensees?

2 MR. KLUKAN: This would take the form of an
3 environmental monitoring plan, which would outline
4 very generally speaking what are the feasible
5 pathways, and which aren't, and the reasoning for why
6 those pathways aren't feasible, and the monitoring
7 associated -- the monitoring necessary with the
8 pathways that are. We would call that an
9 environmental radiation monitoring plan, so you may
10 have heard this term before already, ERMP.

11 MR. MICHALAK: In a way -- this is Paul
12 Michalak. They'll submit a radiation safety program,
13 and some of the components of that, one could look at
14 it that an environmental radiation monitoring program,
15 the range access that I talked about earlier, how
16 people are going to get in and off the range, and then
17 even their training requirements and programs are all
18 going to come under this umbrella. So, we're going to
19 expect not just environmental monitoring, but the
20 entire picture.

21 MS. MODICA: Okay. That's good. And the -
22 - I recognize the sensitivity of DU having been used
23 at American bases in foreign countries, and that that
24 data would be really sensitive to those foreign
25 governments, but that doesn't mean that they shouldn't

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1 be apprized if there is offsite contamination. And
2 this is the question I guess I have, in general, both
3 with the domestic, the U.S. sites, and with the
4 foreign sites, is there going to be -- if there is a
5 decommissioning program going on at any of these
6 ranges, is there going to be remediation also of
7 offsite contamination?

8 MR. MICHALAK: Potentially. What I'll say
9 is that that would be based on the findings of the
10 monitoring program, and whether there was a potential
11 for it to migrate offsite. I think once, if we found
12 that potential at a site, and then that would be
13 evaluated. So, in a generic sense, yes, I mean,
14 things would be remediated to the level that's
15 necessary based on its potential to migrate offsite.

16 MS. MODICA: Okay. Great. And just a real
17 quick question. An ASR is what?

18 MR. KLUKAN: It's an Archive Search Report.

19 MS. MODICA: Archive Search Report?

20 MR. KLUKAN: Yes.

21 MS. MODICA: Thank you very much. All
22 right. That's it for me. Thank you.

23 MR. KLUKAN: Are there any others on the
24 teleconference who would like to make a comment, or
25 pose a question? Hearing none, I'll open it up to the

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1 room. Are there -- is there anyone in the room who
2 would like to make a comment, or pose a question at
3 this time? Okay.

4 Before I close the meeting, I will again
5 emphasize that feedback forms are available at the
6 door. If there are members watching via the
7 webstream, or participating via the teleconference,
8 please email Brett, B-R-E-T-T.Klukan, K-L-U-K-A-N at
9 NRC.gov for a feedback form, if you would like to fill
10 one out, it has prepaid postage. And with that,
11 barring no other comments or questions, we'll close
12 the meeting. Thank you very much.

13 MS. MODICA: Thank you.

14 (Whereupon, the proceedings went off the
15 record at 3:03 p.m.)
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24

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Attachment 3

LIST OF ATTENDEES

MEETING WITH U.S. ARMY IMCOM TO DISCUSS
LICENSING MATTERS ASSOCIATED WITH IMCOM'S REQUEST
TO POSSESS DEPLETED URANIUM AT VARIOUS ARMY INSTALLATIONS

TUESDAY, NOVEMBER 16, 2010

<u>NAME</u>	<u>ORGANIZATION / AFFILIATION</u>
Brett Klukan	NRC/OGC
Claude Wiblin	Cabrera Services, Inc.
Ujagar J. Bhachu	NRC/FSME
Stephen Burdick	Morgan Lewis
Kent Herring, LTC	U.S. Army
Mike Thiem	U.S. Army
Kathryn Brock	NRC/OEDO
Robert Summers	NRC/OE
Hans Honerlah	USACE
Dray Noble	U.S. Army
Jeffrey S. Willis	U.S. Army
Paul Michalak	NRC/ FSME
Gregory Bowman	NRC/OEDO
Colonel Gregory T. Baldwin	U.S. Army IMCOM OSJA
Robert Cherry	U.S. Army IMCOM
Greg Komp	U.S. Army HQ
Catherine Scott	NRC/OGC
Carrie Safford	NRC/OGC
Kimberly Sexton	NRC/OGC
Linda Modica	Sierra Club
Ken Tanaka	USACE
Joan Hutton	U.S. Army IMCOM

Attachment 4

Depleted Uranium as “Source Material”

*NRC Office of General Counsel
Brett Klukan, Attorney*

November 16, 2010 Meeting with U.S. Army IMCOM

Depleted Uranium as “Source Material”



The purpose of this presentation is to discuss briefly NRC’s treatment of depleted uranium as a “source material” subject to NRC’s licensing jurisdiction.

Depleted Uranium as “Source Material”



Why does it matter whether or not depleted uranium is considered “source material”?

Section 62 of the Atomic Energy Act

Unless authorized by a general or specific license issued by the NRC, which the NRC is authorized to issue, no person may transfer or receive in interstate commerce, transfer, deliver, receive possession of or title to, or import into or export from the United States any source material after removal from its place of deposit in nature, except that licenses shall not be required for quantities of source material which, in the opinion of the NRC, are unimportant.

Depleted Uranium as “Source Material”



What is “source material”?

The Atomic Energy Act defines “source material” as

- (1) uranium, thorium, or any other material which is determined by the NRC pursuant to the provisions of section 61 of the Act to be source material; or
- (2) ores containing one or more of the foregoing materials, in such concentration as the NRC may by regulation determine from time to time.

Depleted Uranium as “Source Material”



How does the NRC define “source material”?

The NRC defines “source material” as

- (1) Uranium or thorium, or any combination thereof, in any physical or chemical form or
- (2) ores which contain by weight one-twentieth of one percent (0.05%) or more of:
 - (i) uranium,
 - (ii) thorium or
 - (iii) any combination thereof.

Depleted Uranium as “Source Material”



However, “source material” does not include “special nuclear material.”

The NRC defines “special nuclear material” as

- (1) Plutonium, uranium 233, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the Commission, pursuant to the provisions of section 51 of the Atomic Energy Act, determines to be special nuclear material; or
- (2) any material artificially enriched by any of the foregoing.

Depleted Uranium as “Source Material”



So, what does the NRC consider depleted uranium to be?

The NRC defines “depleted uranium” as source material uranium in which the isotope uranium-235 is less than 0.711 weight percent of the total uranium present.

Depleted Uranium as “Source Material”



Is what IMCOM seeks NRC authorization to possess at various Army installations, spent M101 spotting rounds, within NRC’s definition of “depleted uranium” and, as such, licensable “source material”?

Yes.

November 16, 2010 Meeting with U.S. Army IMCOM

Depleted Uranium as “Source Material”



Questions?

The U.S. Army as a Potential NRC Licensee

*NRC Office of General Counsel
Brett Klukan, Attorney*

November 16, 2010 Meeting with U.S. Army IMCOM

The U.S. Army as a Potential NRC Licensee



The purpose of this presentation is to discuss briefly how U.S. Army IMCOM is within NRC licensing jurisdiction for the possession of depleted uranium (a type of “source material”).

The U.S. Army as a Potential NRC Licensee



Section 62 of the Atomic Energy Act

Unless authorized by a general or specific license issued by the NRC, which the NRC is authorized to issue, no person may transfer or receive in interstate commerce, transfer, deliver, receive possession of or title to, or import into or export from the United States any source material after removal from its place of deposit in nature, except that licenses shall not be required for quantities of source material which, in the opinion of the NRC, are unimportant.

Is IMCOM a “person” subject to section 62 of the AEA?

The U.S. Army as a Potential NRC Licensee



Is IMCOM a “person” subject to section 62 of the AEA?

The Atomic Energy Act defines in part a “person” as any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, Government agency other than the Commission, any State or any political subdivision of, or any political entity within a State, any foreign government or nation or any political subdivision of any such government or nation, or other entity.

The U.S. Army as a Potential NRC Licensee



Is IMCOM a “Government agency”?

The Atomic Energy Act defines a “Government agency” as any executive department, commission, independent establishment, corporation, wholly or partly owned by the United States of America which is an instrumentality of the United States, or any board, bureau, division, service, office, officer, authority, administration, or other establishment in the executive branch of the Government.

The U.S. Army as a Potential NRC Licensee



Conclusion:

IMCOM is a “person” subject to section 62 of the AEA.

The U.S. Army as a Potential NRC Licensee



10 C.F.R. 40.3:

A person subject to the regulations in this part may not receive title to, own, receive, possess, use, transfer, provide for long-term care, deliver or dispose of byproduct material or residual radioactive material as defined in this part or any source material after removal from its place of deposit in nature, unless authorized in a specific or general license issued by the Commission under the regulations in this part.

*Is IMCOM a “person” subject to
10 C.F.R. 40.3?*

The U.S. Army as a Potential NRC Licensee



Is IMCOM a “person” subject to 10 C.F.R. 40.3?

The NRC defines a “person” in part as any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, or Government agency.

The U.S. Army as a Potential NRC Licensee



Is IMCOM a “Government agency” as defined by the NRC?

The NRC defines a “Government agency” as any executive department, commission, independent establishment, corporation, wholly or partly owned by the United States of America which is an instrumentality of the United States, or any board, bureau, division, service, office, officer, authority, administration, or other establishment in the executive branch of the Government.

The U.S. Army as a Potential NRC Licensee



Conclusion:

IMCOM is a “person” subject to
10 C.F.R. 40.3.

November 16, 2010 Meeting with U.S. Army IMCOM

The U.S. Army as a Potential NRC Licensee



Questions?

A Short History of NRC Licensing of Spotting Rounds for Use with the Davy Crockett Weapon System

*NRC Office of General Counsel
Brett Klukan, Attorney*

November 16, 2010 Meeting with U.S. Army IMCOM

History of NRC Licensing



The purpose of this presentation is to discuss briefly the history of NRC licensing of spotting rounds (containing depleted uranium) for use with the Davy Crockett Weapon System.

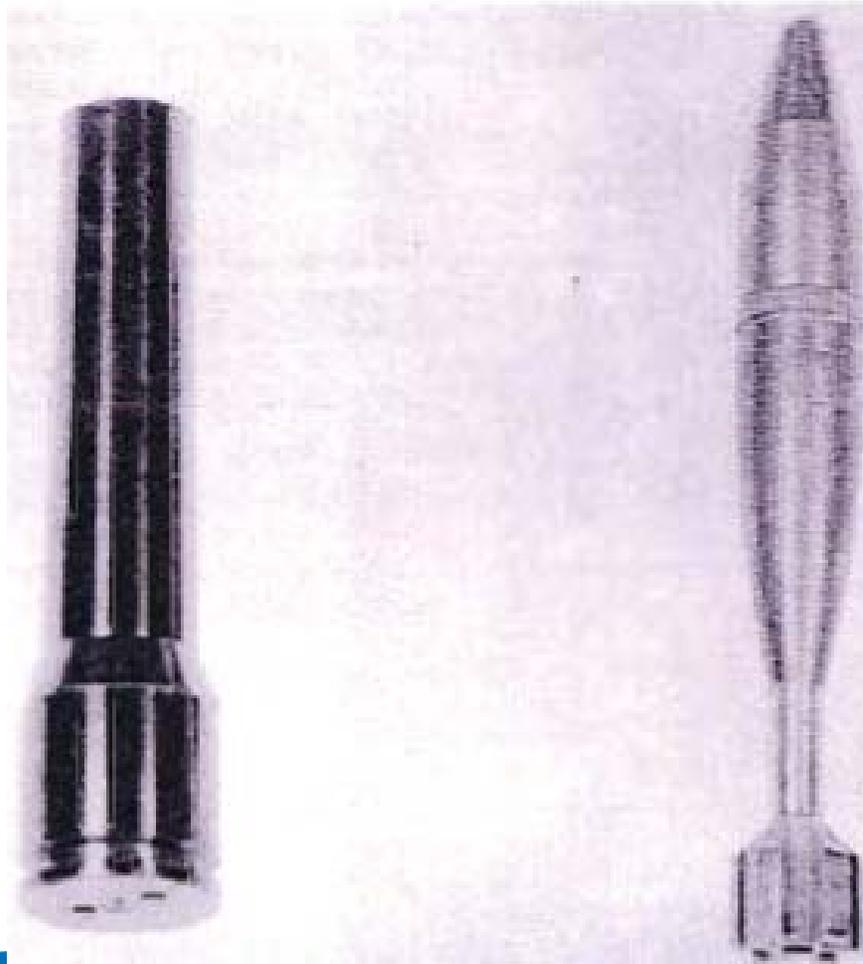
History of NRC Licensing

Davy Crockett Weapon System



History of NRC Licensing

M101 Spotting Round



History of NRC Licensing



September 19, 1961 Letter from A. Tyler Port, Acting Assistant Secretary for the Army, to Harold L. Price, Director of Regulation, U.S. AEC:

As you know, depleted uranium is officially classified as a source material because it retains limited value as a source of U-235 and Pu-239, and is therefore subject to special regulation under the Atomic Energy Act of 1954. The Army is planning to use depleted uranium in applications unrelated to its potential as a source material and has encountered administrative difficulties in complying with the special regulations governing its use.

Of most immediate concern are depleted uranium projectiles for spotting rounds for the DAVY CROCKETT weapons system. Depleted uranium is ideal for this application because its great density permits unique ballistic characteristics. In developing these rounds the Chief of Ordnance, Lieutenant General Hinrichs, has found it necessary to seek and obtain a license from the Commission authorizing him to possess depleted uranium and to fabricate and test these projectiles. However, since Lieutenant General Hinrichs commands only the Ordnance Corps of the Army, the present license does not permit transfer of projectiles to the field units which will employ them, nor does it permit expenditure of rounds in practice or combat. In addition, it does not provide for other uses of depleted uranium foreseen by the Army.

History of NRC Licensing



September 19, 1961 Letter from A. Tyler Port, Acting Assistant Secretary for the Army, to Harold L. Price, Director of Regulation, U.S. AEC:

Therefore, request that the existing license to the Chief of Ordnance be withdrawn, and that a new license be issued to the Department of Army. This license should authorize possession of depleted uranium without quantity limitation and should permit fabrication, testing, export, issue to subordinate organizations, and expenditure of this material in uses other than production of U-235 or Pu-239. Appropriate Commission application forms are forwarded with this letter.

History of NRC Licensing



NRC License SUB-307

Licensee		3. License No.
1. Name	Department of the Army	SUB-307, as amended
2. Address	Ordnance Corps Washington 25, D. C.	4. Expiration Date June 30, 1964
	Attention: Lt. General J. H. Hinricks Chief of Ordnance	5. Docket No. 40-6476
6. Source Material	Uranium	7. Maximum quantity of source material which licensee may possess at any one time under this license No quantity limitation
CONDITIONS		
8. Authorized use (Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.) For fabrication of spotting rounds at Lake City Arsenal, Independence, Missouri and at Frankfort Arsenal, Philadelphia, Pennsylvania, and for testing of spotting rounds at locations designated by the Chief of Ordnance in accordance with the procedures described in the licensee's application dated May 1, 1961, as supplemented June 2, and September 26, 1961.		
9. This license authorizes export of spotting rounds containing uranium in connection with military activities.		

History of NRC Licensing



NRC License SUB-459

Licensee		3. License No.
1. Name	Department of the Army	SUB-459
2. Address	Washington, D. C.	4. Expiration Date October 31, 1964
6. Source Material		5. Docket No. 40-6639
Uranium	7. Maximum quantity of source material which licensee may possess at any one time under this license No quantity limitations.	
CONDITIONS		
8. Authorized use (Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.) For fabrication of spotting rounds at Lake City Arsenal, Independence, Missouri, and Frankfort Arsenal, Philadelphia, Pennsylvania, and for the testing of spotting rounds in accordance with the procedures described in applications for license submitted by the Ordnance Corps dated May 1, June 2, and September 26, 1961. The licensee is further authorized to distribute spotting rounds to field units of the Army and to use such rounds for military purposes in accordance with the procedures described in the licensee's September 19, 1961, application. This license authorizes the export of spotting rounds containing uranium for military purposes.		

History of NRC Licensing



The Army was not required by License SUB-459 to report to the AEC where it had distributed spotting rounds for testing.

It is the NRC's belief that the spent M101 spotting rounds IMCOM now seeks a license to possess at various locations were distributed for testing pursuant to License SUB-459.

History of NRC Licensing



License SUB-459 was allowed by the NRC to expire on April 28, 1978 as it was thought source material held pursuant to that license was either transferred to other valid license holders or disposed of as radioactive waste.

As far as NRC is aware, there has been no active license since the expiration of SUB-459 which would permit the Army to possess spent M101 spotting rounds at the identified installations.

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History of NRC Licensing



Questions?

How Additional Installations will be Licensed by Amendment

*NRC Office of Federal and State Materials and
Environmental Programs*

Paul Michalak, Branch Chief

Materials Decommissioning Branch

and

NRC Office of General Counsel

Kimberly Sexton, Attorney

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- Initial license to cover Schofield Barracks and Pohakuloa Training Area.
- Typically, additional site(s) (e.g., other U.S. installations) would be added to the license through the license amendment process.

Application amendments must be addressed:

Premium Mail Services (FedEx, etc)

ATTN: Document Control Desk
Director, Office of Federal and State Materials
and Environmental Programs
US Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852-2738

USPS First Class Mail

ATTN: Document Control Desk
Director, Office of Federal and State Materials
and Environmental Programs
US Nuclear Regulatory Commission
Washington, DC 20555-0001

How Additional Installations will be Licensed by Amendment



- Electronic Submittals web page, <http://www.nrc.gov/site-help/e-submittals.html>, - Link to “Guidance for Electronic Submissions to the NRC” document
- Section 2.9 of the “Guidance for Electronic Submissions to the NRC” document, <http://www.nrc.gov/site-help/e-submittals/guide-electronic-sub-r6.pdf> - Requirements for Creating PDF from Native Applications such as MS-Word, WordPerfect, etc... and from a Scanner
- Materials for Electronic Submissions, <http://www.nrc.gov/site-help/electronic-sub-ref-mat.html> - Guidance documents and training videos on
 - How to configure the Adobe Acrobat Distiller
 - How to check your PDFs to see if they comply to NRC’s requirements or not
 - Download NRC’s recommended Distiller profile to generate compliance PDF

License Amendments must be submitted on NRC Form 313 in accordance with 10 C.F.R. 40.44 and 10 C.F.R. 40.31.

How Additional Installations will be Licensed by Amendment



Typically, NRC materials licenses contain license conditions. For the Davey Crockett DU license, likely conditions would include:

- Tying the license into technical documents required for application review (i.e., Radiation Safety Program, Environmental Radiation Monitoring Program, Range Access (radiation related), and Radiation Training Requirements and Programs).
- Requirements to notify and eventually to submit license amendment to incorporate new installations within x days of identification of DU on the installation.
- No “Decommissioning” activities (e.g., partial site release) without an approved Decommissioning Plan.

How Additional Installations will be Licensed by Amendment



- License amendment applications require 30- to 90-day acceptance review depending on complexity of the proposed action.
- Most license amendments require noticing in the *Federal Register* with a 60-day period to request a hearing and a 90-day period to provide comments on the proposed action.
- The NRC may hold public meetings related to the license amendments near locations of the other U.S. installations.

Notice of Opportunity for Hearing

- Following a positive NRC acceptance review of each subsequent amendment, the NRC will publish a notice of opportunity for hearing in the *Federal Register*.
- Therefore, there is a possibility for hearing requests on each newly submitted site-specific license amendment.

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How Additional Installations will be Licensed by Amendment



Questions?



Public Participation in the NRC Licensing Process

Kimberly Sexton,
Office of the General Counsel

Overview of Types of Public Participation

- Public Meetings
- General Correspondence
- 2.206 Petitions
- Requests for Hearing

Public Meetings

- Public v. Closed Meetings
- Making Meeting Information Public
- Types of Public Meetings

General Correspondence

- At any time, a member of the public can request information in writing or identify concerns about facilities through regular correspondence with the NRC.
- Routine correspondence between the NRC and its licensees is made publicly available.

2.206 Petitions

- The primary mechanism for the public to request enforcement action by the NRC in a public process.
- Petition Process:
 - Petitioner submits written request
 - NRC determination of petition qualification
 - Petition technical review meeting
 - Director's Decision

Requests for Hearing

- Types of Participation
- Notices of Opportunity for Hearing
- Who Can Participate

NRC Expectations for Future U.S. Army IMCOM License Amendment Applications

*NRC Office of Federal and State Materials and
Environmental Programs
Paul Michalak, Branch Chief
Materials Decommissioning Branch*

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- License Amendment Application typically is a cohesive package of information containing the following elements:
 - Site Description.
 - Background regarding Davy Crockett use at the installation.
 - Description of present and future firing range uses.

The License Amendment Application also contains the following documents with information on a site-specific basis:

- Radiation Safety Program
- Environmental Radiation Monitoring Program.
- Range Access (radiation control area related).
- Radiation Training Requirements and Programs.

This information is used as the basis for NRC inspections.

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NRC Expectations for Future U.S. Army IMCOM License Amendment Applications



Questions?

A decorative blue graphic at the bottom of the slide, featuring a stylized atomic symbol with three orbiting electrons in a lighter shade of blue.

Michalak, FSME

NRC Expectations for Future Licensee Activities

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Environmental Programs
Paul Michalak, Branch Chief
Materials Decommissioning Branch*

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NRC Expectations for Future Licensee Activities



- For the DU at Schofield Barracks, as long as the material is collected, packaged, and prepared for shipment under the Cabrera license, the Joint Munitions Command license, or another NRC license authorizing the activity, and is transported in accordance with all applicable regulations and requirements, the material may be removed from the installation.
- Clearance burns at Schofield Barracks may be performed under the Cabrera license.

NRC Expectations for Future Licensee Activities



- Routine Army activities that would occur within the radiation control area of any of the Davey Crockett DU sites would require the operation of a radiation safety program approved by the NRC via a license.
- Areas of Schofield Barracks (or any of the other Davey Crockett DU sites) can not be released for unrestricted or restricted use until the NRC has approved a Decommissioning Plan for those areas to be released and it has been demonstrated that the areas have been Decommissioned in accordance with the approved plan (see NUREG-1757 for guidance).

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NRC Expectations for Future Licensee Activities



Questions?

NRC Inspection Program

D. Blair Spitzberg, PhD, Chief
Repository and Spent Fuel Safety Branch
Division of Nuclear Materials Safety
Region IV

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What is an NRC inspection?

An assessment of licensee performance to determine whether the licensee is using radioactive material safely and in compliance with established requirements such as Orders, regulations, license conditions, and commitments



Scope of NRC Inspections

- May inspect routine licensed activities such as possession only licenses
- May inspect non-routine activities such as license authorized site remediation and decommissioning
- May review any allegations received
- May involve one or more visits to authorized use locations or other licensee facilities



Conduct of Inspections

- Generally conducted by inspectors from the regional office responsible for the geographic location of the inspected activities
- May be announced or unannounced
- Entrance and Exit meetings with licensee management
- Typical inspection activities include:
 - Site tours
 - Observation of licensed activities
 - Review of program related records
 - Interviews with workers, responsible personnel
 - Independent measurements



Decommissioning Inspections

- Review and observe implementation of license authorized decommissioning activities
- Inspect organization and management controls, procedures, training, equipment and instrumentation, disposal, surveys, documentation, etc.
- Conduct confirmatory measurements



NRC Independent Surveys and Confirmatory Measurements

- NRC has instrumentation suitable for measurement of DU such as FIDLER and sodium iodide 2x2 meters
- NRC instrumentation may be coupled with GPS instrumentation for detailed survey mapping
- Use of NRC contractors for more extensive surveys as needed to confirm the adequacy of licensee surveys and final status



Inspection Guidance

- For possession only (NRC Manual Chapter 2800):
 - Initial inspections within 12 months of license issuance
 - Normally biennial inspections thereafter
- For decommissioning (NRC Manual Chapter 2602):
 - During significant decommissioning activities
 - Inspections conducted until decommissioning is complete
- NRC Manual Chapters and Inspections Procedures can be found at:
<http://www.nrc.gov/reading-rm/doc-collections/insp-manual/manual-chapter/>



Inspection Results

- Inspection reports issued within 30-45 days of final exit briefing
- Any violations are subject to NRC enforcement process
 - Classifies violations according to safety significance
 - Enforcement options include Notice of Violation, Civil Penalties, Orders, other

<http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>

