



## REGION 9

SAN FRANCISCO, CA 94105

### **VIA ELECTRONIC MAIL – READ RECEIPT REQUESTED**

Rear Admiral Stephen Barnett  
Commander  
Navy Closure Task Force – Red Hill  
850 Ticonderoga Street, Suite 110  
Joint Base Pearl Harbor-Hickam, Hawaii 96860-5101  
[stephen.d.barnett.mil@us.navy.mil](mailto:stephen.d.barnett.mil@us.navy.mil)

Re: Comments on Tank Cleaning Verification Plan

Dear Rear Admiral Barnett,

On January 11, 2024, the United States Navy Region Hawai'i (Navy) provided the United States Environmental Protection Agency Region 9 (EPA) with a Tank Cleaning Verification Plan. The document describes the method in which Navy will verify all residual fuel, sludge, and vapor has been removed from twenty bulk fuel storage tanks, four surge tanks, and two sumps at the Red Hill Bulk Fuel Storage Facility (RHBFSF). Navy's proposed verification method predominately consists of visual inspections that will be validated by four independent entities.

As initially indicated in EPA's January 18, 2024 letter regarding the Tank Cleaning Work Plan, concurrence on the Verification Plan cannot be reached at this time. EPA is unable to approve the plan as written, as it does not fully describe a proposed testing protocol, and it does not establish clear criteria indicating a passing test. While EPA does not oppose the use of visual inspection as the primary means to verify cleaning of the facility, the current plan fails to adequately describe how the water beading test will effectively accomplish the goal of demonstrating tank cleanliness. Please see the comments enclosed with this letter for more details.

We look forward to continued coordination on developing a plan that will ensure the tanks meet an acceptable level of cleanliness. Please review the enclosed comments and respond by March 15, 2024. If you seek any clarification, please contact Drew Suesse (808-539-0545, [suesse.andrew@epa.gov](mailto:suesse.andrew@epa.gov)).

Sincerely,

Amy C. Miller-Bowen, Director  
Enforcement and Compliance Assurance Division

Enclosure 1 - Comments on Tank Cleaning Verification Plan

cc: RDML Marc Williams, Navy Closure Task Force – Red Hill [email only]  
CAPT Milt Washington, Navy Closure Task Force – Red Hill [email only]  
CAPT Darrel Frame, Navy Closure Task Force – Red Hill [email only]  
Mr. Joshua Stout, Navy Closure Task Force – Red Hill [email only]  
Ms. Kathleen Ho, Hawaii Department of Health [email only]  
Ms. Kelly Ann Lee, Hawaii Department of Health [email only]

**Enclosure 1 – Comments on Tank Cleaning Verification Plan**

1. Gas Free Tank Certification – Ventilation is required for the safe entry and occupancy of the tanks during the cleaning process. EPA understands that a marine chemist will certify that each tank is gas free prior to entry. While this is a critical step in ensuring the health and safety of personnel, it does not necessarily demonstrate the removal of vapors during the cleaning process. How will Navy confirm fuel product vapors have been removed following the completion of tank cleaning and discontinuation of ventilation?
2. Water Beading Inspection
  - a. Navy has not clearly stated what the criteria are for a passing inspection. The Verification Plan does not explain what constitutes “excessive water beading” on a surface with residual fuel product versus water beading indicative of a clean surface. Without an agreed upon definition of a passing inspection, it is unclear how the independent QV tiers will reach an agreement on whether a tank has been sufficiently cleaned.
  - b. Navy has not provided a specified testing protocol. Variables such as the volume of water used during the test, the distance at which the surface is sprayed, the type of nozzle used for rinsing, the angle and size of the surface, among other factors, may impact the outcome of the inspection. A clear, reproducible, and justifiable testing protocol needs to accompany any validation method.
  - c. The water beading inspection does not appear to consider the various surfaces that will be encountered. Interior sections of the sumps, surge tanks, and bulk fuel storage tanks may be coated to varying degrees. The type of surface will likely affect the way water beads. Please describe how “excessive water beading” will be evaluated on bare steel compared to fully or partially coated interiors.
  - d. The plan does not state whether a water beading inspection will be conducted on piping and appurtenances in addition to tank interiors. Navy proposes a wipe test for low visibility areas such as welds and structural members but does not mention piping. Please clarify how piping and other appurtenances will be evaluated.
3. Tank Cleaning Verification Process Flow Chart – EPA’s role in the verification process is not clear from this figure. The figure does not appear to show EPA participating in the water beading inspection or wipe test. Please modify the flow chart to clarify how regulators will participate in this process.
4. EPA and DOH Final Inspection – EPA concurs with Navy’s plan to conduct an in-person inspection where feasible and provide a video inspection of areas that are inaccessible to regulators due to safety concerns. Prior to the first inspection, EPA will coordinate with Navy to ensure that filming of the interior of the tank is conducted in a manner that will allow regulators to certify the tanks are clean while meeting the health and safety requirements of the facility.

5. Tank Cleaning Verification Documentation. *“Documentation for Items 1, 3 and 4 above will include plate layout diagrams of the interior of each tank showing the date each panel was cleaned and rinsed”* – A plate layout diagram documents when the panels were cleaned but does not provide any information on how well they were cleaned. Related to comment 2a above, please develop passing criteria for the proposed visual inspection and determine how NCTF-RH will document this information with respect to Items 1, 3, and 4.