JOSH GREEN, M.D.
GOVERNOR OF HAWAI'I
KE KIA'ĀINA O KA MOKU'ĀINA 'O HAWAI'I

KENNETH S. FINK, MD, MGA, MPH
DIRECTOR OF HEALTH
KA LUNA HO'OKELE

STATE OF HAWAI'I
DEPARTMENT OF HEALTH
KA 'OIHANA OLAKINO
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:

February 8, 2024

Rear Admiral Stephen Barnett
Navy Closure Task Force – Red Hill
850 Ticonderoga Street, Suite 110
Joint Base Pearl Harbor-Hickam, Hawai'i 96860
[via email only: stephen.d.barnett.mil@us.navy.mil]

Dear Rear Admiral Barnett,

SUBJECT: **DOH Disapproval of Tank Cleaning Verification Plan**

The Hawai'i Department of Health (DOH) is in receipt of the Navy Closure Task Force – Red Hill's (NCTF-RH's) *Tank Cleaning Verification Plan* (*Verification Plan*), dated January 10, 2023. The *Verification Plan* proposes a visual "water beading" inspection, which is not defined in the plan, to verify the Red Hill main fuel tanks, surge tanks, and sumps are sufficiently cleaned for closure. The DOH disapproves the Verification Plan due to lack of detail.

We do not understand the NCTF-RH's rationale for selecting a cleaning verification method. *Tank Closure Plan – Supplement 1*, dated February 28, 2023, proposed "ultraviolet (UV) light to induce fluorescence and identify any residual petroleum on the tanks." On June 26, 2023, the U.S. Department of the Navy requested acknowledgment from the DOH and U.S. Environmental Protection Agency (EPA) to pursue bench studies on the UV method. The DOH and EPA provided acknowledgment on the conditions that we receive an opportunity to observe the studies and copies of the results – we received neither. We were told verbally on December 8, 2023, that after extensive testing, the UV method was determined to be unsuitable and would no longer be considered. We did not receive any details or documentation as to why the UV method was no longer considered. On December 15, 2023, the "NCTF propose[d] rinsate sampling and comparison to the environmental action levels (EALs) for DOH and EPA consideration." On January 9, 2024, the NCTF-RH requested concurrence on this rinsate method. However, two days later on January 11, 2024, we received the subject *Verification*

Plan proposing the visual “water beading” inspection instead, again with no explanation of why the previous methods were abandoned.

The purpose of cleaning verification is to establish a standardized, repeatable method that provides a basis to determine the main fuel tanks, surge tanks, and sumps are sufficiently cleaned for closure and will not create a threat to human health and the environment. To help us understand why the visual “water beading” inspection proposed in the *Verification Plan* meets this purpose, and the other previously considered methods do not, please provide the following within 30 calendar days of receiving this letter.

1. A list of all verification methods that have been seriously considered or are under consideration.
2. An explanation of how the NCTF-RH determined each these methods would or would not meet the purpose of cleaning verification.
3. Results of all bench studies or proof of concept activities conducted.
4. Responses to our enclosed comments on the *Verification Plan*.

Should you have any questions regarding this letter or the enclosed comments, please contact Ms. Kelly Ann Lee, Red Hill Project Coordinator, at (808) 586-4226 or at kellyann.lee@doh.hawaii.gov.

Sincerely,

Kathleen Ho

KATHLEEN S. HO
Deputy Director for Environmental Health

Enclosure

c: Ash Niemen, EPA (w/encl.) [via email only]
Jamie Marincola, EPA (w/encl.) [via email only]
RDML Marc Williams, NCTF-RH (w/encl.) [via email only]
CAPT Milton Washington, NCTF-RH (w/encl.) [via email only]
Joshua Stout, NCTF-RH (w/encl.) [via email only]

General Comments

1. Does the Navy Closure Task Force – Red Hill (NCTF-RH) plan to conduct any bench studies or proof of concept activities on the proposed visual water beading inspection to determine whether it will be effective on the various tank surfaces?

2. Is the NCTF-RH confident that the visual water beading inspection will not produce false determinations of "clean," more so than other methods considered? Explain why or why not.

Specific Comments

Tank Cleaning Quality Verification Methods

3. **Step 1:**

    a. Provide a detailed procedure for gas-free certification.
    b. Why is Step 1 considered part of tank cleaning verification? This step will occur before cleaning. We also understand the tanks will be ventilated while workers are inside cleaning, which does not represent the conditions in the tank after closure. If something similar to Step 1 is conducted after tank cleaning (and without ventilation), that would be more appropriate for consideration as a cleaning verification method.

4. **Step 2:**

    a. Define "an excessive amount of water beading on the surface." How will the degree of "excessive water beading" be quantified?
    b. How will the water be applied? There are many variables that could interfere with producing a representative sample, such as water pressure, distance, angle, volume, etc. How will these variables be controlled or accounted for?
    c. Will the hydrophobic coating on the tank walls affect this method?
    d. How will this beading test be quality validated (QVed), considering the tanks will be dry by the time third party quality validators inspect the tanks? What will be documented; will there be video, photos, etc. of the water beading test?

5. **Step 3:**

    a. Describe in detail how "APTIM will visually confirm the product and sludge has been removed from the interior surface of each tank." For example, does "the

interior surface" mean one hundred percent of surfaces inside the tank? And how will these areas be viewed?

b. Describe in detail how "NCTF-RH [Navy Closure Task Force – Red Hill] QA [quality assurance] will inspect the inside of each tank to confirm APTIM has successfully removed all product and sludge." How will this inspection differ from APTIM Quality Control's (QC's) inspection?

c. For APTIM QC and NCTF-RH QA, how will difficult-to-clean areas (e.g., around the towers) be inspected?

6. **Step 4:**

a. Similar to the tank beading proposal, there are variables that could interfere with producing a representative sample, such as wipe pressure. What is the standardized method for the wipe test?

b. States, "[t]he surface wipe test is only intended to be applied in areas with limited visibility such as weld beads and structural members inside the tank." Has the NCTF-RH considered performing wipe tests on some of the non-limited visibility areas to confirm Steps 1-3 are effective? Will wipe tests also be conducted within the standpipe and nozzles?

7. **Flow chart:** The flow chart describes Step 2 as "confirm there is no presence of water beading[,]" while page 1 says "not an excessive amount of water beading[.]" What is the standard?

<u>Tank Cleaning Quality Verification Tiers</u>

8. **Tier 2:** States, "QA will occur continuously throughout the tank cleaning process." Does this mean a QA person will be in the basket with the cleaner? If not, how will the QA person get close enough to the surfaces to visually inspect? How will the QA person determine whether there is residue present?

9. **Tier 3:** Describe in detail how "[t]he third party QV contractor will visually inspect the interior of the tanks to confirm interior tank surfaces are free from product, sludge[,] and residue."

10. **Tier 4:** As discussed in meetings with the NCTF-RH, the DOH should be able to complete inspections in one day, as proposed in the NCTF-RH's December 15, 2023 submission, provided that we have sufficient time to review supporting documentation beforehand.