

**Hearing Docket**

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Michael Reimer  
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 January 27, 2010

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 Nuclear Regulatory Commission  
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OFFICE OF SECRETARY  
 RULEMAKINGS AND  
 ADJUDICATIONS STAFF

Dear Mr. Secretary:

I provide this short commentary as a written limited appearance statement under authority of 10 CFR 2.315(a) on the hearings held before the Board regarding the license application of the U.S. Army for depleted uranium (DU) possession in Hawaii [NRC-2009-0352; Docket No. 40-9083].

My basis for submitting this commentary is that I have spent a career as a geologist in researching the issues concerning the occurrence and transport of radioactive materials in the natural environment and in teaching those findings to students in an academic environment. I am a resident of Hawaii and am interested in the DU issue as it impacts this Island state.

Of course there is a lot of concern among people in general when the topic of radiation is brought up. This is certainly the case in Hawaii relating to the issue of depleted uranium at the various military sites including the Pohakuloa Training Area (PTA) on the Big Island. This is of course accelerated by the current and continuing publication of its use and potential health affects in military conflicts in the Balkans and Middle East countries, and in particular, its form and alloys that may be ingested. Within the limited scope of equipment availability, some residents of Hawaii made a genuine effort to perform their own monitoring for DU. While to experts it is easy to understand some of the difficulties facing the residents in this regard, the residents received more criticism for their concerned but humble efforts than assistance.

I appreciated being able to view the recent hearings on the Army application for the possession of DU because of its use in Hawaii. It was those hearings that prompted me to send this communication and transcribe my observations of the proceedings among the various parties.

In sum, I felt the proceedings were dominated with disinformation. I try to remain neutral to the decision making process and to let the facts form the basis for the regulatory and policy decision. To arrive at a conclusion, even if proper and correct, using spun science is an abomination and insult to the scientific method. The fear is that such improper methods, bordering on being fraudulent, may be inadvertently justified for future application and catastrophically, the incorrect conclusion could be reached!

Although a treatise could be compiled on that subject, permit me to give you one concern from the license hearings. The issue is monitoring for airborne depleted uranium. The facts are not in dispute; the application or interpretation is.

We know that DU was used at Pohakuloa Training Area in the 1960s. The amount used is unknown and grossly speculative.

We know that a few DU fragments were found at PTA in a small search area. The bulk of the training area was not searched.

We know that live-fire high-explosive activities with perhaps over a million rounds per year were used at PTA for nearly 40 years after DU usage, including areas containing the found DU fragments. The Department of Defense only recently excludes the use of live fire activities in areas of former DU usage.

We know that DU oxidizes, the rate depends largely on the climatic conditions, and the oxides can aerosolize and become airborne. The health issues related to inhalation of DU are still under investigation by international experts.

We know that airborne monitoring at PTA has been going on for several years. The methodology selected is not able to directly identify DU.

Speculative or spun interpretation of the facts is the basis for the disinformation. It is so rampant in this case that a contractor for the Army even intimated that there had been undocumented DU removal at some time since its use.

In order to show how easily it is to make misstatements about the monitoring system, allow me to make a statement based on the current monitoring results.

Of all the uranium found on the filters used for airborne monitoring, 90 percent of it consists of DU. From the methodology used, such a claim cannot be refuted. The reason is that the sensitivity of the method is such that typical indicators of DU are not and cannot be identified at the concentration levels of uranium present on the filters.

This approach applies to soil or sediment sampling. Allow me to make another irrefutable statement. For the soil or sediment samples collected, every one that showed an activity ratio of  $^{234}\text{U}$  to  $^{238}\text{U}$  less than unity indicates a sample contaminated with some proportion of DU.

In other words, if you wanted to develop a monitoring method assured of not finding DU, the one currently used will suit that purpose. However, it also is open to a totally opposite and equally viable interpretation. Because of the deficiencies in monitoring, no basis of fact should be derived from it.

I hope the decision on whether or not to grant a license as requested is carefully considered in this light of disinformation by the commission. The data as presented, shall we politely say, has a rather sizable standard deviation. It is no wonder that the public is confused and has inordinate fear of radiation. For even they, although far from being radiation experts, recognize a spin of the facts.

Respectfully,

Michael Reimer, Ph.D.  
Geologist

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