



# RED HILL TANK CLOSURE PLAN

Response to 26 July 2023 DOH Comments on  
Closure Supplement 2

September 29, 2023  
Department of the Navy

**Responses to 26 July 2023 DOH comments on the Red Hill 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.*

**Response:** The Navy intends to develop the site assessment plan in the required Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP) format. The UFP-QAPP process will include preliminary scoping sessions among Navy, DOH, and EPA to determine site assessment details and data requirements. The Navy has a consultant under contract to assist with this effort, and anticipates submitting the UFP-QAPP as Supplement 3: Site Assessment in June, 2024.

- 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.*

**Response:** The Navy is currently revising the original schedule that was previously submitted as part of the initial Tank Closure Plan. The revised schedule will be provided to DOH and EPA.

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?*

**Response:** The repairs are referring to inspection of the center tower in each tank and any required structural repairs to the center tower (for example, replacing bolts) necessary to operate the booms and baskets to clean the tanks.

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?*

**Response:** The contractor will submit to the Navy a work plan, spill response plan, and waste management plan. These documents will contain detailed information on how any sludge that may be present will be properly contained and handled for disposal, in accordance with industry standards and applicable state and federal regulations. The Navy will provide these plans to DOH and EPA.

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.*

**Response:** After the Navy awards the contract for pipeline removal, the removal contractor will submit a detailed work plan, waste management plan, spill plan, and Environmental Protection Plan (EPP) for Navy review and approval. As requested, the Navy will then provide these plans to DOH and EPA. The work will be performed in accordance with industry standards and applicable state and federal regulations. In addition, the DON has developed a coordinated process to address the substantive requirements of the National Historic Preservation Act, consistent with the Hawaii Superseding EO and the ACO. The proposed process would keep historic preservation stakeholders informed about alterations necessary to close the historic fuel facility, including pipeline removal, while allowing the closure process to proceed. The DON would meet

with the Advisory Council on Historic Preservation, Hawaii State Historic Preservation Officer (SHPO), National Park Service, and other interested parties to explain the requirements for closure and the plan for coordinated engagement. The DON would also advise the parties that the Navy has developed a detailed photographic and documentary record of the fuel system that records features that may be affected by closure, that the DON will keep the parties informed throughout the process and will initiate standard Section 106 reviews to support full consideration of alternatives for the overall fuel system, such as beneficial non-fuel reuse, once closure is complete.

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).*

**Response:** The Navy will impose strict requirements for coordination of pipeline removal and tank cleaning activities (e.g., sludge removal and pressure washing). Where applicable, the work will follow the best practices and processes that have been utilized by the Joint Task Force – Red Hill. The pipeline removal contractor will develop a work plan and schedule based on Navy requirements to resolve access issues and minimize the potential for releases. The Navy will provide this work plan and schedule to DOH and EPA. The work will be performed in accordance with industry standards and applicable state and federal regulations.

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?*

**Response:** The Navy has begun preliminary planning efforts for pipeline removal and will continue to move forward once we receive regulatory approval. Including preparation, the overall schedule calls for completion of pipeline removal by August 31, 2027, in alignment with the completion date for overall tank and pipeline closure proposed in the November 2022 Tank Closure Plan.

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 but will need to be addressed in closure." How will the closure team address fuel remaining in the surge tanks?*

**Response:** The tank cleaning contractor will address any fuel remaining in the surge tanks using methods and means that will be described in the Navy approved contractor work plan. The Navy expects to provide this work plan to DOH and EPA in October 2023. The work will be performed in accordance with industry standards and applicable state and federal regulations.

- 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.*

**Response:** The Navy will provide the requested information on surge tank fill material to DOH and EPA as part of Supplement 4: Detailed Closure Design, to be submitted at a date to be determined. Ultimately, the Navy expects the selection of the inert fill material to be based on a variety of factors, including density and structural strength.

- 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)?*

**Response:** Yes, the Navy intends to perform UV testing on the interior surface of a surge tank.

**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.

**Response:** The Navy also concurs with this recommendation made by Simpson Gumpertz & Heger Inc. (SGH) in their 26 May 2023 report entitled *Long-Term Structural Integrity Analysis of the Red Hill Underground Storage Tanks*. If a major earthquake were to occur, the Navy expects the tanks to remain in good condition based on the SGH analysis that says, “Regardless of the presence of the steel liner, the analysis results indicate the tanks would remain stable and able to withstand the extreme earthquake event”.

- 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.

**Response:** The Navy supports both of the SGH recommendations, which involve 1) monitoring exposed concrete for signs of corrosion and spalling, and 2) inspection of the towers if the towers are retained long term. The Navy will provide additional information on tank inspection and maintenance as part of Supplement 4: Detailed Closure Design, to be submitted at a date to be determined.

- c. What is SGH’s recommendation regarding venting to keep the tanks dry?

**Response:** SGH did not provide a recommendation regarding ventilation requirements. The Navy will evaluate the need for ventilation and provide this information as part of Supplement 4: Detailed Closure Design, to be submitted at a date to be determined.

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?

**Response:** The access walkway and internal tank tower may be needed to support future inspections, but this requirement is uncertain. The Navy will evaluate inspection requirements and address the walkways and towers as part of Supplement 4: Detailed Closure Design, to be submitted at a date to be determined.

**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?

**Response:** Tank 19 is used as a display tank for site visits, so it is constantly ventilated as a safety measure for personnel entry. The Navy will evaluate the general need for ventilation and provide this information as part of Supplement 4: Detailed Closure Design, to be submitted at a date to be determined.

b. How much water was observed in Tank 1, and has it been sampled?

**Response:** In 2021, the Navy drained approximately 1,600 gallons of water from Tank 1. The water was sampled, determined to be non-hazardous, and taken to a permitted facility for proper disposal.

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?

**Response:** The Navy is reconsidering the plan to close the tank vents after cleaning. The Navy intends to evaluate the status of the vents and the need for routine ventilation inside the tanks as part of Supplement 4: Detailed Closure Design, to be submitted at a date to be determined. Currently, the Navy expects the FOR system to remain in place for continued removal of groundwater from the tunnel, and Supplement 4 will evaluate the overall future use of the FOR system, including the potential need to remove water that may accumulate in the tanks.

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?

**Response:** Currently, the Navy expects the FOR system to remain in place for continued removal of groundwater from the tunnel. The Navy will provide a detailed evaluation of the future status of the FOR system as part of Supplement 4: Detailed Closure Design, to be submitted at a date to be determined.

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 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.

**Response:** The Navy intends to close the Red Hill underground storage tank system without regard to the potential beneficial reuse. The Navy acknowledges the DOH request to remove all parts of the tank system not required for structural integrity or maintenance, and we will consider this request when developing the detailed closure design as part of Supplement 4: Detailed Closure Design, to be submitted at a date to be determined.

**“Department of the Navy’s Response to the Hawaii Department of Health’s May 3rd 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?

**Response:** The FOR line would either be reconnected, or the tank cleaning contractor would propose an alternate method in their work plan, which will be provided to the DOH and EPA. Otherwise, cleaning of these four tanks would follow the same methods and procedures used for cleaning the other 14 tanks.

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.

**Response:** The Navy acknowledges the DOH request to remove all infrastructure not necessary for structural integrity or inspection, and we will incorporate this perspective as we develop the detailed closure design as part of Supplement 4: Detailed Closure Design, to be submitted at a date to be determined.

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.

**Response:** The Navy will ensure compliance with state hazardous waste regulations and 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?

**Response:** F-24 and JP-5 are nearly identical in chemical composition, so both fuels are expected to display similar characteristics with regard to exposure to UV light. The Navy will confirm this expectation as part of the proposed UV testing in the Red Hill tanks.

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?

**Response:** For lab testing, fuel thickness is determined using Wet Film Thickness Gauges, which are designed to measure the thickness of coatings from 1 to 80 mil.

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.

**Response:** As requested, the Gantt chart will include the schedule for preparing and submitting the site assessment plan (Supplement 3). The Navy has awarded the contract for preparation of Supplement 3, and anticipates scheduling a scoping session with DOH and EPA in February 2024.

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.*

**Response:** The Navy will submit information on long-term maintenance as part of Supplement 4: Detailed Closure Design, to be submitted at a date to be determined. As requested, the Navy will include preparation of future supplements and regulatory review times in the revised schedule.