

From: [Michael Reimer](#)
To: [Browder, Rachel](#)
Subject: [External_Sender] Urgent need for site inspection and method review at Pohakuloa Training Area, Hawaii, ref. SUC-1593,
Date: Thursday, October 25, 2018 3:10:58 PM

Ms Rachel Browder
U.S. NRC
Arlington, TX 76011
Rachel.Browder@nrc.gov
10/25/2018

Dear Ms Browder:

The need for an urgent, immediate and carefully designed on-site review for adherence to the conditions of license SUC-1593 continues to intensify for the Pohakuloa Training Area in Hawaii (PTA).

The Army recently provided a report on the sampling procedures used for monitoring potential depleted uranium migration for various sites where DU was used. This report is available at Adams public library at accession number ML18136A794.

The report indicates that proper procedures for collecting a sample were not followed. As I reported previously to you, the sample site at PTA was moved to a new location by the individual collecting the sample. To my knowledge, there was no amendment submitted for the location of this new site and absolutely no indication that the site has any connection to all four of the radiation controlled areas. There are many basin analysis programs available to make the latter determination. There are several figures in the report, one a photograph of the new site and a careful review of that photograph does not seem to indicate any drainage gully at all.

The unidentified company doing the analytical procedure has certain requirements for proper sample collection. Some have been mentioned in the Environmental Radiation Monitoring Plan (ERMP) document. Yet, in the above mentioned report at Adams, there is a statement for PTA that I bring to your attention now that apparently this sample collection procedure was not followed and the sample integrity concerning homogenization was compromised.

Here is a quote from the report (p. T-17 and T-18) regarding Pohakuloa.

"The third quarterly sampling event at Pohakuloa Training Area, Hawaii occurred on 28 November 2017. A sediment sample was collected from one location. The streambed was dry and a surface water sample could not be obtained. The laboratory noted that homogenization of sediment samples was hampered by the sample matrix, which contained varying sizes of rocks."

I note that this problem, as reported, is not unique to PTA. Several other localities also had the homogenization problem created by the sampler.

In addition, as I mentioned earlier, the analytical method is not suitable for identifying DU within the samples. There are no background samples from the site or blanks or reference samples that were reported analyzed. Therefore, I strongly recommend that the analytical laboratory also have a site visit and review how the samplers were trained and how the analytical method is implemented. Both seem to be insufficient.

There is an excellent collaborative report on the suitability of the analytical method chosen. The groups with co-authorship involved were the Army Corps of Engineers, an international private company, and a Department of Energy laboratory. The study can be found at (<http://www.wmsym.org/archives/2009/pdfs/9336.pdf>). It confirms that when there are slight deviations caused by DU (or EU for that matter) from natural ratios, as would be the case at PTA where the sample

site is 5-7 miles or more from the radiation controlled areas and there is only estimated intermittent flow claimed at the site capable of carrying water, the spectrometric methods lack precision needed to make the measurements.

In the ERMP, section 1.1 (Purpose), it is stated that

In order to comply with the conditions of the license, this Site-Specific ERMP has been developed to identify potential routes for DU transport and describe the monitoring approach to detect any off-installation migration of DU remaining from the use of the Davy Crockett weapons system at Pohakuloa.

A few weeks ago, according to a weather station at PTA, there was a precipitation event of nearly 0.5 inches of rain and several other major precipitation events in the recent past. Do you know if anyone made a visual observation of whether or not there was active water and sediment flow from the RCAs to the sample site? I doubt if there was as I claim that the porosity of the bedrock is such that surface flow generated from even modest precipitation events from all of the RCAs cannot make it to the sample site as well as the berms created by the intervening lava flows. I could recommend an experimental model to conduct this observation as I am sure your site investigators could as well. Until such a check and confirmation prove otherwise with thorough site inspections and performing computer-model basin analysis simulations, I am confident that the ERMP methods used are not capable of addressing the migration objective.

I had e-mailed Ms Amy Snyder, NRC Rockville, and asked that she initiate a review of the movement of the sample location that appears to have been done without an amendment request to the license. I include a copy of that letter here below the complimentary close of this e-mail.

I address here for reference and emphasis the NRC mission statement, from its own web site: *"The NRC's mission is to regulate the nation's civilian use of byproduct, source, and special nuclear materials to ensure adequate protection of public health and safety, to promote the common defense and security, and to protect the environment."*

<https://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1542/v7/sr1542v7.pdf>

It must never be forgotten that the very existence of the NRC is to work to protect the public: *"The U.S. Nuclear Regulatory Commission (NRC) was created as an independent agency by Congress in 1974 to ensure the safe use of radioactive materials for beneficial civilian purposes while protecting people and the environment."*

<https://www.nrc.gov/about-nrc.html>

As I consider this a serious issue, I will be direct. Mr. Koenick, NRC Chief of the Materials Decommissioning Branch, gave me your e-mail as a contact if I have questions or concerns about the NRC inspection program for PTA. Is this something NRC is going to investigate or is it just going to ignore it and rule in the light most favorable to the Army and the Agency? If you are not the individual to handle the site inspections and review, please give me the contact individual and I will send my discoveries of violations to that person. I am concerned enough about this program to have taken the time to make serious and thorough reviews and to report to NRC my findings. In the long term, this is about public health and safety, environmental stewardship, cultural preservation, agency credibility, and scientific integrity.

The Army program cannot and does not meet these standards. Further, it fully appears that the NRC Safety Culture (<https://www.nrc.gov/about-nrc/safety-culture.html>) objectives are negatively impacted by the current program and its dismissive attitude toward performance. NRC has established protocols and here they appear to have been violated and deserve full review. The procedures required by the License SUC-1593 for which NRC is charged to review in order to maintain integrity of the program will be shown with adequate site reviews to have been compromised and will not meet the stated objectives. This is an opportunity to make them right, take the proper corrective action, and I trust that you will do so.

Regards,

/s/

Michael Reimer, Ph.D.
Retired Geologist
GeoMike5@att.net
10/25/2018

Dear Ms Snyder,

The May, 2018 U.S. Army report on sampling data regarding NRC license SUC-1593 (ML 18136A794) states that for the Pohakuloa Training Area, Hawaii County, Hawaii, the previously designated sample location was moved.

The report is rather explicit in that the previously identified sampling location was abandoned and a new location was spontaneously selected, for all that is known, without due consideration by the individual doing the sampling, whose credential we do not know. This is, frankly, a pretty sloppy approach and certainly negates any results obtained. In fact, there was no information provided in the report on precisely where the new location is sited other than some nebulous photographs that show, if anything, there is not even a drainage gully present and certainly no clear connection to the Radiation Controlled Areas (RCAs).

As far as I know, there is no information that this new sample site was ever vetted by a proper review process before it was selected, including a submission by the Army for an amendment to the possession license SUC-1593 and its requirements including the environmental review monitoring program. This is a major unpermitted change in that program; the location selected is over 1/3 mile distant from the previous location and there is no confirmation or proof given that it even has a link to all the RCAs or that the drainage basin is appropriate so that it does not provide inordinate background dilution of any sample. A request to move it should have been submitted through the amendment process and proper notices given regarding its determination with appropriate public input.

As such, it appears to be a major violation of license conditions, of which the Army is clearly aware, and should be reviewed through a full investigative process to determine appropriate penalties and corrective actions, including the implementation of a more cognizant monitoring program. I do not believe it would be proper at this point to backtrack and simply attempt to claim no-harm, no-foul. It appears a major violation occurred and it should be dealt with immediately and comprehensively.

I ask that you ensure that this investigation process is initiated.

Regards,

Michael Reimer, Ph.D.
Retired geologist
GeoMike5@att.net
October 21, 2018