



STATE OF HAWAII  
DEPARTMENT OF HEALTH  
KA 'OIHANA OLAKINO  
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In reply, please refer to:  
File:

July 26, 2023

Rear Admiral Stephen Barnett  
Commander, Navy Region Hawai'i  
850 Ticonderoga Street, Suite 110  
Joint Base Pearl Harbor Hickam, Hawai'i 96860  
[via email only: [stephen.d.barnett.mil@us.navy.mil](mailto:stephen.d.barnett.mil@us.navy.mil)]

Dear RDML Barnett:

SUBJECT: DOH Comments on Red Hill Bulk Fuel Storage Facility  
*Tank Closure Plan – Supplement 2*

On May 15, 2023, the Hawai'i Department of Health (DOH) received the U.S. Department of the Navy's (Navy's) *Tank Closure Plan – Supplement 2 (Supplement 2)*. This submission is part of the Closure Phase of the Closure Plan the Navy is required to submit under the DOH's May 6, 2022 Emergency Order. *Supplement 2* was enclosed with the following:

- Enclosure 1: Simpson Gumpertz & Heger Inc. "Long-Term Structural Integrity Assessment of the Red Hill Underground Storage Tanks," dated May 26, 2023;
- Enclosure 2: "Response to 15 March 2023 DOH Comments," dated May 31, 2023; and
- Enclosure 3: "Responses to 7 April 2023 EPA Comments on the Closure Plan, Analysis of Alternatives, and Supplement 1," dated May 31, 2023.

In addition, on July 14, 2023, we received the Navy's letter response to our May 3, 2023 comments on *Tank Closure Plan – Supplement 1 (Supplement 1)*. The letter was enclosed with the following:

- Enclosure 1: "Response to 3 May 2023 DOH Comments," dated July 14, 2023;
- Enclosure 2: Unified Facilities Guide Specifications (UFGS), Section 33 01 50.55 "Cleaning of Petroleum Storage Tanks;"
- Enclosure 3: UFGS, Section 01 14 00 "Work Restrictions;" and
- Enclosure 4: "Ultra Violet (UV) Monitoring Summary of Supplement 1 and Additional Information," previously submitted on June 22, 2023.

The information in *Supplement 2* and the responses to our *Supplement 1* comments provides greater clarity as to the Navy's proposed plans to close the Red Hill Bulk Fuel Storage Facility. We understand from these submissions the Navy will provide an updated closure schedule, in addition to the following for our review and approval, prior to implementation:

- Cleaning contractor's work plan, containing additional details on cleaning methods for the main tanks, including:
  - Associated waste management plan (tentatively September/October 2023)
  - Associated spill response plan (tentatively September/October 2023)
- Full closure design, including what portions of the system will be removed (in addition to the pipelines), filled (and with what type of inert material), or remain empty (use of ventilation system, etc.) (*Supplement 3*)
- Site assessment plan (*Supplement 4*)
- Long-term inspection and maintenance plan (future supplement)

The DOH offers the enclosed comments on *Supplement 2* and the Navy's responses to our *Supplement 1* comments. Please address these comments in future submissions.

If 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 [kellyann.lee@doh.hawaii.gov](mailto:kellyann.lee@doh.hawaii.gov).

Sincerely,

*Kathleen Ho*

KATHLEEN S. HO  
Deputy Director for Environmental Health

Enclosure

c: Mr. Evan Osborne, U.S. Environmental Protection Agency (w/enclosure)  
[via email only]

**Enclosure**  
**DOH Comments on *Tank Closure Plan – Supplement 2* and**  
**Navy’s Responses to DOH Comments on *Tank Closure Plan – Supplement 1***  
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**Red Hill Bulk Fuel Storage Facility, Tank Closure Plan – Supplement 2**

1. **Page 3, 1.1 Department of the Navy Tank Closure Plan History:**
  - a. This section states the November 1, 2022 *Tank Closure Plan* addressed “Site Assessment and Release Investigation and Response.” While this subject was briefly discussed, the U.S. Department of the Navy (Navy) did not submitted details on the timeline or actual plan to conduct the closure site assessment and remediation required under the Hawai’i Department of Health’s (DOH’s) May 6, 2022 Emergency Order. We look forward to receiving more information on this topic.
  - b. This section also states the *Red Hill Tank Closure Plan Analysis of Alternatives & Concept Design to Close In Place (Analysis of Alternatives)*, dated December 20, 2022, contains a “work schedule for each of the following tank closure alternatives[.]” The “schedules” provided in *Analysis of Alternatives* are one-sentence estimations of the work times in years. The DOH looks forward to receiving the updated schedule mentioned in your July 14, 2023 responses to our *Tank Closure Plan – Supplement 1* comments.
2. **Page 4, Figure 1-1: Four Phases of Red Hill Tank Closure:** “Phase 3” mentions “repairs required for safe closure” and “DOH concurrence on repair completion and spill prevention.” What repair numbers are the Navy referring to here?
3. **Page 5, Section 2.2, General Considerations:** The third paragraph states, “[p]rior to pipeline removal activities, the piping will be drained and ventilated.” Please be aware, the Joint Task Force – Red Hill (JTF-RH) suspects there may be some sludge in the pipelines. Will the cleaning contractor’s work plan contain details for our review on how the sludge will be properly contained and disposed of as well as off-site recycling?
4. **Page 5, Section 2.2, Pipeline Removal:** Provide the details for all of these described actions in the contractor’s work plan for our review and approval.
5. **Page 7, Section 2.5, Schedule:** This section states, “pipeline removal activities will be approximately three years” and “can be scheduled at the same time as other Red Hill closure activities, which will include sludge removal and pressure washing inside the tanks.” Being that *Supplement 2* describes pipeline removal as heavy work, please explain how work will be coordinated to minimize the risk of potential releases from the fuel oil recovery (FOR) line and from the tunnel waste storage area(s).
6. **Page 7, Section 2.5, Schedule:** This section states “[t]he three year estimate does not include preliminary processes such as project planning, programming of funds, design, and contractor procurement.” What is the estimated overall closure schedule, including preparation?
7. **Page 9, Section 4, Process for Cleaning the Surge Tanks**
  - a. We understand some fuel may remain in the surge tanks after defueling. For example, the JTF-RH’s June 23, 2023 response to our comments on surge tank defueling states fuel in “[t]he ST[surge tank]2 nozzles will not be part of this evolution

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**DOH Comments on *Tank Closure Plan – Supplement 2* and**  
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- but will need to be addressed in closure.” How will the closure team address fuel remaining in the surge tanks?
- b. This section states the contractor will fill the surge tanks with inert material after cleaning. Please note, options for inert material include clean sand, soil, concrete, flowable fill, or underground storage tank foam, but a selection with justification has not been provided. We look forward to receiving this information.
  - c. The list of steps does not include testing that the tanks are clean. Does the Navy intend to perform the proposed ultra-violet (UV) testing on the surge tanks (assuming the testing is proven effective)?

**Supplement 2 Enclosure 1: Long-Term Structural Integrity Assessment of the Red Hill Underground Storage Tanks**

**8. Page i, Executive Summary:**

- a. This section states, “[s]hould a future major earthquake occur, we recommend reviewing the condition of the tanks.” The DOH agrees with this recommendation.
- b. This section states Simpson Gumpertz & Heger Inc. (SGH) does “not see a need for an extensive inspection and maintenance program for the tanks.” However, the suggested maintenance activities included in Section 8.2 seem prudent as a minimum.
- c. What is SGH’s recommendation regarding venting to keep the tanks dry?

9. **Page 1, 1.1 Scope of Work:** Task number 5 was to “[p]erform a seismic evaluation of the access walkway and internal tank tower.” Is there a reason why this infrastructure would be left in-place post-closure?

**Supplement 2 Enclosure 2: Response to 15 March 2023 DOH Comments**

10. **Page 4, comment 13:** This response states, “[w]hile the analysis of alternatives does recommend closing off the vents to the outside, the ultimate status of the vents will be determined by condition of the empty tanks and the beneficial non-fuel reuse. Tank 19 has been constantly ventilated, and the tank has remained dry for many years, so condensation has not been an issue. Tank 1 has not been ventilated, and it contained water in the bottom when it was last opened. Further investigation would be needed to determine the source of the water in Tank 1.” We have the following questions about this observation:
- a. If Tank 19 has been constantly ventilated and dry for years, why would the Navy consider not ventilating the closed tanks?
  - b. How much water was observed in Tank 1, and has it been sampled?
  - c. Does this observation change the Navy’s plan to close the tank vents after closure? If so, how will this affect the future of the former FOR system?
  - d. If the FOR system will be removed, what are the Navy’s long-term plans for periodic inspection and maintenance of the groundwater removal system from the tunnel?
11. **Page 4, comment 15:** This response states “[t]he Navy will further evaluate the removal of specific metal components when the beneficial non-fuel reuse is selected.” This response is inconsistent with the Navy’s stated intent to close the tank system without regard to the

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potential beneficial use. The DOH maintains that, based on the Navy’s stated intent, all parts of the tank system not required for structural integrity or maintenance should be removed unless otherwise justified.

**“Department of the Navy’s Response to the Hawaii Department of Health’s May 3<sup>rd</sup> Comments to the Red Hill Tank Closure Plan Supplement 1,” dated July 14, 2023**

12. **Page 4, comment 11:** This response states, “[f]or consistency, the Navy will perform UV inspections for Tanks F-13, F-14, F-17, and F-18 and follow up with additional cleaning if UV fluorescence indicates the presence of petroleum residual within the tanks.” We understand FOR piping for some of these tanks was removed after the Clean, Inspect, Repair process. How will the Navy clean these tanks if UV testing indicates they require additional cleaning?
13. **Page 5, comment 15:** The DOH prefers that all infrastructure not necessary for structural integrity or inspection be removed, as practicable. We look forward to receiving the Navy’s full closure design in *Supplement 3*.
14. **Page 8, comment 29:** Hawai’i’s Hazardous Waste Program has been delegated by the U.S. Environmental Protection Agency (EPA). Thus, the Navy should ensure compliance with state hazardous waste regulations, in addition to federal regulations.
15. **Page 10, comment 35.b:** This response states “[t]he tank cleaning contractor will select the specific UV instrument and demonstrate its ability to excite the specific fuel products (F-76, F-24, and JP-5) in the Red Hill tanks.” However, the *Ultra Violet (UV) Monitoring Summary of Supplement 1 and Additional Information (UV Summary)*, received on June 22, 2023, only describes laboratory evaluations for F-76 and JP-5. How will effectiveness on F-24 be demonstrated?
16. **Page 10, comment 36:** This response and the *UV Summary* describe a “large scale study of two Red Hill fuel types (F-76 and JP-5) to identify the distance from with the UV light can produce fluorescence on a thin layer of fuel (approximately 1 mil [0.001 inch]) on large steel plates.” How will the thickness of 1 mil be consistently measured or approximated?
17. **Page 14, comment 48:** Please ensure the updated Gantt chart mentioned in several responses includes a schedule for preparing and submitting the site assessment plan (*Supplement 4*) with sufficient time for regulatory review. The DOH cannot approve the closure plan without concurring on what documents will be submitted and when. We are open to including “preliminary scoping” discussions in some of our biweekly closure meetings with the Navy and EPA.
18. **Page 17, comment 67:** This response states “[f]urther details concerning long-term maintenance will be provided in a future supplement.” Does this refer to a *Supplement 5*? Or will long-term maintenance plans be included in *Supplement 3* (full closure design) or *Supplement 4* (site assessment plan)? Please ensure all of these supplements, and adequate regulatory review times, are included in the schedule the Navy is updating.