

Orlando, Dominick

From: Cory (Martha) Harden [mh@interpac.net]
Sent: Wednesday, July 11, 2012 4:06 AM
To: gregory.baldwin@us.army.mil; robert.cherry@us.army.mil; greg.komp@us.army.mil; paul.michalak@us.army.mil; ann.wright@us.army.mil; Hayes, John; Orlando, Dominick; Oxenberg, Tanya; timothy.vitkus@orau.org
Subject: July 12

Questions for July 12, 2012 telcon between Nuclear Regulatory Commission and Army
from Cory Harden, PO Box 10265, Hilo, Occupied Hawai'i 96721 808-968-8965 mh@interpac.net

How can citizens appeal conditions in the license? Can the license be issued before an appeal is resolved?

Why were high-explosive munitions prohibited in Pohakuloa DU areas in 2004? DU wasn't discovered in Hawai'i until 2005.

"...DOD has prohibited the firing of high-explosive munitions into the same areas as DU since 2004..." [Pohakuloa ERMP, p. 16]

"In August 2005, tail fin components and spotter round bodies (SRB) from the Cartridge, 20mm Spotting M101 associated with the Davy Crockett Light Weapon M28 were discovered during routine activities at Schofield Barracks." ... [Final Technical Memorandum, Depleted Uranium Scoping Investigations, Makua Military Reservation, Pohakuloa Training Area, Schofield Barracks Impact Area, Cabrera Services, April 2008, p. 1-1]

Why is NRC now allowing firing of high-explosive munitions into suspected DU areas?

What action will NRC take after learning firing will be done?

What kind of air sampling will be done?

"The licensee shall not fire high-explosive munitions into areas containing depleted uranium without first informing NRC 14 working days prior to the date that the high-explosive munitions will be fired." [Materials License draft 7-12-12, #19]

"High-explosive munitions will not be fired into an RCA." [RSP 6-22-11, p. 4-1]

Air sampling should be done much more often than quarterly.

"The licensee shall perform continuous air sampling at both the Pohakuloa Training Area and Schofield Barracks in a minimum of four (4) suitable locations that are downwind from the Radiation Control Area for each facility. Locations shall be based on wind rose maps of at the Pohakuloa Training Area and Schofield Barracks ranges. Samples should be taken and analyzed on a quarterly basis." [Materials License draft 7-12-12 # 26]

Air sampling should continue, even if results are below action levels after EOD detonations and controlled burns, because the spotting rounds are not evenly distributed, but are in unpredictable "hot spots".

"If results for at least three EOD blow-in-place detonations show concentrations of DU in air that do not exceed the action level, the License RSO may ask the NRC to relax the requirement for future air sampling during EOD detonations." [RSP 6-22-11, p. 4-2]

"If results for at least three controlled range burns show concentrations of DU in air that do not exceed the action level, the License RSO may ask the NRC to relax the requirement for future air sampling during controlled range burns." [RSP 6-22-11, pp. 4-2 to 4-3]

Air sampling should be required ("shall" not "may") when large dust clouds are expected.

"The License RSO will evaluate other activities expected to produce large dust clouds and may require air sampling during those activities." [RSP 6-22-11, p. 4-2 to 4-3]

The ERMP should allow for the possibility of DU originating outside the RCAs.

"Should DU be detected in any of the sampling, the presumption will be that the DU originated from the RCAs." [Pohakuloa ERMP p. 11]

How will the Army "maintain constant surveillance" of the DU?

10 CFR § 20.1802 "Control of material not in storage. The licensee shall control and maintain constant surveillance of licensed material that is in a controlled or unrestricted area and that is not in storage."

NRC should oversee testing for DU at exploratory water wells now planned for Pohakuloa.

"Gifts, Grants, and Contracts for September 2011...

Defense, Dept - Army

Evaluation of Groundwater Hydrology within the Humu'ula Saddle Region of the Island of Hawaii on Army

Garrison Hawaii Pohakuloa Training Area

Thomas, Donald M Hawaii Institute of Geophysics and Planetology

Assess and evaluate groundwater resources and condition within the Humu'ula Saddle at the Pohakuloa Training Area" [http://www.ors.hawaii.edu/files/BOR_Consolidated-09-2011.pdf]

"Routine groundwater sampling is not planned" [Pohakuloa ERMP p. 10]

Is there any evidence Pohakuloa spotting rounds were cleaned up years ago? How they would have been disposed of at that time?

"The number of DU spotting round bodies, aluminum fin assemblies and DU fragments are much fewer than would be expected given the total number of pistons which were identified. This fact, and in comparison to the number of DU fragments, and portions of the Davy Crockett spotting rounds found at Schofield Barracks, suggests that some type of range clearance may have occurred at PTA." [Pohakuloa ERMP p. 7]

Why are there no RCAs near two of the suspected Davy Crockett ranges? [Pohakuloa ERMP, plate 4]

Why are boundaries different for

- RCAs at Pohakuloa Training Area
[Pohakuloa ERMP, 2-3-12, plate 4 and RSP 6-22-11, p. 24-3]
- Soil Sampling Locations and Davy Crockett Areas,
[Final Technical Memorandum for PTA Aerial Surveys, July 24, 2009, Figure 2-2, p. 2-5]
- PTA Area of Interest
[Final Technical Memorandum for PTA Aerial Surveys, July 24, 2009, Figure 3-1, p. 3-2]

The amount of DU expected at each installation should be specified.

The license seems to use a total amount for all sites-- over 17,500 pounds, though the Army says only about 300 pounds were shipped to Hawai'i.

"Maximum amount that Licensee May Possess at Any One Time Under this License ...8,000 kg [about 17, 636 pounds]" [Materials License draft 7-12-12, #8]

"An Army shipping manifest showed that for the Hawaiian sites, 714 spotting rounds, containing about 299 pounds of DU, were sent to Hawaii..." [Pohakuloa ERMP p. 1]

For deficiencies, the Army should notify NRC and residents who have been involved in the licensing process.

"...the License RSO will...Ensure that the results of audits, identification of deficiencies, and recommendations for change are documented (and maintained for at least 3 years) and provided to management for review; ensure that prompt action is taken to correct deficiencies." [Physical Security Plan, 2-17-11, p. 2-1 to 2-2]

For these events, NRC should do a press release to news organizations in the state of Hawai'i and to residents who have been involved in the licensing process.

- *Discoveries of new DU*

"The licensee shall not perform any decommissioning or ground disturbing activities to collect or remove depleted uranium fragments or contaminated soil that is identified during routine range activities at the Schofield Barracks or Pohakuloa Training Area without prior authorization from NRC." [Materials License draft 7-12-12, #21]

"...unintended discovery of M101 spotting round DU debris in an RCA and its location will be reported immediately to the Garrison RSO. The Garrison RSO, in consultation with the EOD personnel and the License RSO, will determine whether it is more reasonable to pick up the DU and hold it for appropriate disposal (see Section 18) than it is to leave it in place. [RSP 6-22-11, p. 3-1 and Physical Security Plan, 2-17-11, p. 4-1]

- *Discoveries of new radioactive material*

"The Garrison RSO and License RSO will be notified if and when M101 spotting round debris (or any other heretofore unknown radioactive material) is found on US Army Garrison Hawaii Ranges." [Physical Security Plan, 2-17-11, p. 3-1]

- *New RCAs*

"The License RSO may add [RCAs] to ASR-identified areas in coordination with the Garrison RSO using information that was not available to or used by the ASR authors." [RSP 6-22-11, p. 3-1]

- *Significant results from sampling of air, water, plants, or soil*

- *Notices of violation*

"The Garrison RSO shall post or make available current copies of any notice of violation involving radiological working conditions, proposed imposition of civil penalty, or order from the NRC and any IMCOM response." [RSP 6-22-11, p. 14-2]

Was there a January 2012 telcon re. revisions needed in the ERMP? If so, which citizens were notified?

Note:

Numerous citizens, some with technical backgrounds, have made extensive comments over the years of this licensing process. It is extremely disappointing that few, if any, of the comments seem to be included in the current draft of the license.

ACRONYMS

ASR Archives Search Report

BOR Board of Regents

CFR Code of Federal Regulations

DOD Department of Defense

DU depleted uranium

EOD Explosive Ordnance Disposal

ERMP Environmental Radiation Monitoring Plan

NRC Nuclear Regulatory Commission

PTA Pohakuloa Training Area

RCA Radiation Control Area

RSO Radiation Safety Officer

RSP Radiation Safety Plan

Orlando, Dominick

From: Jim Albertini [ja@malu-aina.org]
Sent: Wednesday, July 11, 2012 4:45 AM
To: Orlando, Dominick; Cory Harden; Isaac Harp; CoAG Reimer, Mike; Pang, Lorrin W.; Klukan, Brett; A P honolulu; Dwight Kondo; Alan McNarie; Dave Corrigan; david schlesinger; Hilo Trib; Hono Weekly; Ian Lind; Jason Armstrong; Jim Quirk; Joan Conrow; jsong@ap.org; KBOO; kgmb tv9; Tiffany; William Cole; ncook-lauer@westhawaiiitoday.com; Alan McNarie; aphonolulu@ap.org; Bob Nichols; Hilo Trib; Hono Weekly; Stephen Paulmier; Ian Lind; Bobby Command; Brenda Ford; Charmaine Shigemura; Dennis Onishi; Dominic Yagong; Donald Ikeda; Mayor B. Kenoi; Kevin Dayton; Hunter Bishop; jyoshimoto@co.hawaii.hi.us; Cindy Evans; Clifton Tsuji; Faye Hanohano; Jerry L. Chang; Robert N. Herkes; Josh Green; Gil Kahele
Subject: Concerning DU at Pohakuloa

To the NRC and the Army:
Questions for July 12, 2012 telecon between Nuclear Regulatory Commission and Army

For years, our organization has been calling for comprehensive, independent, air and soil testing and monitoring (with community oversight) to determine the full extent of DU radiation contamination at the Pohakuloa Training Area (PTA) on Hawaii island. It is an established fact that military records of DU use are incomplete. Minimal testing has been done by the Army. To insure transparency and the confidence of the community comprehensive testing needs to be done. The Army has stonewalled our request. Will the NRC support our request or stonewall us as well? Who could be opposed to our request unless there is something to hide?

To allow continued explosions on a base known to be contaminated with DU is plain nuts in lay terms, especially when neither the Army, nor the NRC know the full extent of military radiation contamination at PTA. All live fire, and anything that creates dust, should be ended at PTA.

The NRC needs to live up to its charge as a regulator instead of being a rubber stamp for the nuclear industry. In my view, your actions to date are similar to the failed regulation of the banking industry that has the world on the brink of global economic collapse.

Show by your actions that you are indeed regulators.
Thank you.

--
Jim Albertini Malu 'Aina Center For Non-violent Education & Action P.O. Box AB Ola'a (Kurtistown) Hawai'i
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Orlando, Dominick

From: geomike5@att.net
Sent: Wednesday, July 11, 2012 10:08 AM
To: Orlando, Dominick
Cc: mh@interpac.net; ja@interpac.net; imua-hawaii@hawaii.rr.com; GeoMike5@att.net
Subject: July 12, 2012 Army license meeting

Dear Mr. Orlando,

I plan on participating via teleconference for the 12 July 2012 meeting on discussion of the U.S. Army's depleted uranium (DU) possession license. I do have a few concerns about the license requirements that I hope will be included in the discussion but if time does not allow at the meeting, I outline them here and ask that you bring this to the attention of the meeting participants. I recognize the meeting is to address the possession license but the link to revision 1 of the Environmental Radiation Monitoring Plan (ERMP) is inescapable.

You may recall that the Army submitted a document addressing a monitoring plan for DU at Hawaiian military bases. This plan came under criticism of its inadequacies from both the public and NRC (1). What was called the Final ERMP revision 0 was released November 9, 2011 and in what appeared to be a response to the criticism of the Oak Ridge monitoring proposal, monitoring was largely removed from the ERMP.

I have reviewed revision 1 of the U.S. Army Environmental Radiation Monitoring Plan for the Pohakuloa Training Area (PTA) in Hawaii. This document is very similar to revision 0 of 9 November 2011 and changes are focused on further reducing any sampling and removing references to the need for monitoring as addressed in 10CFR20. For example, in Table 1 of revision 0, air sampling was included for periods of prescribed burns but has been removed in revision 1.

I am pleased that the Draft license includes conditions required of the licensee, particularly monitoring for DU in alignment with the requirement of 10CFR20.1802 wherein "The licensee shall control and maintain constant surveillance of licensed material that is in a controlled or unrestricted area and that is not in storage." I realize there can be different interpretations of surveillance and a radiation monitoring requirement applied to people rather than the environment. Yet, my broad interpretation certainly has a natural link to 10CFR20.1501 addressing surveys and monitoring. However, I am still concerned that the conditions added to the license fall far short of a comprehensive and effective monitoring requirement.

My major concern is that the Plan does not adequately address the monitoring needs that should be in place for the special situation that occurs at PTA where DU is present but hardly in isolation or contained in a storage facility. It is in an area that is frequently traversed by training exercises and used for explosive weapons firing. I had noted previously to NRC that the Final ERMP of 9 November 2011 differed significantly from the draft ERMP in that routine monitoring had been essentially deleted. The draft license now includes the requirement

that 4 air monitoring stations be maintained, the same number that was earlier criticized by NRC as being inadequate in its letter to the Army, previously cited in footnote (1).

I suggest that the larger number of air monitoring stations suggested by NRC be established with routine sampling for 2 years. If those stations using adequate protocols to detect DU, if present, show nothing, then after 2 years they may be reduced to 4 stations.

I will not dwell on what I consider the many shortfalls of the ERMP revision 1 but will note that it will have to be revised to accommodate the conditions of the license. There are many points that can be argued in reaching the conclusion that monitoring is not necessary. Whether or not biota should be sampled is one such argument. Peer reviewed publications indicate that certain biota, lichens, moss and even tree bark can be collectors of airborne DU particulates or aerosols (2).

In reality, the fact that little DU was found in limited searches in probable range areas should not be used as a basis for excluding monitoring under this license (or the ERMP). Rather it means clearly that one should look elsewhere (3). A clue to its location may be found in the thorough discussion on the fate of DU munitions in the "ENVIRONMENTAL RADIATION MONITORING PLAN FOR DEPLETED URANIUM AND BERYLLIUM AREAS, YUMA PROVING GROUND" (Ebinger and Hanson, Los Alamos Report LA-UR-94-1838, May 11, 1994) prepared for the U.S. Army Test and Evaluation command. They note that the fired rounds have the propensity of skipping across the surface, like a thrown stone skipping across water, ending up at distances much greater than the calculated range of the munitions. Therefore, the rounds are likely to be at PTA but simply in a location not searched. On this basis, I recommend that the possession license direct the Army to cordon off and sequester this very small area that includes the probable radiation areas from training use.

I fully understand that a possession license must be issued. DU material is present and should properly fall under regulatory control. To minimize, trivialize, or ignore the presence and risks of DU through a confusing and contradictory ERMP does not do justice to the licensing procedure. I hope NRC standards are high enough to require a broader base of routine monitoring as part of the license agreement, and not be drawn into a situation of seemingly supporting a very misleading ERMP. The NRC, in issuing a license should not be drawn into a position where it tacitly or inadvertently perpetuates the disinformation, inaccuracies and arguable issues of the present form of the ERMP. At a minimum, routine monitoring of air must take place. If the monitoring is something beyond the capability of the Army at PTA, then that small portion of the training area must be deemed unusable land and made inaccessible.

Michael Reimer, Ph.D.

Geologist, retired

Kailua-Kona, HI

July 11, 2011

(1) The issue of previous monitoring will certainly come into play. There is the claim that past monitoring has not detected any airborne DU. One could argue equally that the past air monitoring approach was inadequate to find DU. In fact, this was the NRC conclusion about the Army's air monitoring plan.

"We have concluded that the Plan will provide inconclusive results for the U.S. Army as to the potential impact of the dispersal of depleted uranium (DU) while the PTA is being utilized for aerial bombardment or other training exercises," quoting Rebecca Tadesse, Chief of the Nuclear Regulatory Commission's (NRC) Materials Decommissioning Branch, in a March 2010 letter to Lt. General Rick Lynch, who heads the Army's Installation Management Command (see NRC Adams library document ML100350664).

Even though NRC rejected the air monitoring plan based upon the past methodology as part of the overall radiation safety plan for PTA as being inadequate, they suggested a more directed and intensive monitoring program. However, air monitoring of any sort now seems to have been rejected by the Army in their recent and final November 9, 2011 Environmental Radiation Monitoring Plan (sec 3.5.5) in which they state: "Air samples will not be routinely collected as part of the ERMP."

(2) For example:

Rosamilia, S., S. Gaudino, U. Sansone, M. Belli, Z. Jeran, S. Ruisi and L. Zucconi. 2004. Uranium isotopes, metals and other elements in lichens and tree barks collected in Bosnia-Herzegovina: *Journal of Atmospheric Chemistry* **49**:447-460.

Ian W. Oliver ,Margaret C. Graham , Angus B. MacKenzie, Robert M. Ellam and John G. Farmer, 2007, Assessing depleted uranium (DU) contamination of soil, plants and earthworms at UK weapons testing sites : *J. Environ. Monit.*, 2007,9, 740-748.

Guogang Jia_, Maria Belli, Umberto Sansone, Silvia Rosamilia, Stefania Gaudino, 2005, Concentration and characteristics of depleted uranium

in water, air and biological samples collected in Serbia and Montenegro *Applied Radiation and Isotopes*, 63 (2005) 381-399.

(3) Exception must be taken with the suggestion in the ERMP revision 0 and revision 1 that clearance of DU may have already taken place (sec. 2.3.2). I consider such a suggestion as disinformation, a true attempt at distortion of the facts. Surely, such an operation would have been documented and there is still time to interview military personnel who might have served at PTA during the time of DU usage rather than engage in arm-waving nonsensical speculation. Cleanup of DU occurring without concomitant cleanup of the firing

pistons seems highly questionable. It would also fall under decommissioning and would in all likelihood be in violation of NRC regulations. Where was the material taken? Was it used as paperweights or did they end up in an Island landfill? There are alternate reasons to clearance for finding little DU in the search areas. A real concern is that as the firing ranges searched for DU have been used for training with explosive ordinance and vehicular traffic after DU was used, the DU may have been highly distributed as aerosols from the decades of continued explosions and grinding under tires and tracks of vehicles. Now continued use of these areas will only result in the continuous airborne resuspension of the material. This leads to the reality that the training areas with the highest probability of DU contamination must be withdrawn from use.