



RED HILL BULK FUEL STORAGE FACILITY

Tank Closure Plan – Supplement 1

February 28, 2023

Office of the Secretary of the Navy

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List of Enclosures

1. Prescriptive Specifications for Cleaning Tanks and Sumps
2. Standard Operating Procedures for Visual Monitoring
3. Statement of Work for Pipeline Cleaning
4. Critical Path Method Schedule: Gantt Chart and Network Diagram
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Acronyms

ACO	Administrative Consent Order (2023)
AOC	Administrative Order on Consent (2015)
AST	Above ground Storage Tank
ASTM	American Society for Testing and Materials
AVGAS	Aviation Gasoline
CNRH	Commander, Navy Region Hawaii
COPC	Contaminants of Potential Concern
CSM	Conceptual Site Model
DLA	Defense Logistics Agency
DO	Diesel Oil
DOD	Department of Defense
DOH	Department of Health, Hawaii
DON	Department of the Navy
EALs	Environmental Action Levels
EPA	U.S. Environmental Protection Agency
EPP	Environmental Protection Plan
EXWC	Engineering and Expeditionary Warfare Center
FLC	Fleet Logistics Center
FOR	Fuel Oil Reclaimed
FRP	Facility Response Plan
F-24	F-24 Jet Fuel
F-76	Marine Diesel Fuel
HAR	Hawaii Administrative Rules
HASP	Health and Safety Plan
HEER	Hazard Evaluation and Emergency Response
IDW	Investigation-Derived Waste
JBPHH	Joint Base Pearl Harbor-Hickam
JP-5	Jet Fuel Propellant No. 5
JP-8	Jet Fuel Propellant No. 8
JTF-RH	Joint Task Force-Red Hill
LNAPL	Light Non-Aqueous Phase Liquids
MOGAS	Motor Gasoline
NAVFAC	Naval Facilities Engineering Systems Command
NAVSUP	Naval Supply Systems Command
NSFO	Navy Special Fuel Oil
QA	Quality Assurance
QC	Quality Control
QCP	Quality Control Plan
RFI	Request for Information
RHBFSF	Red Hill Bulk Fuel Storage Facility
SECNAV	Secretary of the Navy
SOP	Standard Operating Procedure

SOW	Statement of Work
SW	Solid Waste
TGM	Technical Guidance Manual
TPH	Total Petroleum Hydrocarbons
TPH-D	Total Petroleum Hydrocarbons – Diesel Range Organics
TPH-G	Total Petroleum Hydrocarbons – Gasoline Range Organics
UST	Underground Storage Tanks
WMP	Waste Management Plan

1. Introduction

On November 1, 2022, the Department of the Navy (DON) provided to the Hawaii Department of Health (DOH) a plan to permanently close the 20 underground storage tanks, four surge tanks, and associated valves and piping systems at the Red Hill Bulk Fuel Storage Facility (RHBFSF). *See* Figure 1-1, below. The DON Tank Closure Plan addressed the following:

- Infrastructure Description and Procedures Needed Before Cleaning
- Sequence and Process for Cleaning of Tanks and Piping Systems
- Management of Accumulated Sludge and Materials
- Method of Permanent Closure and Associated Design and Process
- Site Assessment and Release Investigation and Response
- Coordination and Outreach

On December 22, 2022, the DON submitted a third party analysis of alternatives for tank closure, which evaluated engineering feasibility, worker safety, impacts to the environment and surrounding community, potential costs, and work schedule for each of the following tank closure alternatives:

- ALTERNATIVE 1: Closure In-Place.
- ALTERNATIVE 2: Closure In-Place and Preparation for Non-Fuel Reuse.
- ALTERNATIVE 3: Closure with Fill.
- ALTERNATIVE 4: Remove Tank Steel Liner, and Fill.

With the submission of the third party analysis, the DON formally sought DOH approval for ALTERNATIVE 1: Closure in Place as the permanent closure method. The DON selected this alternative because it will allow for potential beneficial non-fuel reuse of the tanks while minimizing impacts to the environment, local community, safety concerns, and closure schedule.

This Supplement 1 builds upon the previous November 1, 2022 and December 22, 2022 tank closure plan submissions. Supplement 1 provides the following:

- Prescriptive specifications for tank cleaning (Enclosure 1)
- Procedure used to verify tanks are clean (Enclosure 2)
- Statement of Work (SOW) for pipeline cleaning (Enclosure 3)
- Detailed procedures for waste management
- A process for updating the Facility Response Plan
- An update on planning for beneficial non-fuel reuse
- Updates and corrections to the Tank Closure Plan
- An updated Critical Path Method (CPM) schedule (Enclosure 4)
- Responses to 11 Jan 2023 DOH comments on initial Tank Closure Plan (Enclosure 5)
- Enlarged figures from initial Tank Closure Plan (Enclosure 6)

In May, 2023, the Navy is planning to submit Tank Closure Plan Supplement 2, which will provide additional detail to support Closure in Place as the permanent closure method and will include an expert, third party analysis of the long term structural integrity of the tanks.

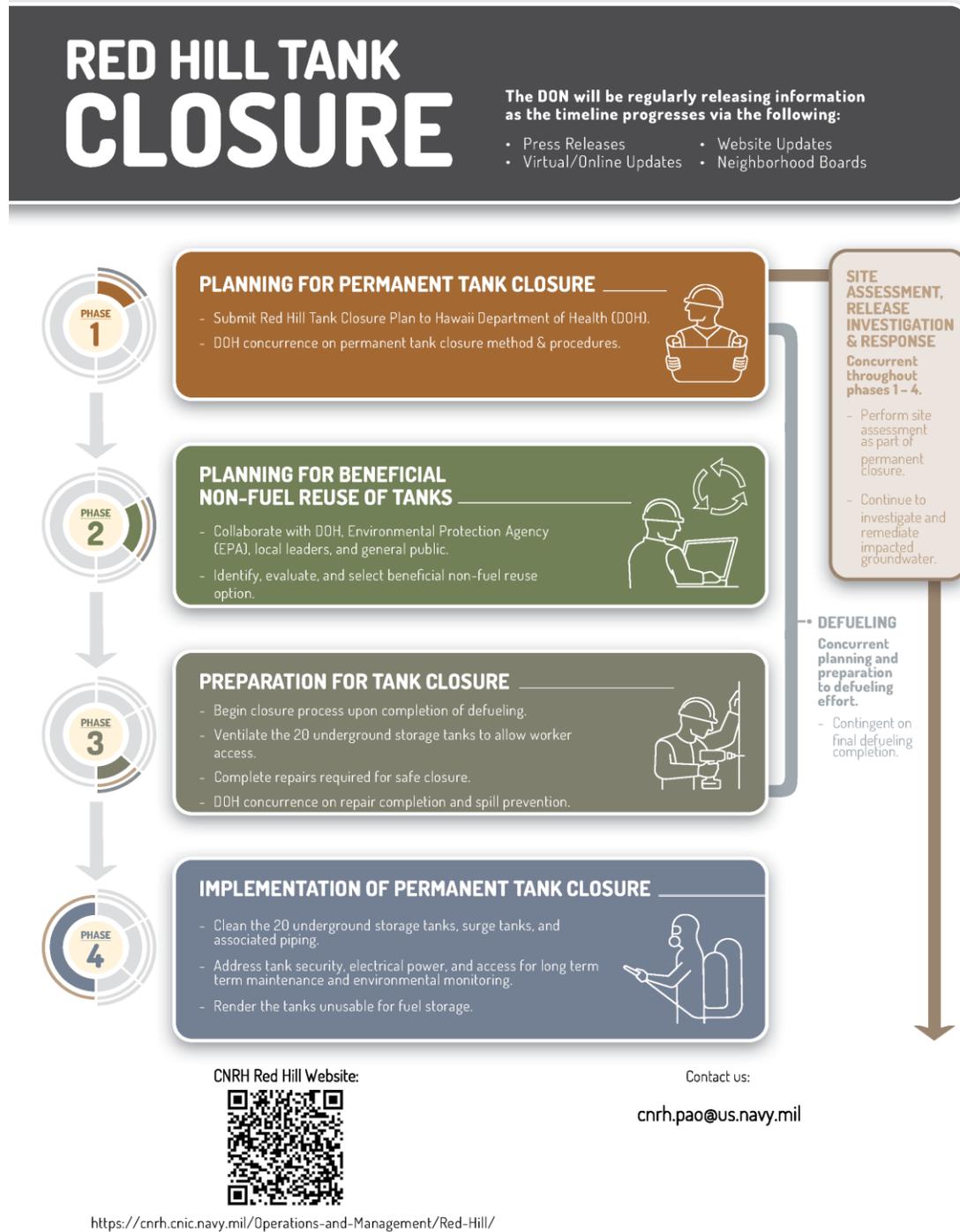


FIGURE 1-1: FOUR PHASES OF RED HILL TANK CLOSURE

2. Description of Tank and Pipeline Cleaning

2.1 Definitions

All fuel and any remaining solid product (i.e. sludge) must be removed from each tank to prevent any future impact to the environment. There are generally three categories of fuel and solid product inside each storage tank. The three categories are defined as follows:

1. Recoverable Fuel: Recoverable fuel can be removed from each tank using the traditional Red Hill pipelines. Recoverable fuel can be removed until the level reaches the top of the nozzle (approximately ten feet above the bottom of the tank but varies with each tank).
2. Flowable Tank Bottom: The flowable tank bottom can be removed using the Fuel Oil Reclaimed (FOR) pipeline to a level of approximately three inches above the bottom of the tank.
3. Sludge Bottom: Because solids cannot be pumped, sludge and other non-flowable material will need to manually removed from the bottom of the tank and lifted out using the center boom in each tank to the upper access tunnel where it can be removed from the facility.

Figure 2-1 shows the classification of each type of fuel and solid product and where each can be found inside each storage tank.

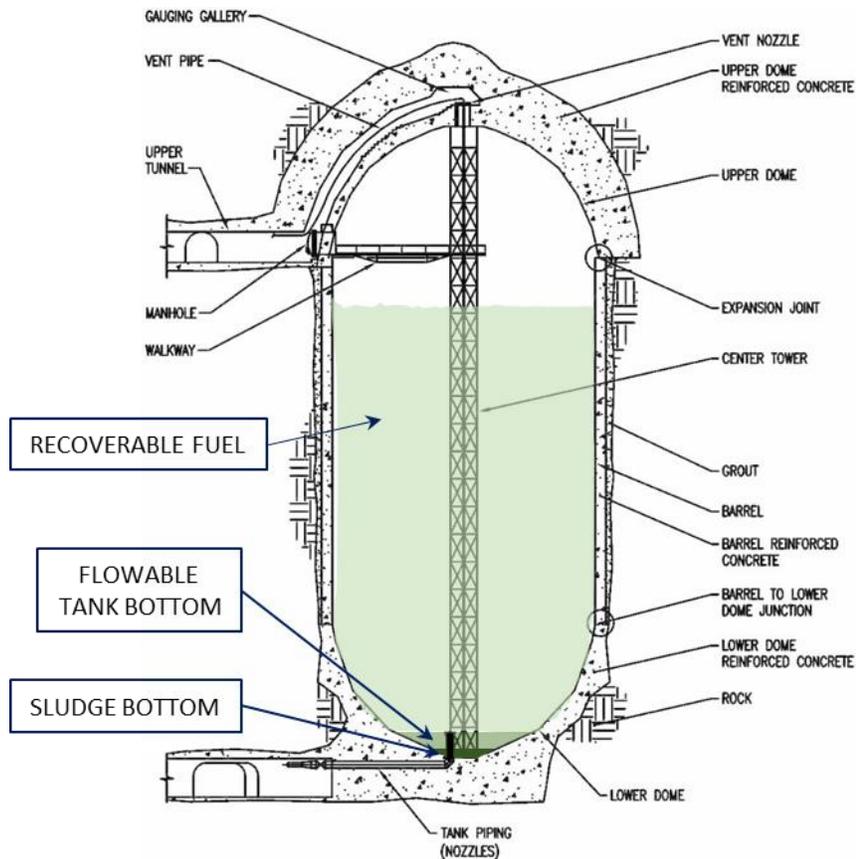


FIGURE 2-1: CLASSIFICATION OF MATERIAL IN EACH UNDERGROUND STORAGE TANK

2.2 Tank Cleaning

During defueling operations, the Joint Task Force-Red Hill (JTF-RH) will remove the recoverable fuel and flowable tank bottoms. During tank closure, the Navy will remove the sludge bottoms as part of the tank cleaning operations. The Navy will clean the large underground storage tanks (USTs) and surge tanks as previously described in Section 3 of the Tank Closure Plan, submitted to DOH on November 1, 2022. The sumps will also be cleaned by this approach. Changes and additions to the original approach are provided below.

Tanks F-13, F-14, F-17, and F-18 have been through the Clean, Inspect, Repair (CIR) process and were not refilled with fuel, so these tanks have already been cleaned in accordance with American Petroleum Institute Recommended Practices (API RP) 1604 and Unified Facilities Guide Specifications (UFGS) Section 3.2.1. The CIR process involves a rigorous cleaning, accompanied by testing to show the tanks are safe for worker occupancy. Therefore, the Navy is not planning to clean these tanks again.

Tanks F-1 and F-19 have been empty for many years, but they were not documented as clean under the CIR process. Therefore, the Navy will perform UV inspections (described in Section 2.3 below) and follow up with additional cleaning as needed to comply with API RP 1604 and UFGS Section 3.2.1.

Under the combined efforts described above, the tanks will be cleaned in accordance with API RP 1604 and UFGS Section 3.2.1. In addition, the cleaning of the tanks will be performed in accordance with the spill protection measures that will be described in the contractor spill plan and also included in the addendum to the Red Hill Fuel Storage Facility Response Plan (FRP), which will be prepared by the DON as described below in Section 4 below.

Enclosure 1 provides detailed specifications for tank cleaning based on the CIR process the DON has used over the years for routine maintenance of the tanks. To initiate tank closure, the DON will procure a contractor who will be required to use these specifications to develop the methods and means for tank cleaning. Prior to beginning the work, the contractor will submit a work plan to the DON for review and approval, and the DON will provide the work plan to DOH and EPA for review and comment. The FOR lines and the FOR above ground storage tank (Tank 311) will be used throughout the closure process to collect rinsate from the tanks as they are cleaned.

2.3 Verification of Tank Cleaning

Verification of successful tank cleaning will be modeled after “California Code of Regulations Title 23 § 2642 – Visual Monitoring” (Cal. Code Regs. Tit. 23, § 2642), which describes procedures for visual inspection of underground storage tank for hazardous substances. As an aid to visual inspection, the Navy will use ultraviolet (UV) light to induce fluorescence and identify any residual petroleum on the tanks. Visual identification of petroleum using fluorescence properties is based upon approved field screening procedures accepted by the Hawaii DOH Hazard Evaluation and Emergency Response (HEER), as referenced in

- Technical Guidance Manual (TGM) Section 8 (Subsection 8.5.4 Other CPT instruments),
- Section 3 (Subsection 3.4.4 Subsurface Decision Units),
- LNAPL Guide Companion Document (HDOH 2018), and
- Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater (HDOH 2017).

Utilization of fluorescence emission to identify petroleum is also supported by academic research (Riecker, 1962; Bujewski and Ruthford, 1997; Brown and Fingas, 2003; Landulfo et al., 2011), and it

is recognized as a visual tool that can discriminate petroleum-based products on most backgrounds (Fingas and Brown, 2014). The high sensitivity of this tool allows for detection of petroleum products ranging from below 100 ppm to more than 10,000 ppm (Löhmannsröben and Roch, 2000).

The DON will be responsible for quality assurance (QA) and will hire a QA contractor or use Navy personnel to complete visual monitoring and verification of successful tank cleaning by UV fluorescence. The verification will follow the Standard Operating Procedure (SOP) provided in Enclosure 3. Under this procedure, the absence of fluorescence indicates cleaning has been completed, but the observation of fluorescence indicates the continued presence of petroleum contamination.

If the QA personnel identify fluorescence during UV monitoring, they will note the location and size on the “Red Hill Tank Visual Monitoring Field Form” (provided in Enclosure 2), with sufficient graphical detail (photo evidence and/or drawings) to aid in follow-on corrective action measures to clean localized areas. The follow-on cleaning will be verified by the same UV fluorescence procedure, and the cleaning will be repeated until fluorescence is not observed.

QA personnel will keep a written record that specifies visual inspection tools, the location of the inspection, the results, and the name(s) and title(s) of the person(s) responsible for inspection. The DON will submit to DOH the final inspection results confirming cleanliness standards have been met prior to closure.

References:

- Brown CE, Fingas MF. Review of the development of laser fluorosensors for oil spill application. *Mar Pollut Bull.* 2003;47(9-12):477-84. doi: 10.1016/S0025-326X(03)00213-3. PMID: 12899891.
- Buejewski G, Rutherford B. The Rapid Optical Screening Tool (ROST™) Laser-Induced Fluorescence (LIF) System for Screening of Petroleum Hydrocarbons in Subsurface Soils Innovative Technology Verification Report. EPA 600-R-97-020, 104 pp, 1997.
- Fingas M, Brown C. Review of oil spill remote sensing. *Mar Pollut Bull.* 2014 Jun 15;83(1):9-23. doi: 10.1016/j.marpollbul.2014.03.059. Epub 2014 Apr 20. PMID: 24759508.
- HDOH (Hawaii Department of Health). Hazard Evaluation and Emergency Response (HEER). LNAPL Guide Companion Document. 2018.
- HDOH HEER. Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater. 2017.
- Technical Guidance Manual (TGM) Section 8. Field Screening Methods. 2017.
- TGM Section 3. Site Investigation Design and Implementation Interim Final. 2016.
- Löhmannsröben HG, Roch T. In situ laser-induced fluorescence (LIF) analysis of petroleum product-contaminated soil samples. *J Environ Monit.* 2000 Feb;2(1):17-22. doi: 10.1039/a906638a. PMID: 11256636.
- Robert E. Riecker; Hydrocarbon Fluorescence and Migration of Petroleum. *AAPG Bulletin* 1962; 46 (1): 60–75. <https://doi.org/10.1306/BC74375B-16BE-11D7-8645000102C1865D>
- Steffens J, Landulfo E, Courrol LC, Guardani R. Application of fluorescence to the study of crude petroleum. *J Fluoresc.* 2011 May;21(3):859-64. doi: 10.1007/s10895-009-0586-4. Epub 2010 Jan 29. PMID: 20111988.

2.4 Pipeline Cleaning

During the defueling phase, pipeline unpacking will occur after the removal of the flowable tank bottoms. At this point, only sludge and other non-flowable material will remain in the tanks. The final unpacking of the pipelines will follow the same operations previously employed to facilitate the Phase Three Defuel repairs. The pipelines will be drained to the maximum extent possible using gravity flow. Pumps connected to the

low point suction near Adit 1 will be used to pump out any remaining product to the maximum extent practical.

Once the unpacking of the lines is complete, low point valves will be opened or flanges disconnected in local areas to drain any remaining product. The residual fuel will be removed from the low point drains, valves, transitions, flanges, and other areas that could potentially hold small amounts of fuel. The contractor will complete this action using barrels, buckets, or other collection methods with secondary containment for the collection vessel and additional spill protection measures (absorbent boom, pads, etc.), which will be readily available and placed in nearby sensitive areas. These spill protection measures will be described in the contractor's spill plan, which will be part of their Environmental Protection Plan (EPP). The DON will also include these spill protection measures in an FRP addendum, which will be prepared as described below in Section 4.

Enclosure 3 provides a detailed statement of work (SOW) for pipeline pigging based on the process the Navy has used previously for maintenance of the pipelines. The work will involve the use poly foam (swab) cleaning pigs, which are designed to push liquid product out of the pipelines and remove residue from the pipe walls (Figure 2-2 shows a typical cleaning pig after it has been removed from the pipeline). The contractor will use pressurized dry air or pressurized nitrogen to drive the cleaning pigs through the pipelines. The DON will procure a contractor who will use this SOW to develop the methods and means for pipeline pigging. Prior to beginning the work, the contractor will submit a work plan to the DON for review and approval, and the DON will provide the work plan to DOH and EPA for review and comment.

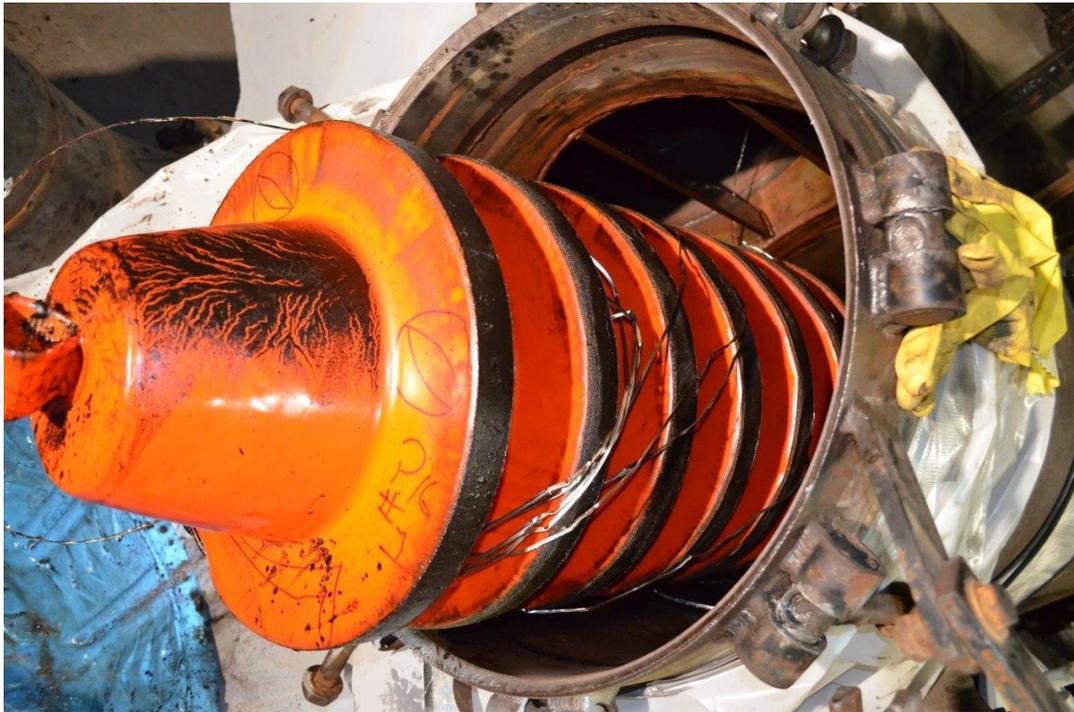


FIGURE 2-2: CLEANING PIG AFTER IT HAS BEEN REMOVED FROM THE RECEIVER

To the maximum extent practicable, pipelines shall be cleaned using a pig. However, there are sections of the pipelines, such as the tank gallery and Underground Pump House (UGPH), where it is not feasible to set up a pig launcher or receiver system. Other pipeline sections cannot accommodate a pig due to restrictions caused

by tees and other pipe fittings. In sections where pigging cannot be performed, the pipelines shall be cleaned using forced air ventilation. Figure 2-3 shows a typical section of pipeline after it has been cleaned with a pig.



FIGURE 2-3: TYPICAL CLEANED SECTION OF PIPING AFTER PIGGING

To complete the closure of the pipelines and associated components, the contractor will open the pipelines at various points to gas-free the system (i.e., remove all fuel vapors and residue). Finally, the contractor will ventilate the pipelines using forced air to accelerate the gas-free process. Pipelines shall be considered clean when no free liquid is observed at the discharge end and the measurement of the Lower Explosive Limit (LEL) is not above the background level. A certified Marine Chemist will verify the pipelines are clean and certify the piping as gas-free.

3. Waste Management

The contractor will submit a waste management plan to the DON for approval, and the DON will seek EPA and DOH input before approving the plan. The form for the waste management plan is included in Section 4 of the November 1, 2022 Tank Closure Plan. Waste management will be performed in accordance with the spill protection measures that will be described in the contractor spill plan and also included in the FRP addendum, which will be prepared by the DON.

3.1 Waste Generation

Based on the products stored in the tanks, the DON does not expect any material removed from the tanks during the cleaning process to be a hazardous waste. Nevertheless, in accordance with state and federal regulations, the Navy will require the contractor to perform a formal waste determination on each waste stream generated. The contractor shall manage wastes in appropriate containers, marked, labeled, and accumulated at or near the point of generation, until a waste determination is performed.

3.2 Waste Removal and Accumulation

Enclosure 1 provides specifications for waste management based on the Clean, Inspect, and Repair (CIR) process the DON has used over the years for routine maintenance of the tanks. These specifications establish the performance standards the contractor is required to meet for waste removal, characterization, and disposal. In accordance with these performance standards, the contractor will be responsible for developing the specific methods and means for removing, characterizing, containerizing, transporting and selection of the disposal facility for ultimate disposition of the waste generated. The contractor is also required to submit and obtain DON approval of an Environmental Protection Plan (EPP) that will demonstrate how their specific methods and means will meet the performance standards established in Enclosure 1.

In the past, contractors have typically filled totes with sludge and other materials and transported the full totes out of the facility through Adit 3. However, with the installation of the water treatment system for the Red Hill shaft, Adit 3 is too crowded to support such transport, so Adits 1, 2, or 6 will be used instead.

The contractor will package, label, store, transport, treat, and dispose of the material in accordance with Federal and State regulations. The DON expects the contractor to take the following steps:

- The contractor will remove the flowable sludge using the FOR line to move this material to the FOR tank (Tank 311). As an alternative, previous contractors have disconnected the FOR line nozzle and connected a temporary, flexible pipe, which they used to fill drums or totes, to be removed as described below.
- After removal of the flowable sludge, workers will shovel the remaining solids into containers that will be hoisted to the upper walkway using the boom lift. The containers will be taken through the tank access way into the upper tunnel and placed into drums. The drums will be removed through Adit 6.
- During tank cleaning, the contractor will use the FOR line to move the oily wastewater and spent tank cleaning solution to the FOR tank (Tank 311). As an alternative, previous contractors have used the temporary, flexible pipe (described above) to collect this material in Intermediate Bulk Container (IBC) totes (275 gallons) or 55-gallon drums.
- The contractor will transport totes and drums using towed flat cars with an electric rubber-tired cart or contractor-supplied locomotive through the lower tunnel. The totes and drums will be transferred to trucks for transport to ultimate disposal.

4. Process for Updating the Facility Response Plan

To initiate tank closure, the DON will procure a contractor who will be required to develop the methods and means for cleaning and waste management, including an Environmental Protection Plan (EPP). A section of the EPP will be the contractor's specific spill prevention and response plan, which will be submitted for DON approval. In addition, once the contractor has provided its specific methods and means, the DON will prepare an addendum to the Red Hill Fuel Storage Facility Response Plan (FRP). The FRP addendum will cover all spill prevention, control measures, and response actions related to the contractor's selected means and methods for tank cleaning and waste management. The DON will provide the FRP addendum to DOH and EPA for review and comment.

5. Planning for Beneficial Non-fuel Reuse

The Navy has initiated the process for obtaining proposals from the public for the beneficial non-fuel repurposing of the Red Hill Bulk Fuel Storage Facility. The Navy expects that any potential beneficial reuse will not significantly impact the tank closure process. Beneficial non-fuel reuse will be based on the following screening criteria:

1. The Red Hill Bulk Fuel Storage Facility will no longer be used to store fuel, chemicals, or other hazardous materials.
2. Potential beneficial reuse must be viable assuming the DOD will continue to own the property.
3. Potential beneficial reuse must be considered viable based on the current DON proposal for tank and pipeline closure (i.e. tanks and pipeline are clean and remain in place, and surge tanks are filled with inert material).

The DON's plan to collect information on potential beneficial non-fuel reuse options involves input from three different sources:

1. Awarding a contract to Nakapuna Companies, a local Hawaiian firm, to solicit input from the local public on Oahu.
2. Utilizing a grant from the Office of Naval Research (ONR) to the University of Hawaii to investigate potential energy-related uses from the Department of Defense, academia, and the public.
3. Input for a study required by the National Defense Authorization Act for Fiscal Year 2023 (NDAA) to collect ideas from Department of Defense stakeholders.

The DON, in partnership with the three above entities, will review the collective list of ideas for duplication and conduct an initial evaluation based on feasibility and challenges in order to prepare a recommended list of the top five to six options. Additional analysis will be conducted on these final options in accordance with the requirements of the NDAA study, including such items as design and construction costs, life-cycle costs (including operation and maintenance and disposal), potential benefits to the military and local economy, and analysis of environmental impacts.

On January 31st, 2023, the DON awarded a contract to Nakapuna Companies to actively engage the Oahu community and obtain public input on beneficial non-fuel reuse options. As the work proceeds, DOH will receive original results and summary reports. The original results and summaries will also be made available to the public.

6. Revisions to the Tank Closure Plan

The following list shows revisions to the Tank Closure Plan submitted by the DON to DOH on November 1, 2022.

1. Revise the last sentence of the first paragraph to reflect the correct citations.
“.....HAR § 11-280.1-60 to 11-280.1-67.”
2. Insert the following sentence after the third sentence in the second paragraph of the Executive Summary:
“The DON is coordinating closely with JTF-RH and will adjust the closure schedule to the maximum extent practicable based on the date that JTF-RH has completed the defueling process.”
3. Revise the first sentence of the fourth paragraph to state as follows:
“The interior dimensions for each surge tank are 60 feet in diameter by 21 feet in height, as shown in Figure 2-3 Underground Surge Tanks below (extracted from Drawing No. 294125).”
4. Revise the first sentence of Paragraph 3.2.1 to state as follows: Tank and pipeline cleaning will be part of a contract for tank closure that will conform to Unified Facilities Guide Specifications (UFGS) 33 01 50.55, “Cleaning of Petroleum Storage Tanks,” API RP 1604 and applicable industry and government standards specified therein. Where conflicts exist between UFGS 33 01 50.55 and API RP 1604, the strictest requirement shall apply.
5. Table 4-3: Material Classification and Disposal Strategy: Replace the table in the original document with the following table, reflecting allowance for management of recovered oil if it is confirmed it is non-hazardous waste:
6. Delete the last paragraph under Section 4.2 Waste Generation and replace it with the following paragraph:
“The existing Fuel Oil Reclaimed (FOR) pipelines were considered for waste transfer but cannot be used to remove solids (i.e. sludge) because it cannot be pumped. Sludge will be containerized and lifted using the center boom for removal via the upper access tunnel.”
7. Replace the last two sentences in the second paragraph under Section 4.3 Waste Accumulation Management with the following to address the storage of non-hazardous waste: “Non-hazardous waste will be removed by the contractor as expeditiously as possible. However, the DON prefers to allow the contractor the option of storing non-hazardous waste on site when necessary to allow for work to continue if the non-hazardous waste cannot be removed expeditiously due to logistical challenges.”
8. Revise the last sentence in the first paragraph of Section 5.1 to state the following:
“The tank closure process will be completed in accordance with Hawaii underground storage tank (UST) closure regulations, Chapter 11-280.1 of the HAR and in accordance with relevant Federal, State and local regulations.”
9. Revise the second sentence of paragraph four under Section 5.3 to state as follows:
“DOH Environmental Management Division (EMD) Compliance staff are responsible for the review of all closure documentation, including the DOH notice of intent form. Closure will be coordinated with the DOH EMD’s Underground Storage Tank Section within the Solid and Hazardous Waste Branch.”
10. Revise the first sentence under the first paragraph under Section 6.4.5.3 to state as follows:
“Based on the observation of LNAPL in the trench boring at A3+000 and consultation with DOH as seen in Figure 6-5 in Appendix C (Enclosure 3),.....”

11. Revise the first sentence of Section 6.8 to state as follows:
“Site-specific action levels used for decisions at the RHBFSF will utilize DOH most recent Total Petroleum Hydrocarbon (TPH) site-specific EALs for COPCs within impacted environmental media (soil, groundwater, surface water).”

TABLE 4-3: MATERIAL CLASSIFICATION AND DISPOSAL STRATEGY

Material	Classification	Disposal Strategy	Disposal Facility
Oily Wastewater and Rinsate (Spent Cleaning Solutions)	Non-HW	Containerize, label and dispose as SW or wastewater according to regulatory requirements.	Permitted Solid Waste Treatment, Storage, and Disposal Facility (TSDF) or NPDES permitted wastewater treatment facility
	HW	Containerize, label and dispose as HW according to regulatory requirements.	Permitted HW Treatment, Storage, and Disposal Facility (TSDF)
Oil-Contaminated Wastes	Non-HW	Dispose as ordinary solid waste.	Permitted solid waste landfill
	HW	Containerize, label as HW according to regulatory requirements.	Permitted TSDF
Sludge and Contaminated Soil	Non-HW	Consult with Hawaii Dept. of Health to determine disposal or treatment method.	Permitted Solid Waste Treatment, Storage, and Disposal Facility (TSDF)
	HW	Containerize, label as HW according to regulatory requirements.	Permitted TSDF
Contaminated Equipment	Non-HW	Clean according to section maintenance procedures.	N/A
	HW	Decontaminate.	N/A
Waste Chemicals to Include DECON Solutions	Non-HW	Process through NAVFAC HI Industrial Waste Treatment Center (IWTC) or contractor.	NAVFAC HI IWTC or contractor
	HW	Containerize, label as HW according to regulatory requirements.	Permitted TSDF
Personal Protection Equipment	Non-HW	Clean and reuse where possible; dispose of as ordinary solid waste if unable to reuse.	Permitted solid waste landfill
	HW	Containerize, label as HW according to regulatory requirements.	Permitted TSDF
Sorbents	Non-HW	Dispose of as ordinary solid waste.	Permitted solid waste landfill
	HW	Containerize, label as HW according to regulatory requirements.	Permitted TSDF
Other Closure Wastes	Non-HW	Dispose of as ordinary solid waste.	Permitted solid waste landfill
	HW	Containerize, label as HW according to regulatory requirements.	Permitted TSDF

7. Conclusion

The DON, in collaboration with Federal, State, and community stakeholders, is committed to the successful permanent closure of the Red Hill underground storage tanks (USTs) and associated pipelines. The DON will continue to work with DOH and the U.S. Environmental Protection Agency to implement the permanent closure of the RHBFSF in a manner that complies with applicable laws and regulations. Concurrent with the tank closure efforts, the DON will continue to implement long-term monitoring and release response actions, which are already ongoing, to address risk to public health and the environment.

Appendix A: Updated Plan of Action and Milestones

Target Month	Responsibility	Milestone or Deliverable
NOV 2022	SECNAV	Closure Plan Submittal
NOV 2022	CNRH	Press Release
NOV 2022	CNRH	Public Stakeholder Engagement
DEC 2022	CNRH	Notice of Intent to Close Underground Storage Tanks (30 days before closure complete)
DEC 2022	NAVFAC Pacific	Provide detailed evaluation of closed alternatives to DOH
JAN 2023	CNRH	Beneficial Reuse Engagement
JAN 2023	NAVFAC Hawaii	Acquisition Strategy Planning Begins
FEB 2023	CNRH	Closure Plan Supplement 1 – Cleaning
MAR 2023	CNRH	Public Stakeholder Engagement
APR 2023	NAVFAC Hawaii	Structural Analysis Completed
MAY 2023	CNRH	Closure Plan Supplement 2 – Structural Analysis
JUN 2023	DOH	Closure Plan Concurrence
JUN 2023	CNRH	Press Release
JUN 2023	CNRH	Public Stakeholder Engagement
JUL 2023	NAVFAC Hawaii	Acquisition Pre-Award Phase
NOV 2023	CNRH	Public Stakeholder Engagement
NOV 2023	NAVFAC Hawaii	Draft Sampling Analysis Plan
DEC 2023	NAVFAC Hawaii	Contract Award - Closure
DEC 2023	CNRH	Press Release
JUN 2024	JTF-RH	Notice of Official transfer of command from JTF to DON from defuel to closure
JUN 2024	CNRH	Press Release (Semi-annually as needed during closure)
JUN 2024	NAVFAC Hawaii	Tank Closure Begins
AUG 2027	NAVFAC Hawaii	Tank Closure Ends
AUG 2027	CNRH	Press Release
SEP 2027	CNRH	UST Closure Assessment Report (within 30 days after UST permanently closed)