



# Red Hill Bulk Fuel Storage Facility, Oahu, Hawaii

Defueling Plan Supplement 2 – May 15, 2023

## May 15, 2023 Supplement 2

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Enclosures:

- (1) Defueling Fire Protection CONOP
- (2) Spill Release Scenarios
- (3) Oil Pressure Door CONOP
- (4) Repacking Lines CONOP
- (5) Red Hill Tank Mains Defueling CONOP
- (6) Red Hill Flowable Tank Bottoms Defueling CONOP
- (7) Unpacking Lines CONOP
- (8) JTF-RH Integrated Master Schedule (IMS)

# I. Introduction

On June 30, 2022, the Department of Defense (DoD) provided to the Hawaii Department of Health (DOH) and the United States Environmental Protection Agency (EPA) its five-phase plan to defuel the Red Hill Bulk Fuel Storage Facility (RHBFSF). DoD noted in that submission that its planning process was iterative, and that DoD would provide supplements to the plan that would include additional details and updated timelines and milestones for the completion of defueling. To date, DoD has submitted two supplements to DOH and EPA: Supplement 1.A on September 7, 2022, and Supplement 1.B on September 28, 2022.

Supplement 1.A focused on DoD’s plan to integrate community engagements into the defueling planning and timeline and outlined a detailed plan to safely unpack the Red Hill pipelines in order to conduct mandatory repairs and enhancements. Supplement 1.B centered on the following: updates to the Fire and Spill Response Plans, updates to the infrastructure repairs and enhancements, updates to Phase 5 planning, an update on DoD’s Joint Task Force Red Hill (JTF-RH), and DoD responses to EPA’s requests for information (RFIs) dated August 11, 2022.

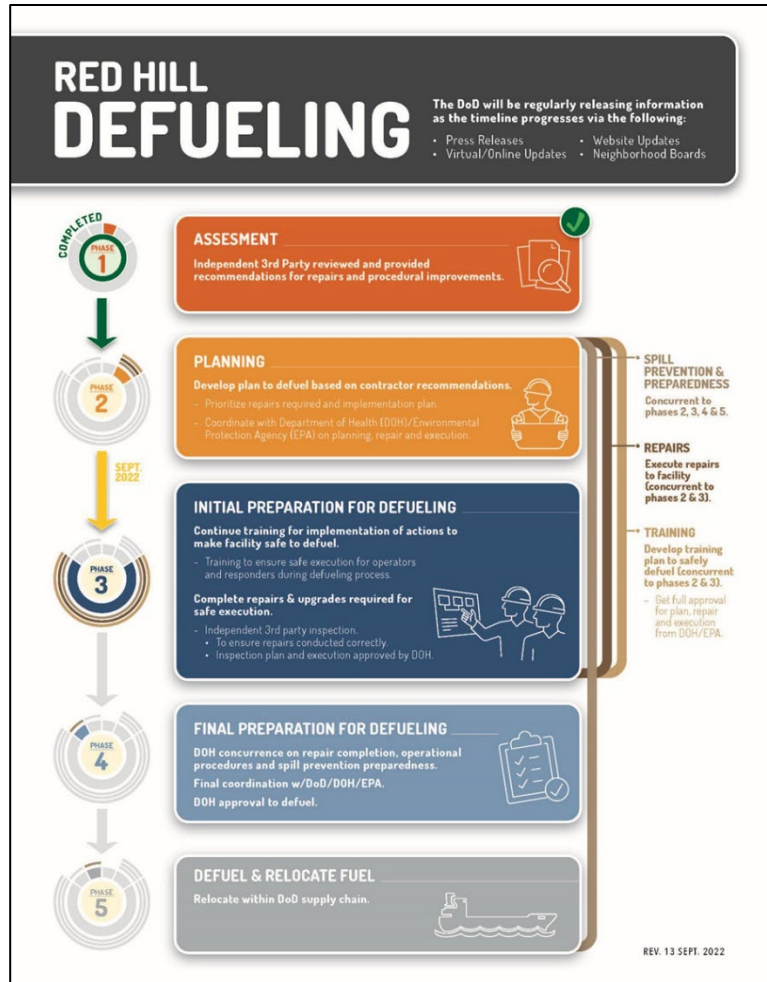


Figure 1- DoD Red Hill Defueling Plan

Supplement 2 provides the way ahead and key milestones required to set the conditions to begin safe and expeditious defueling of the RHBFSF. It includes an update on the creation of the JTF-RH and a description of the progress that JTF-RH has made over the past eight months. It also includes updates on JTF-RH’s planning to complete the remaining work items to prepare the facility to begin defueling and on JTF-RH and the Defense Logistics Agency’s (DLA) planning for beginning the safe removal and relocation of fuel via gravity-based removal as well as the unpacking of the pipelines and the removal and relocation of all fuel in the four surge tanks. Completion of these parts of Phase 5 will result in the removal of approximately 99.85%, or 104 million (M) gallons of fuel, from the facility. DoD will provide DOH and EPA with additional supplements as needed to comprehensively address any additional actions necessary to

ensure removal of all fuel from RHBFSF.

Finally, this supplement provides JTF-RH's Integrated Master Schedule (IMS), which is a time-based schedule containing the networked, detailed tasks necessary to ensure successful program execution. *See* Enclosure 8. Per the DOH emergency order, the IMS utilizes the critical path method, which has allowed JTF-RH to identify the longest sequence of dependent tasks for the defueling project and prioritize completion of those tasks to ensure that the project stays on or ahead of schedule. JTF-RH used the IMS to verify the attainability of defueling objectives, evaluate progress toward meeting those objectives, and integrate the program schedule activities with all other related components.

JTF-RH is meticulously working to safely and expeditiously accelerate a conditions-based start of defueling by October 2023. JTF-RH projects that, subject to any unforeseen circumstances, it will begin gravity defueling by October 2023 and complete four steps of defueling by January 19, 2024: (1) Defuel Tank Mains; (2) Defuel Flowable Tank Bottoms; (3) Unpacking Pipelines; and (4) Surge Tanks.. The fuel from the tanks mains, flowable tank bottoms, surge tanks, and unpacked pipelines will be transferred into tankers and relocated to approved defense fuel support points (DFSPs).<sup>1</sup> To avoid any confusion or ambiguity and in the spirit of transparency, DoD acknowledges the probability that a substantial amount of fuel (between 100,000 and 400,000 gallons) will remain in RHBFSF at the conclusion of this stage of defueling. DoD will provide DOH and EPA with additional supplements as needed to comprehensively address all additional actions necessary to ensure removal of all fuel from RHBFSF.

#### **A. Establishment and Mission of JTF-RH**

On September 30, 2022, after submitting Supplement 1.B., DoD established the JTF-RH to assume responsibilities from Navy to safely and expeditiously defuel the RHBFSF and rebuild trust with the state of Hawaii.

Following the AFFF spill on November 29, 2022, on December 6, 2022, United States Indo-Pacific Command (USINDOPACOM) directed JTF-RH to expand its mission to include centralizing management and safety controls at RHBFSF to reduce risk of future mishaps. USINDOPACOM and JTF-RH added over 100 personnel to the JTF-RH Team to enable successful execution of these expanded responsibilities. Since December 2022, JTF-RH has implemented the following actions to facilitate its defueling mission:

- JTF-RH established physical control of the RHBFSF. JTF-RH personnel now manage two access control points (ACPs) and verify that all personnel on site are on an approved access roster with a clear purpose for accessing the facility.
- JTF-RH now oversees all security screening and badging of any personnel requesting access to RHBFSF.
- JTF-RH now oversees all maintenance, repair, and environmental remediation

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<sup>1</sup> DoD's decision-making on the relocation of the removed fuel is subject to finalization of NEPA process. See *infra*, II.A.3.

contractors who enter RHBFSF and require a military escort to remain with these contractors while at RHBFSF. The military escorts have the requisite training and knowledge to provide appropriate oversight of contractor actions.

- JTF-RH has implemented a robust risk management process. In addition to repairs, enhancements, and modifications to set conditions for defueling, all other activities at RHBFSF must be coordinated, de-conflicted, and synchronized. This process occurs during the Red Hill Defueling Coordination and De-Confliction Working Group (RHDCDWG). This body consolidates all activities into a single integrated weekly schedule which is then approved by the JTF-RH Commander. Any activity characterized as “high risk” is approved by the JTF-RH Commander after receiving a detailed brief covering the procedures, hazards, and mitigations that will be taken to reduce risk. Access to RHBFSF is limited only to activities listed on the approved schedule.
- JTF-RH has established procedures to maintain real-time visibility of all approved activities in order to have awareness of what organization is taking what action in which location in RHBFSF.
- A single Lock-Out/Tag-Out (LOTO) Program has been established under the purview of JTF-RH. It has been implemented to ensure a safe, methodical, and auditable approach to disabling and energizing systems or equipment necessary for maintenance or repairs.
- JTF-RH has implemented enhanced procedures to protect the health and welfare of first responders and personnel involved in clean-up of hazardous material (HAZMAT) and remediation efforts. These measures include an instruction providing information on the safe handling of Aqueous Film-Forming Foam (AFFF) or hazardous material and ensuring that appropriate Personal Protective Equipment (PPE) is worn prior to entering or doing work at RHBFSF. In addition, JTF-RH has expanded its training program to incorporate additional procedures to ensure all personnel are trained and ready to respond in the event of a HAZMAT spill.

## **B. JTF-RH Organizational Structure**

The initial JTF-RH organizational structure, as provided in Supplement 1.B, defined the six functional focus areas: (1) Planning Directorate, which oversees access control to Red Hill, conducts continuous planning to safely and expeditiously defuel Red Hill, and engages with all stakeholders for discussions prior to executing milestones; (2) Training Directorate, which works to ensure all personnel responsible for defueling operations are both individually and collectively trained and certified; (3) Quality Assurance Directorate, which monitors and evaluates various aspects of a project, service, or facility to ensure the standards of quality are met and enforced; (4) Repair and Maintenance Directorate, which is responsible for coordinating and executing fuel systems and facility repair projects; (5) Operations Directorate, which coordinates with the Defense Logistics Agency (DLA) to plan for the safe removal and transportation of fuel, conducts dry runs of the defueling operations, tank tightness testing and dewatering; and (6) Response Directorate, which coordinates with an Interagency Spill Response Team (ISRT) to develop response plans, conduct drills and rehearsals, and review lessons learned. The revised JTF-RH organizational structure (*see* Figure 2 below) reflects the additional capabilities established to support the expanded mission set to include the Defueling Information Sharing Forum (DISF), which brings together local community leaders, elected representatives, and other stakeholders with different areas of relevant subject matter expertise for discussions and key

updates pertaining to RHBFSF defueling line of effort; and the RHDCDWG, which serves as the centralized clearinghouse for any potential conflicts across all activities.

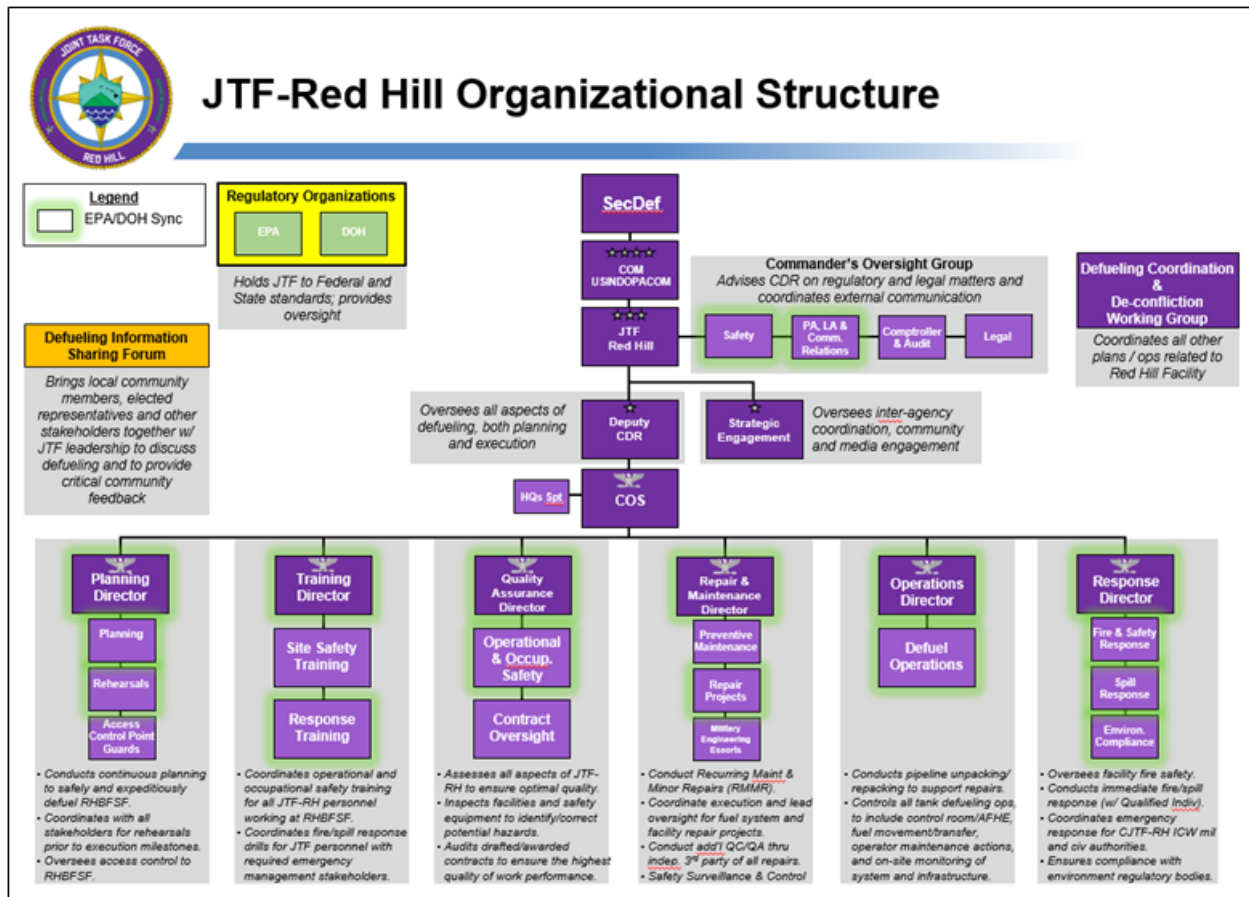


Figure 2 – JTF-RH Organizational Structure

### C. JTF-RH Progress

JTF-RH has made significant progress since establishment. A comprehensive list of major deliverables and events is provided in Table 1. As shown in Table 1, JTF-RH thus far has completed all tasks by their due date. Those tasks include a successful unpacking of the three products lines, 75% of all repairs, dewatering, the completion of sump tank tightness testing, and the execution of numerous safety and spill response drills.

Table 1- Comprehensive List of Submitted Deliverables and Completed Events

DATE	JTF-RH DELIVERABLES AND EVENTS
09 OCT 22	RHBFSF Tour CODEL Wasserman-Schultz
23 OCT 22	Third Party Repair Quality Validation Plan to DOH and EPA
24 OCT 22	Consolidated Repair and Enhancement List to DOH and EPA
24 OCT 22	Execution of Unpacking Equalization and Valve Cycling
25 OCT 22	F-24 Unpacking Complete
26 OCT 22	JP-5 Unpacking Complete

28 OCT 22	F-76 Unpacking Complete
1 NOV 22	Low Point Drain/Verification and PostOp Lineup Walkthrough Complete
1 NOV 22	Third Party Repair Plan to DOH and EPA
9 NOV 22	Fuel Tank Advisory Committee (FTAC)
12 DEC 22	Defueling Town Hall
16 DEC 22	Repair Status – All Under Contract
10 JAN 23	DISF Meeting
10-12 JAN 23	Indo Pacific Command (IPC) State Government Outreach
11 JAN 23	Military Affairs Counsel Conference
15 JAN 23	APTIM Contract Award for Repairs
18 JAN 23	JTF-RH Town Hall with EPA, Navy, and DOH
19 JAN 23	2023 Administrative Consent Order (ACO) Public Meeting
20 JAN 23	RHBFSF Tour for DOH and EPA
21 FEB 23	RHBFSF Tour for STAFFDEL Zomorrodian & STAFFDEL Nelson
01 MAR 23	Red Hill Special Committee (Brief by Commander, JTF-RH)
02 MAR 23	Dewatering CONOP to DOH and EPA
23 MAR 23	Garrison Commander Outreach Meeting
24 MAR 23	RHBFSF Tour for HON Lowman, ASD for Sustainment
24 MAR 23	Mr. McAndrew, DASD for Construction Meeting
24 MAR 23	DISF Meeting
28-29 MAR 23	GAO Audit and Tour RHBFSF
1 APR 23	Monthly QV Submission to DOH and EPA
3 APR 23	Main Sump Tank Tightness/ Leak Testing Complete
4 APR 23	RHBFSF Tour for CODEL McCollum
5 APR 23	Military Family Information Fair
6 APR 23	Repacking Spill Response Drill
11 APR 23	Inter-Agency Senior Leader Meeting
11 APR 23	Kamehameha Schools President Engagement
12 APR 23	RHBFSF Tour for the Red Hill Special Committee
12 APR 23	Dewatering/ Sampling TTX Complete
12 APR 23	Repacking Spill Response Drill Complete
14 APR 23	Tank 311 Draining and Valve Repair and F24 Draining Complete
14 APR 23	Fire Suppression CONOP to DOH and EPA
15 APR 23	JTF-RH Defueling Risk Assessment In-Progress Review (IPR)
17-21 APR 23	Dewatering
21 APR 23	F-24 Draining (Low Point Drain) Complete
22 APR 23	APTIM Mod 6 Notice to Proceed
26 APR 23	AFFF Concentrate Removal from Adit 6 to Pump House Complete
1 MAY 23	Monthly QV Submission to DOH and EPA
15 MAY 23	JTF-RH Defueling Risk Assessment IPR

## II. May 15, 2023 Red Hill Defueling Plan Updates

This Supplement provides key updates on plans and timelines for JTF-RH’s remaining work to prepare the RHBFSF for safe defueling and to defuel and relocate the vast majority of fuel in the facility, thus bringing DoD closer to the requirement to set the conditions for facility closure by the Navy. It provides Phase 3 updates for fire and spill response and infrastructure



repairs and enhancements. It will also preview the forthcoming Environmental Assessment (EA) and Overseas Environmental Assessment (OEA) for the decision-making on distribution of the fuel, after JTF-RH has removed it from the facility. Supplement 2 Phase 4 updates include a listing of all required approvals from DOH and EPA before JTF-RH can commence defueling operations and outlines the repacking of fuel lines concept of operations (CONOP), which is a required preparatory step to defuel. Finally, Supplement 2 Phase 5 updates include: updated plans for gravity-based removal, fuel oil recovery (FOR) draining, and removal of all fuel in the four surge tanks, the analysis on pace for gravity-based defueling, defueling CONOPs, and a list of upcoming JTF-RH deliverables to DOH and EPA. JTF-RH projects that, subject to any unforeseen circumstances, it will begin gravity defueling by October 2023 and complete the Supplement 2 defueling—removal of fuel from UST tank mains and flowable tank bottoms, unpacking lines, and removal of fuel from surge tanks—by January 19, 2024.

### **A. Phase 3 Update – Implement Actions to Make Facility Safe to Defuel**

JTF-RH is currently operating in Phase 3 of the defueling plan. Key activities that occur during this phase are repairs, modifications, training preparedness, spill response drills, quality control and quality validation, and planning. To date, JTF-RH has completed 214 of 253 SGH-recommended repairs and projects completing all required repairs by May 31, 2023. This section provides key progress updates for Phase 3 resulting from information that has been learned and the iterative planning process conducted since the last supplement.

#### **1. Fire and Spill Response Update**

##### **a. Fire Suppression Update**

The AFFF fire suppression system at the Underground Storage Tanks (USTs) was disabled following the November 29, 2022, AFFF inadvertent discharge and remains inactive. This AFFF system has not been refilled with AFFF concentrate nor has the JTF-RH reactivated the system. JTF-RH and Federal Fire Department (FedFire), have implemented appropriate fire risk mitigations while repairs, enhancements and modifications for defueling are in progress. Meanwhile, JTF-RH worked with FedFire, and Navy Facilities and Engineering Systems Command (NAVFAC) to develop a defueling fire response plan that appropriately balances fire suppression, personnel safety, and environmental concerns. This plan uses dry chemical (sodium bicarbonate) fire extinguishers, the existing water sprinkler system and Federal Fire to respond to a fire event in the vicinity of the USTs. The Defueling Fire Protection Plan was submitted to DOH and EPA for review and concurrence on April 14, 2023 (*see* Encl. (1)).

##### **b. Spill Response**

DoD facilitated a Spill Prevention Control and Countermeasures (SPCC) inspection and briefed the results on March 4, 2022. The DOH/EPA inspection raised issues and concerns that were addressed as follows:

- On July 6, 2022, DoD awarded the contract to update the SPCC Plan to address all EPA/DOH comments. CNRH hosted several meetings with key stakeholders to ensure all inspection findings were addressed and/or incorporated into the revised SPCC Plan.
- Navy provided the draft SPCC Plan to DOH and EPA on September 8, 2022. It was

included as part Supplement 1.A.

- On October 12, 2022, EPA provided SPCC training to NAVFAC, JTF-RH, Pacific Missile Range Facility, and JBPHH at CNRH headquarters.
- On December 19, 2022, Navy provided EPA and DOH the revised draft SPCC Plan for review and comment. The revision addressed the piping in the Underground Pump House (UGPH) for JP-5, F-24, and F-76 that hold over 1 million gallons of fuel during fueling operations and are considered to be underground storage. JTF-RH received feedback from EPA and DOH on April 28, 2023 and will provide a response by June 30, 2023.

On January 26, 2023, JTF-RH established an Interagency Spill Response Planning Team (ISRPT), which includes the following stakeholders: EPA, DOH, JBPHH, Fed Fire, Defense Logistics Agency (DLA), Port Operations, US Coast Guard (USCG), JTF-RH, and Naval Sea Systems Command Supervisor of Salvage and Diving (SUPSALV). The ISRPT has collaboratively identified seven potential defueling spill scenarios and developed corresponding responses for each scenario. These spill scenarios and responses will be incorporated into the final SPCC Plan. JTF-RH expects to submit its proposed final SPCC Plan to EPA and DOH on August 1, 2023.

JTF-RH developed seven spill response plans for each of the seven potential defueling spill scenarios: (i) Release in Tank Gallery; (ii) Release in Lower Access Tunnel (LAT) (Packing); (iii) Hotel Pier Pipe Rupture; (iv) Hotel Pier Overfill of Tanker; (v) Most Dangerous Release (Defuel); (vi) Dewatering; and (vii) Fire Response. Each spill release scenario is summarized below and Figures 3 through 6 provide a graphical depiction of where each release would potentially occur. *See* Encl. (2) for further details on the response mitigation measures for each scenario.

**i. Most Likely Release in the Tank Gallery – Defueling:**

JTF-RH assessed that, if a release were to occur in the Tank Gallery during defueling, it likely would result from one or more of the following events: (1) a pipe rupture; (2) a failed repair; or (3) failure of a valve in the tank gallery along a length of pipe downstream of tank skin-valves (double-block and bleed valves). Based on this assessment, JTF-RH has developed a plan to utilize the AFFF retention pumps to recover up to 20K gallons of released fuel within approximately seven minutes (rated at 1,000 gallons per minute using a maximum of three pumps active at one time - for a total of 3,000 gallons per minute pumping capacity). This solution comports with DOH's January 13, 2023, recommendation to evaluate the AFFF retention line pumps for rapid removal of fuel. Likewise, if a release were to occur during defueling the tank bottoms, the AFFF retention pumps would be the most advantageous means of removing the released fuel. JTF-RH projects that AFFF retention line repairs will be complete by May 31, 2023.

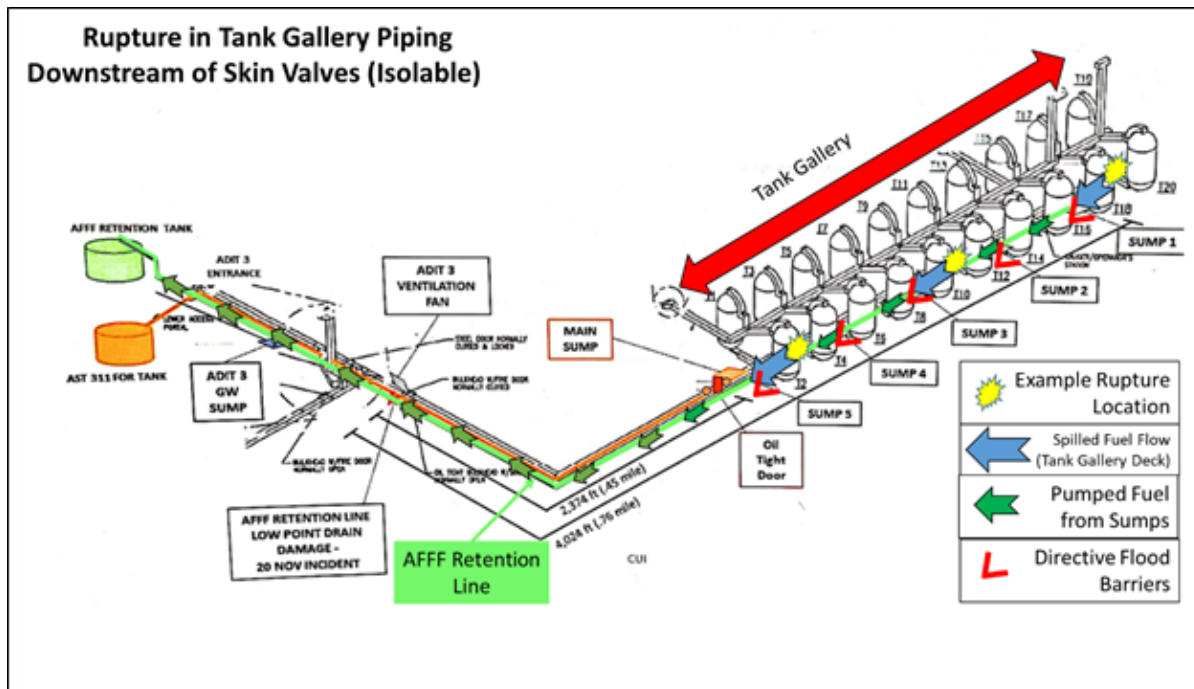


Figure 3 – Scenario 1: Most Likely Release in the Tank Gallery

### ii. Most Likely Release in LAT Piping – Re-Packing/Un-Packing:

JTF-RH assessed that, if a release were to occur in the LAT Piping during Repacking or unpacking, it likely would result from one or more of the following events: (1) a pipe rupture; (2) a failed repair; or (3) failure of a valve. If a rupture were to occur in the LAT, the fuel would be directed away from Adit 3 “Wye” (protecting direct pathways to the aquifer) and down the HT by the pre-positioned rigid flood barriers, which is the mitigation measure utilized to prevent the fuel from flowing to the HT. In this scenario, the released fuel would collect at the UGPH and pump out to surge tank B-2, which has a 385K gallon capacity.

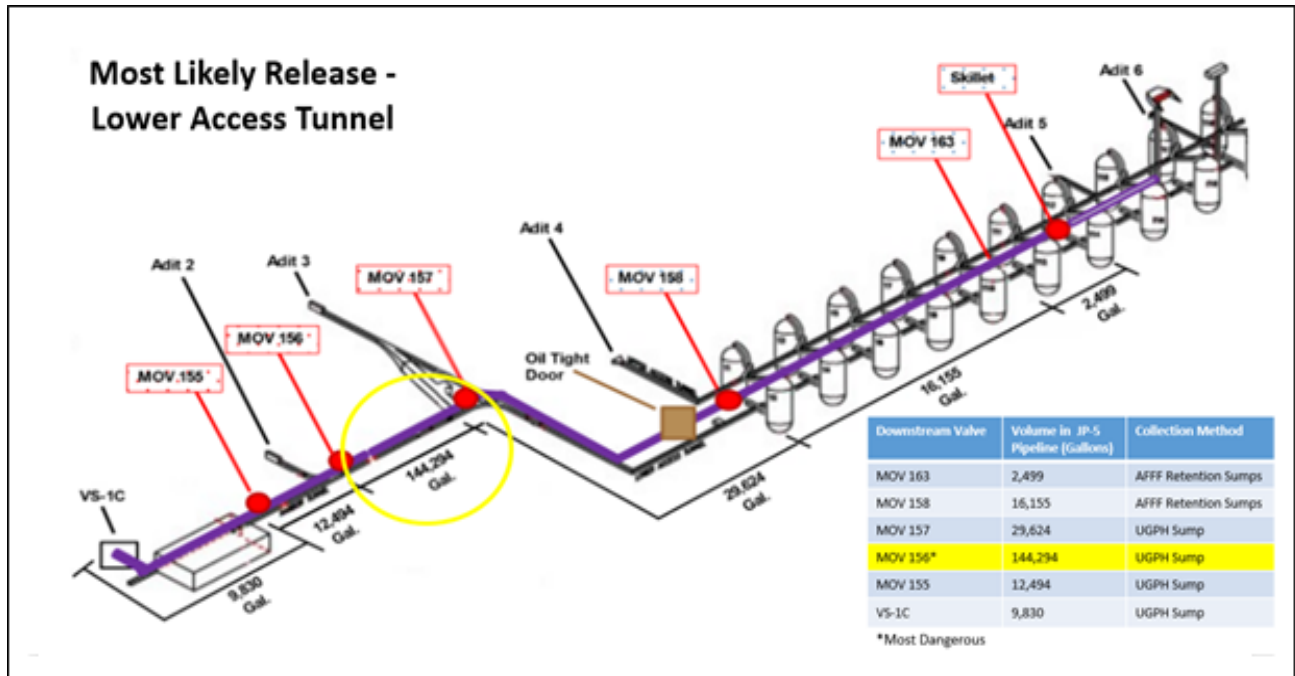


Figure 4 – Scenario 2: Most Likely Release in LAT

### iii. Most Likely Release Harbor Tunnel (HT) Piping – Re-Packing/Un-Packing:

JTF assessed that, if a release were to occur in the Harbor Tunnel, during repacking or unpacking, it likely would result from one or more of the following events occurring: (1) a pipe rupture; (2) a failed repair; or (3) failure of a valve. If a rupture were to occur in the LAT, the fuel would be directed away from Adit 3 “Wye” (protecting direct pathways to the aquifer) and down the HT by the pre-positioned rigid flood barriers, which is the mitigation measure utilized to prevent the fuel from flowing to the HT. In this scenario, the released fuel will collect at the UGPH and pump out to surge tank B-2, which has a 385K gallon capacity.

### iv. Tanker Overfill

In this scenario, a potential release could occur during tanker fill when the product is reaching tank capacity on the receiving tanker. A tank overfill could spill fuel onto the deck and into the water surrounding the vessel. Based on data provided by the Maersk Peary, the probability of overfilling a tanker is 0.4%. Historical data identified overflow amounts as less than 264 gallons. Spill response plans are predicated upon CFR 155, “Oil and Hazardous Material Pollution Prevention Regulations for Vessels.” JTF-RH’s spill response plan is based on the Vessel Response Plan (VRP) provided by Maersk Peary (Master Notification/ Tank Overflow Procedures).

### v. Most Dangerous Release – Defueling

In this scenario, a possible release could occur if a fuel hammer, or vacuum condition, causes a fracture to a section of piping just north of a double blocking blow valve. The released

fuel would flow from the tank gallery into the LAT. JTF-RH estimates that after approximately 18 minutes, the released fuel would reach the Adit 3 “Wye,” where the pre-installed rigid flood barriers would redirect the fuel from north of the aquifer to the HT. JTF-RH further estimates that, in this worst-case scenario, 4.3 M gallons of fuel would be discharged over 30 hours. This scenario would be an escalating situation - which is initially handled via the response for the Most Likely Release in the tank gallery - utilizing the AFFF retention sump pumps. The escalation occurs when the spill ultimately exceeds the capacity of the AFFF retention sump pumps and begins to flow down the LAT all the way to the HT reaching the UGPH. The modeled flow rate would be approximately 13,800 gallons/minute (gpm), which would overwhelm the pumps and exceed B-2’s surge tank capacity of 385K gallons. To prepare for this worst-case scenario, JTF-RH has developed a plan to leverage its oil spill response organizations to augment the UGPH pumps. The response plan will utilize supplemental pumps (4 x 2,200 gpm = 8,800gpm) installed by SUPSALV (NAVSEA contract) on 1 July 2023 prior to the Defueling Exercise scheduled for 13 July 2023 to move fuel to tankers at Hotel Pier. Additionally, the sides of the ramp will be lined with sandbags or other barricades that direct any oil that exits Adit 1 into the lower yard tunnel. This fuel will be recovered by the SUPSALV pumps. This response action will minimize environmental impacts in the event of a spill.

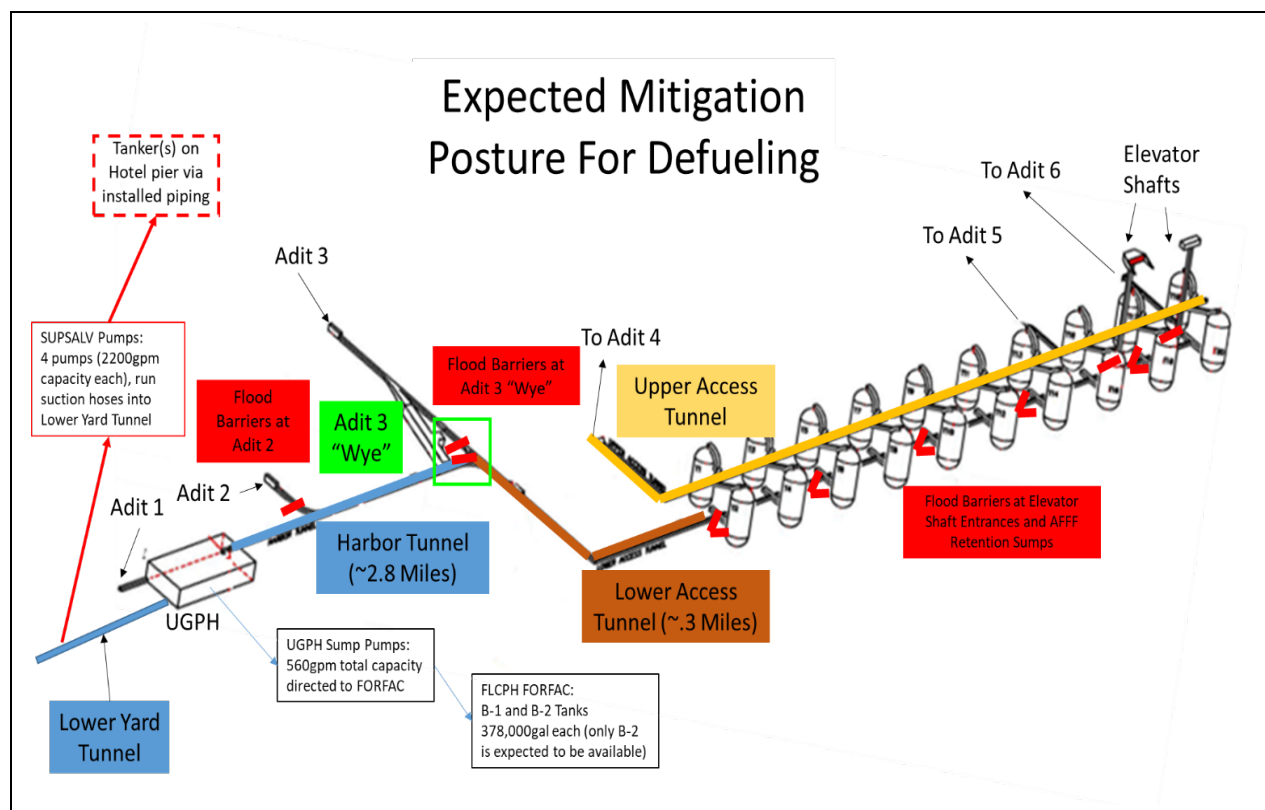


Figure 5 – Scenario 5: Most Dangerous Release - Defueling

## vi. Fire Suppression

In order for a fire to occur there must be a fuel release and an ignition source. NAVFAC Fire Engineer analysis estimated the probability of fuel release coupled with an ignition event that would result in a fire is 1 in 856 million (*see* Encl. (1)). JTF-RH has implemented the following mitigation measures to reduce the potential for a fire: joint wrapping, eliminating combustible materials, procurement of dry chemical extinguishers, installation of tank equalization lines, pipe repairs, fire watch, and updated operations plans.

JTF-RH in coordination with NAVFAC Fire Engineers and the FedFire conducted fire suppression course of action analysis for alternatives to the disabled AFFF system. JTF-RH determined the chosen course of action in an effort to reduce risk to both the environment and personnel and consists of a layered approach using a manned fire watch in conjunction with the existing fire water sprinklers and Fed Fire emergency response. The fire watch will employ dry chemical fire extinguishers as an immediate response in parallel to the operational water sprinkler system in auto mode, and ahead of arrival of Fed Fire. The dry chemical fire extinguishing agent is sodium bicarbonate.

The Defueling Fire Protection Plan (*see* Encl. (1)), provides an overview of the selected fire suppression response. The plan requires eight fire watch teams, each consisting of two trained and qualified personnel who will be positioned between two 150lb dry chemical fire extinguishers. The locations, as depicted in Figure 6 below, provide complete coverage throughout the entire tank gallery.

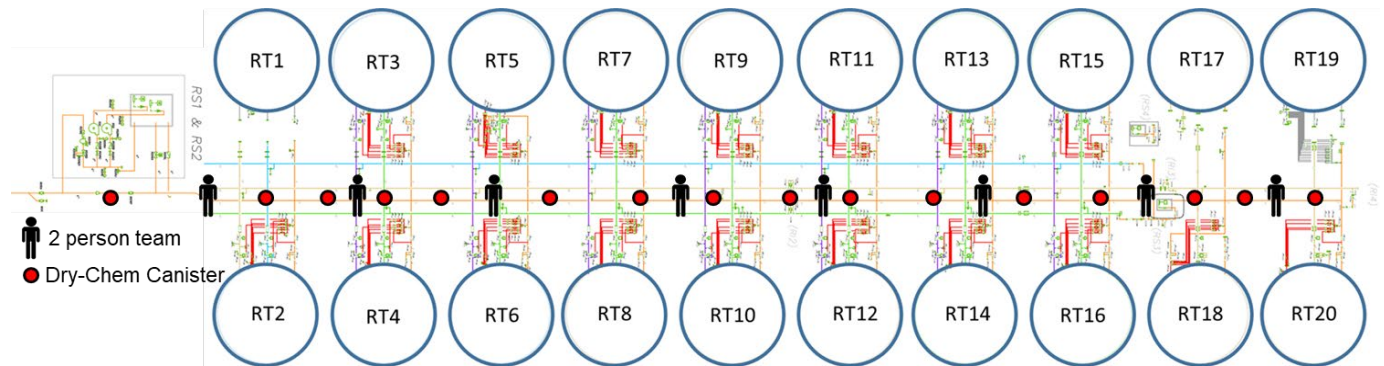


Figure 6 – Defueling Fire Response Plan

### c. Response Drill Schedule

On April 6, 2023, JTF-RH conducted a full-scale spill response exercise. All ISRPT entities participated in this spill response exercise, which focused on testing the capabilities and actions JTF-RH will take in response to spill release at RHBFSF. The spill response exercise focused on initiating the notification tree and deploying spill containment and removal assets. Table 2 provides a comprehensive list of all JTF-RH response exercises in preparation for defueling.

*Table 2- JTF-RH Spill Response Exercises*

<b>JTF-RH Spill Response Exercises</b>		
SCENARIO	RESPONSE EXERCISE	DATE
1. Most Likely Release in the Tank Gallery	Defueling Spill Drill Exercise	July 13, 2023
2-3. Most Likely Release in LAT or HT Piping	Repacking Spill Drill Exercise	June 8, 2023
4. Tanker Overfill	JTF-RH Spill Exercise	August 2023
5. Most Dangerous Release – Defueling	Defueling Spill Drill Exercise	July 13, 2023
6. Dewatering	TTX & Conditions Walk through	April 12 & 14, 2023
7. Fire Suppression	FED Fire Exercise	TBD

## **2. Infrastructure Repairs and Enhancements**

JTF-RH continues to collaborate with DOH and EPA during the weekly Defueling Technical Working Group (DTWG) and address outstanding RFIs at the action officer level. At this time, JTF-RH has responded to all formal RFIs received from DOH and EPA. JTF-RH will continue to staff any additional formal RFIs received with DTWG and provide prompt responses to DOH and EPA.

### **a. AFFF Reclamation Line Repairs**

JTF-RH continues to work an alternate solution to address the damaged AFFF reclamation line in the LAT as depicted in Figure 7. This proposal will forego the replacement of the existing AFFF reclamation line. JTF-RH will continue to iterate with DOH and EPA on developing this alternate solution and address any regulator questions and concerns. JTF-RH will submit a formal proposal to DOH and EPA that incorporates and addresses all feedback and concerns no later than May 31, 2023.

JTF-RH is addressing the following items in support of the AFFF Reclamation Line Repairs: sump pump testing, line lift pump repair, line joint repairs, corroded support repairs, PVC line and low point drain (LPD) repairs. The sump pumps were dry tested on February 1-2, 2023, and JTF-RH is developing a plan to wet test the sump pumps. JTF-RH intends to

repair/reallocate/replace sump pumps in order to maintain two working pumps per sump to support the JTF-RH Spill Response Plan. JTF-RH is working to seal AFFF retention line joints with an elastomeric joint seal and to repair corroded pipe supports. JTF-RH will establish protection for LPDs as well as repair the damaged section of pipe. Repairs may also include connection of the AFFF retention line to the F-76 line. JTF-RH is on track to complete all repairs to the existing system by June 30, 2023. These repairs will also undergo rigorous quality control and quality assurance measures to ensure the repairs are performed properly. Additionally, JTF-RH provides secondary quality assurance on all repairs and audits of drafted and awarded contracts to ensure the highest quality of work performance and standards are met.

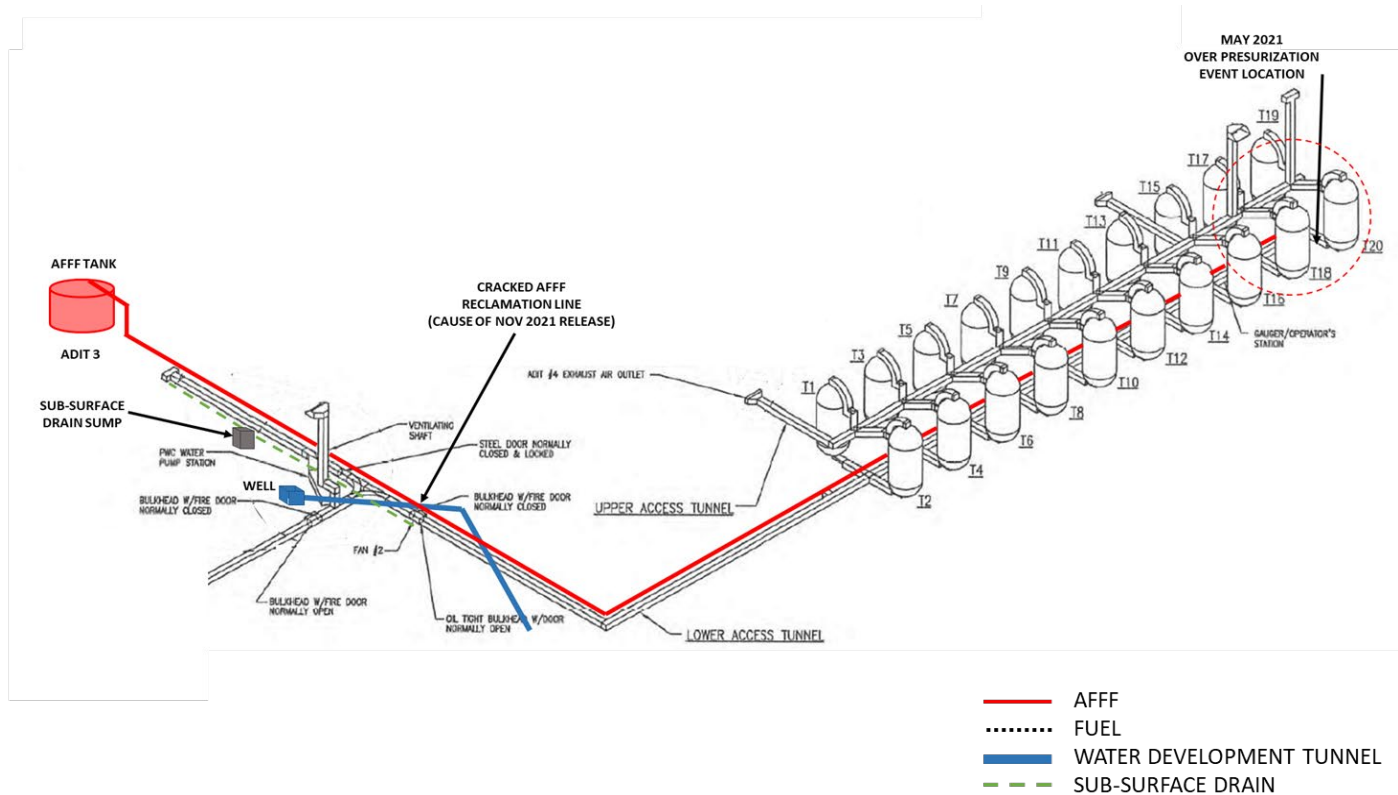


Figure 7 – AFFF Reclamation Line Repairs

### b. Hotel Pier FOR Line Repairs

JTF-RH determined, and DOH/EPA have conditionally agreed, that replacing a PVC drain line serving as secondary containment at Hotel Pier with steel line is not required to safely defuel. Rather than replacing the line, JTF-RH will hydro test the existing PVC FOR pipeline to locate and repair leaks, in accordance with the conditional approval requirements established in DOH’s letter dated January 13, 2023. JTF-RH intends to repair all damaged or missing hardware supporting the PVC FOR pipeline under the pier prior to hydro testing, including but not limited to damaged pipe hangers. JTF-RH will repair any identified leaks and retest prior to defueling. JTF-RH will provide DOH and EPA with documents that detail all repairs and testing conducted. JTF-RH is on track to complete all repairs and testing by June 30, 2023.



### **c. F-76 Line**

JTF-RH determined that F-76 line repairs are no longer required since F-76 fuel will be rerouted through the JP-5 line. This deviation was approved by DOH on January 13, 2023, and EPA on March 10, 2023.

### **d. Oil Pressure Door**

The Oil Pressure Door (OPD) at the bottom of the tank gallery is designed to automatically seal off the tank gallery from the rest of the facility in the event of a spill. Once activated, the trapped fuel must be manually removed before the door can be reopened. In this scenario, fuel would be trapped in the tank gallery until slow, manual removal could be executed. And notwithstanding JTF-RH's prior work to seal cracks and openings in the floor, there is moderate risk that large amounts of standing petroleum could release into the environment. Thus, JTF-RH conducted a risk analysis on the disposition of the OPD and determined that disabling the OPD and leaving it in the open position presents the lowest risk to the environment and aquifer. Based on this decision, JTF-RH does not intend to conduct repair Number 6 (SGH.28) to the OPD. Enclosure 3 provides a detailed analysis of OPD disposition.

### **e. Fire Suppression**

JTF-RH's Defueling Fire Suppression Plan uses dry chemical (sodium bicarbonate) fire extinguishers, the existing water sprinkling system and Federal Fire to respond to a fire event in the vicinity of the UST during defueling. *See* Encl. (1). However, should the use of AFFF be mandated by regulatory agencies JTF-RH is conducting repairs to the AFFF pipe from the pump house to the Adit 6 Tunnel.

### **f. Main Fuel Oil Recovery (FOR) Sump and FOR Zone 7 Sump Tank Tightness Testing (TTT)**

In Supplement 1.B., DoD agreed to conduct EPA-compliant testing of two sumps in the LAT, the Main FOR Sump and the Zone 7 Sump. JTF-RH conducted tank tightness testing on the Main FOR Sump on April 7, 2023 and provided DOH and EPA with a final report on May 10, 2023. JTF-RH collaborated with DOH and EPA during the DTWG to develop an alternate means to test the Zone 7 FOR sump, since it cannot be tested in accordance with the standard tank tightness testing procedure. On April 13, 2023, JTF-RH provided a recommended testing solution to DOH and EPA for review and concurrence. JTF-RH received EPA concurrence on May 1, 2023 and conducted testing on Zone 7 Sump on May 3-4, 2023. JTF-RH provided EPA and DOH with the test results on May 11, 2023. After testing, JTF-RH intends to epoxy the sump and sump pump replacement. JTF-RH will repeat the test upon completing repairs and will submit written results to DOH and EPA within thirty days of testing.

## **3. EA/OEA**

In accordance with the National Environmental Policy Act (NEPA), JTF-RH is preparing an EA/OEA to analyze the potential environmental effects associated with JTF and DLA's

discretionary decision-making<sup>2</sup> for Red Hill defueling and fuel relocation. The scope of the EA includes fuel loading at JBPHH Hotel pier onto tanker vessels and the ocean transit to each relocation destination. The EA will analyze the following resource areas: water resources, marine biological resources, public health and safety, air quality, and greenhouse gases. The analysis will be based on a proposed action and alternatives that include a maximum of eleven refined product tanker ship transits with a maximum number of loadings possible based on the final maximum allowable operating pressures and the necessary manpower availability to safely load tankers at JBPHH Hotel pier and the movement of fuel via tanker to up to nine different locations within the DoD fuel supply chain.

#### **a. Fuel Locations**

The following potential locations are being considered in the EA/OEA: Darwin Australia; Port of Singapore; Subic Bay, Philippines; Sasebo, Japan; Puget Sound, WA; Vancouver, WA; Selby, CA; Point Loma, CA; and West Oahu, HI. DoD is planning for a Draft EA Public Comment Period from June 9-30, 2023, with an EA Public Meeting on June 15, 2023. DoD is targeting a Final EA and decision document no later than August 31, 2023, pending the completion of all NEPA requirements.

### **B. Phase 4 Update – Final Preparation for Defueling**

JTF-RH is meticulously working to safely and expeditiously accelerate the defueling timeline to support a conditions-based defueling start in October 2023. An October 2023 defueling start hinges on receiving unconditional approval from DOH and EPA and on the successful execution of repacking the pipelines. This section discusses the approvals that are required from DOH and EPA and previews the CONOP for repacking.

#### **1. Regulatory Approval(s)**

DoD must receive unconditional approval from DOH and EPA prior to defueling RHBFSF. JTF-RH is conducting monthly risk assessments to evaluate the feasibility of executing an earlier, conditions-based start for defueling on October 16, 2023. Remaining work items and required approvals include:

1. DOH Approval of DoD Defueling Plan, as supplemented
  - a. Initial List of Repairs
  - b. Approval of AFFF Alternate Course of Action
2. Completion of Required Repair Work
3. Third-Party Validation of Repair Work
4. NEPA EA/OEA Completion
5. Regulatory Approval of Repair Work
6. CONOP for Defuel Response Plan and Regulatory Approval

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<sup>2</sup> NEPA does not apply to JTF-RH's mission to defuel the Red Hill underground storage tanks themselves, as the Hawaii Department of Health has directed that action, and thus DoD does not have discretion on whether to defuel them. The scope of JTF-RH's NEPA review is limited to analysis of the effects of JTF-RH's discretionary decision-making for the distribution of the fuel after it has left the Red Hill facility.

7. CONOP for Fire Response and Regulatory Approval
8. CONOP for Spill Response and Regulatory Approval
9. Training and Certification for Each Milestone Evolution with Regulatory Approvals
  - a. JTF-RH Fuel Operations Directorate Personnel
  - b. Response Personnel
  - c. Fire Watch Personnel
10. Regulatory Approvals of Response Drills
  - a. Response in Red Hill (most likely, worst case) (DOH/EPA)
  - b. Response at Hotel Pier (USCG)
11. CONOP for Pipeline Repacking and Regulatory Approval
12. CONOP for Main Tank Defueling and Regulatory Approval
13. CONOP for Defueling Flowable Tank Bottoms Approval
14. CONOP for Defueling Surge Tanks and Regulatory Approval
15. CONOP for Unpacking Pipelines and Regulatory Approval
16. Rehearsals for DoD Workforce

## **2. Repacking Lines**

JTF-RH will repack the JP-5 and F-24 pipeline segments (two of the three pipeline segments previously unpacked to complete repairs) from the UGPH to the LAT after DOH and EPA provide unconditional approval for all completed repairs. Repacking these pipeline segments requires the use of UTF fuel, pushed up gradient utilizing Pearl Harbor transfer pumps while venting the upper end of the line. Moving the fuel from bottom up minimizes the risk of trapping air in the line, which then reduces the risk of a surge event. Additionally, this approach enables controlled venting of air from the line as it is displaced by fuel. It also eliminates introducing the head pressure of a Red Hill fuel tank for the duration of the repack. Lastly, using the pumps allows for a controlled/throttled repack, reducing the time from days to hours and allowing for predictive pauses to inspect the lines. The repacking operation order (OPORD) brief to regulators occurred on April 28, 2023. JTF-RH will commence repacking in August or September 2023.

### **a. Repacking CONOP**

JTF-RH will fully repack both fuel lines in four phases: (1) pipeline condition verification; (2) P1411/1412 pump verification; (3) pipeline repacking via UTF gravity equalization/pump transfer equalization; (4) pipeline repacking via Red Hill tank equalization. Each of the phases includes safety measures detailed below to ensure operators are taking all necessary precautions. The Repacking Lines CONOP (see Encl. (4)) specifies what actions will take place during each phase, provides a graphical depiction of the fuel flow path from origin to destination, and prescribes personnel assignments by location. Further, the CONOP also details an estimate of fuel that will be required for repacking the pipelines: approximately 165,000 gallons of F-24 and approximately 215,000 gallons of JP-5. JTF-RH anticipates approximately 30-40% of the pipelines to repack via gravity equalization, 55-65% to repack via pump transfer to the respective Motor Operated Valve (MOV) closest to end of the line (F-24: M-162 and JP-5: M-163), and the remaining approximate 5% to repack utilizing the equalization line on the

respective Red Hill tank ball valve (F-24: TK5 and JP-5: TK20). JTF-RH estimates that repacking of each line can be completed in one eight-hour shift.

### **b. Safety Measures for Repacking**

JTF-RH conducted a Process Hazard Analysis (PHA) in February 2023, to identify, rank, and establish mitigations for risks associated with repacking operations. JTF-RH identified 13 recommendations to mitigate risk (1 critical, 1 serious, 7 moderate, 1 minor, 1 negligible, and 2 administrative) for repacking operations and incorporated them while developing the repacking CONOP.

The repacking CONOP identifies and describes the functions of all key personnel required to conduct safe repacking operations. The plan directs a Supervisor of the Watch, a control room operator, and an assistant control room operator to be present in the control room during the entire operation. A supervisor and work leader will oversee all phases of repacking operations and, prior to commencement of repacking, will verify all valve positions. JTF-RH will use independent validators to verify these inspections and confirm proper operation of valves to ensure correct system configuration. Additionally, LOTO will be used to isolate valve and energy control points vital to safe repacking operations. LOTO verification will be performed by third-party operational engineers, safety consultants, and JTF-RH supervisors. JTF-RH will conduct secondary quality assurance and ensure the highest standard of performance in the following areas: safety surveillance, LOTO locations/configurations audits, and spill response enclosures/kits inspections. Finally, JTF-RH will assign on-site safety representative and roving watch standers to monitor the pipeline during the repacking process. These manpower redundancies will provide additional controls to minimize the risk of human error.

JTF-RH has established a repacking training plan to ensure all personnel participating in the repacking operations possess the requisite knowledge and experience to safely perform their assigned duties. The plan includes general safety training, position-based training with qualifications, and repacking specific training (TTX/walkthroughs). Additionally, JTF-RH will perform spill response training and drills, and secondary quality assurance in preparation for repacking and prior to executing repacking operations.

### **C. Phase 5 Update –Defuel and Relocate Fuel**

Phase 5 constitutes the physical defueling of RHBFSF (20 underground fuel storage tanks, 4 surge tanks, and associated pipelines). The discussion of defueling activities in Supplement 2 focuses on the gravity-based defueling of the underground storage tanks and associated pipelines and on the removal of fuel from the four surge tanks. These activities will result in the removal of the vast majority of fuel from the RHBFSF. To avoid any confusion or ambiguity and in the spirit of transparency, DoD acknowledges the probability that a substantial amount of fuel (between 100,000 and 400,000 gallons) will remain in RHBFSF at the conclusion of this stage of defueling. DoD will provide DOH and EPA with additional supplements as needed to comprehensively address all additional actions necessary to ensure removal of all fuel from RHBFSF.

JTF-RH continues to refine defueling timelines to reduce the overall timeline while maintaining a balance between safety and speed. Subject to regulatory approval, JTF-RH is meticulously working to safely and expeditiously accelerate the start of gravity defueling in October 2023. The start of defueling is conditions-based.

The conditions required for defueling are itemized below:

- DoD and Regulators meet scheduled milestones
- Decision Point of Tankers. Monthly Running Risk assessments and gate reviews support a decision on July 1, 2023 to commit putting tankers under contract to be positioned to meet an October 2023 defueling start date.
- All systems and equipment required for defueling are safe to operate
- All submitted CONOPs are approved in sufficient time to ensure all personnel are trained and certified.
- Reliable Shore Infrastructure (water/power) to support facility operations and defueling
- Operations is available for use.
- NEPA complete

JTF-RH and DLA developed a plan to complete the gravity defueling in under 120 days. Balancing safety and speed, JTF-RH will utilize the maximum allowable operating pressures for the pipelines to move fuel out of RHBFSF via Hotel Pier to the UTF and into commercial tankers. JTF-RH's estimated flowrates indicate that each tanker requires only three days to reach maximum fill capacity.

As such, JTF-RH will execute the first steps of defueling in four stages: (1) Defuel Tank Mains; (2) Defuel Flowable Tank Bottoms; (3) Unpack Pipelines; and (4) Defuel Surge Tanks. The estimated timeframe to complete these three steps is 51 days to 78 days. The fuel removed from the surge tanks will be transferred into the UTF. The projected dates for each evolution are identified in the IMS (*see* Encl (8)).

The tank mains will be defueled by filling up to two tankers per week during the defueling phase. A portion of tank mains fuel will also be redirected to the UTF. Leveraging the UTF ensures there is sufficient fuel for continuing operations, reduces the overall number of tankers required, and eliminates any potential interruptions to the defueling phase. Accounting for personnel rest and reset, JTF-RH estimates tank main defueling will take 35 to 50 days to complete.

Once JTF-RH completes fuel removal of the tank mains, it will shift fuel to removal of flowable tank bottoms and to pipeline unpacking, moving fuel from those locations into tankers. The estimated time to defuel flowable tank bottoms is between 14 to 21 days, while the estimated time to unpack pipelines is between 2 to 7 days. These four stages within the defueling phase are outlined in detail below.

## 1. Tank Mains Defueling

Upon concurrence and receipt of DOH/EPA unconditional approval, DoD will perform tank mains defueling from each of the 14 in-service Red Hill tanks (JP-5: 7 tanks, F-76: 2 tanks, F-24: 5 tanks). Consistent with the repair and repacking plans, main tank defueling will only utilize JP-5 and F-24 pipelines. During this defueling stage, the JP-5 and F-24 tanks will utilize their respective pipelines, and the two F-76 tanks will utilize the JP-5 pipeline. Tank mains defueling will defuel the Red Hill tanks down to a level of 10 feet, which is approximately two and a half feet above the low suction level. Stopping above the low suction level is necessary to prevent air from entering the pipeline, as that would lead to trapped air in the line, increasing risk of pressure surges if operated in that condition. If air entered the pipeline, removing that air from the pipeline would be time-consuming, requiring additional repacking and equalization operations before other tanks could be defueled. Stopping tank mains defueling when the fuel level reaches two and a half feet above low suction level provides a calculated balance between maximizing fuel removal and ensuring safe/effective operations. Tank mains defueling will be performed by gravity drain method, and tankers at Hotel Pier will serve as the primary transfer destination. JTF-RH will brief DOH and EPA on the tank mains defueling CONOP during the week of May 15, 2023, and will brief the OPORD during the week of June 5, 2023. JTF-RH is working to solidify a start date for the tank mains defueling.

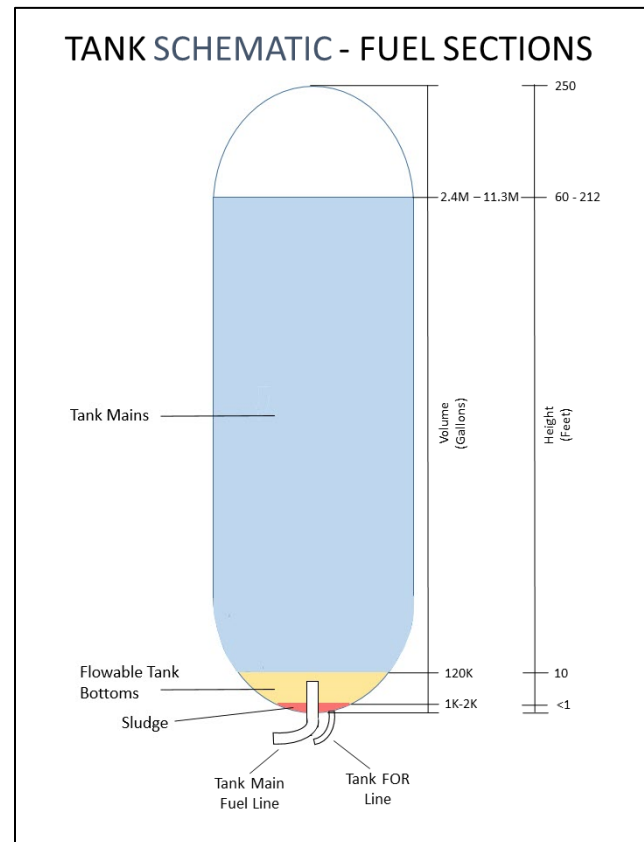


Figure 8 – Tank Schematic – Fuel Sections

### a. Tank Mains Defueling CONOP

JTF-RH will empty the tank mains in three sub-phases: (1) pipeline repack and equalization; (2) defueling alignments (tanks and valves); (3) defueling. Each sub-phase includes safety measures detailed below to ensure operators execute all necessary precautions. The Red Hill Tank Mains Defuel CONOP (*see* Encl (5)) specifies the actions for each phase, provides a graphical depiction of the fuel flow path from origin to destination, and prescribes personnel assignments by location. Further, the CONOP specifies the quantity of fuel estimated to transfer during tank mains defueling (*see* Table 3).

*Table 3- Defueling Quantities and Timelines for Red Hill Tank Mains*

Tank	Product	Volume (gals)	Estimated Time (hrs)*
2	F-24	10.0M	48
3	F-24	9.7M	46
4	F-24	6.2M	30
5	F-24	10.0M	48
6	F-24	6.0M	29
7	JP-5	8.2M	39
8	JP-5	4.6M	22
9	JP-5	11.2M	53
10	JP-5	3.3M	16
11	JP-5	2.4M	11
12	JP-5	8.9M	42
15	F-76	5.8M	28
16	F-76	5.9M	28
20	JP-5	11.3M	54

\* Based on 210,000 gal/hr flow rate

Total fuel transfer quantities by product during tank main defuel are as follows: F-24: 41.9M gallons, JP-5: 49.9M gallons, and F-76: 11.7M gallons. The total quantity is approximately 103.5 M gallons.

**b. Safety Measures for Tank Mains Defueling**

JTF-RH’s February 2023 PHA yielded 23 recommendations (2 critical, 13 serious, 1 moderate, 1 negligible, and 6 administrative) for tank main defueling operations and each were incorporated in the development of the tank main defueling CONOP. The role of safety in functions of key personnel, preparation and processes for tank mains defueling, is the same as those described in section II.B.2.b. (Repacking Lines).

**2. Flowable Tank Bottoms**

Pending receipt of DOH and EPA concurrence and unconditional approval, JTF-RH will conduct flowable tank bottom defueling from each of the 14 in-service Red Hill tanks (JP-5: 7 tanks, F-76: 2 tanks, F-24: 5 tanks). Following tank main defueling, approximately 120K gallons of fuel will remain in each tank bottom. This fuel is flowable (below the low suction point on the tank issue/receipt line) when aligned and transferred through the tank’s Fuel Oil Reclamation (FOR) line. Each in-service tank has a 4-inch FOR line that ties into a common 6-inch FOR line that travels to the end of the lower tank gallery before entering the main sump FOR sump. For tanks 2-12, 15 and 16, flowable tank bottoms will travel down the common 6-inch FOR line and tie into the JP-5 lateral pipeline at tanks 1/2 via a fixed pipe connection. See Figure 8. For tank 20, the tank FOR line will tie into the Tank 20 JP-5 lateral pipeline via a hose connection or bypass zone 7 sump via a fixed pipe connection. The flowable tank bottoms defueling CONOP and OPORD briefs to regulators are planned to be conducted in conjunction with the tank mains

defueling brief the week of May 18, 2023, and June 8, 2023, respectively. The flowable tank bottoms defueling will take place upon completion of the tank mains defueling.

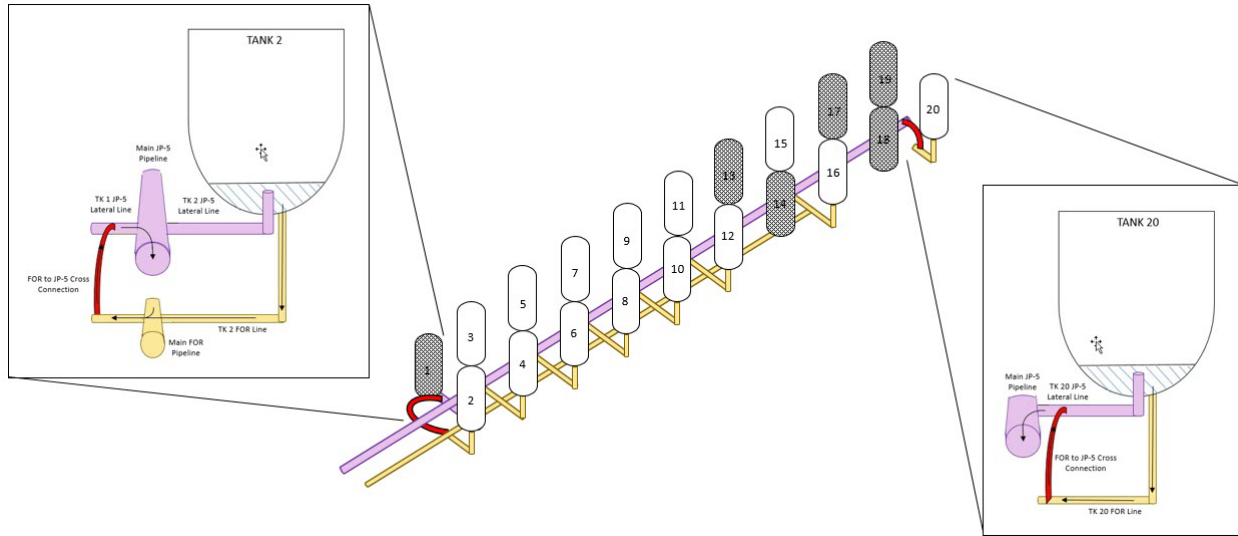


Figure 9 – Tank Bottom Flow Path

**a. Flowable Tank Bottoms CONOP**

The flowable tank bottoms will be drained using each tank's FOR line that goes to the main FOR line and then will be redirected into the JP-5 line to allow for gravity flow down to UGPH/Pier. If not redirected, FOR line would send fuel to main sump and then TK 311 outside Adit 3. JTF-RH will empty the flowable tank bottoms in three sub-phases: (1) JP-5 and FOR pipeline verification; (2) defueling alignments (tanks and valves); and (3) defueling. Each of the sub-phases includes safety measures detailed below to ensure operators are executing all necessary precautions. The Red Hill Flowable Tank Bottoms Defueling CONOP (*see* Encl (6)), specifies what actions will take place during each sub-phase, provides a graphical depiction of the fuel flow path from origin to destination, and prescribes personnel assignments by location. Further, the CONOP identifies the estimated fuel quantities transferred during flowable tank bottoms as shown in Table 4.



*Table 4- Defueling Quantities and Timelines for Red Hill Flowable Tank Bottoms*

Tank	Product	Volume (gals)	Estimated Time (hrs)*
2	F-24	120K	14
3	F-24	120K	14
4	F-24	120K	14
5	F-24	120K	14
6	F-24	120K	14
7	JP-5	120K	14
8	JP-5	120K	14
9	JP-5	120K	14
10	JP-5	120K	14
11	JP-5	120K	14
12	JP-5	120K	14
15	F-76	120K	14
16	F-76	120K	14
20	JP-5	120K	14

\* Based on 8,500 gal/hr flow rate

Total fuel transfer amount by product during tank bottoms defuel is F-24: 600K gallons, JP-5: 840K gallons, and F-76: 240K gallons. Combined total is approximately 1.68M gallons. DoD estimates that one tank can be completed in 14 hours.

**b. Safety Measures for Flowable Tank Bottoms Defueling**

The PHA generated four recommendations (2 serious, 1 minor, and 1 administrative) for flowable tank bottoms defueling operations, and JTF-RH incorporated each recommendation in the development of the CONOP. The role of safety in functions of key personnel, preparation and processes for tank mains defueling, is the same as those described in section II.B.2.b. (Repacking Lines).

**3. Unpacking Lines**

Pending DOH and EPA concurrence and unconditional approval, JTF-RH will unpack the two pipelines (F-24 and JP-5 from Red Hill to the UGPH) utilized for defueling the Red Hill tanks. JTF will generally follow the same unpacking procedures that it used in its successful unpacking of the pipelines in October of 2022 and will incorporate lessons learned from that unpacking project. JTF-RH will brief the Unpacking CONOP to DOH and EPA during the week of July 6, 2023, and will brief the OPORD during the week of July 27, 2023. Unpacking will commence immediately following gravity defueling. JTF-RH is working to solidify a start date.

**a. Unpacking CONOP**

JTF-RH will unpack the JP-5 and F-24 fuel lines in two phases: (1) pre-operation planning; (2) gravity-drain down. The low point drain suction that was part of the previous unpacking stage will now occur in the residual fuel removal stage, which requires contractor

assistance due to the scope of effort. For this unpacking evolution, each phase includes safety measures (defined below) to ensure that operators are executing all necessary precautions. The Unpacking Lines CONOP (*see* Encl.(7)) identifies the following fuel quantity that operators will remove from the pipelines: an estimated 203K gallons in the JP-5 pipeline, and an estimated 144K gallons in the F-24 pipeline. JTF-RH estimates unpacking both lines in one day.

#### **b. Safety Measures for Unpacking Lines**

The PHA generated one administrative recommendation for unpacking lines. The previous unpacking evolution completed in November 2022 incorporated recommendations identified in the February 2022 PHA, and JTF-RH's successful completion of the prior unpacking evolution validated the operational concept. The role of safety in functions of key personnel, preparation and processes for tank mains defueling, is the same as those described in section II.B.2.b. (Repacking Lines).

#### **4. Surge Tanks**

JTF-RH is currently developing CONOPs to defuel the surge tanks. JTF-RH projects that Surge Tank defueling activities can occur in various sequences of activities and will work with regulators to identify the optimal timing for Surge Tank defueling. There are four surge tanks with an approximate total of 480K gallons of fuel that will be drained. Each Surge Tank will be defueled in 2 sub-Phases. Sub-Phase 1: contractors will pump fuel out using an FLC organic pump or a diaphragm pump until loss of suction. Sub-Phase 2: Drain residual fuel using 4" Reclaim Line. Surge Tank 1 contains F24, which will be transferred to Hickam/UTF using the FLC organic pump until loss of suction. Surge Tanks 2-4 contain JP5, F76, and F76 respectively, which will be transferred to Tank 301 using a diaphragm pump until loss of suction. The residual fuel in all four surge tanks will be drained using the 4" Reclaim Line to the Fuel Oil Reclaim Facility (FORFAC) via the UGPH Sump. JTF-RH is developing a plan to complete prior to repacking. JTF-RH will provide the CONOPs to DOH and EPA on May 18, 2023.

### III. Next Deliverables

DoD will provide the following deliverables identified in Table 3 to DOH and EPA.

Table 5 – List of Deliverables

Deliverable	Due to DOH	Concurrence from DOH
Monthly QV Submission to DOH/EPA	5/1/2023	5/31/2023
Defueling Supplement 2 to DOH/EPA	5/15/2023	6/29/2023
Surge Tank Defuel CONOP	5/18/2023	6/2/2023
Main Tank Defuel CONOP to DOH/EPA	5/19/2023	6/18/2023
Tank Bottom CONOP to DOH/EPA	5/19/2023	6/18/2023
Monthly QV Submission to DOH/EPA	6/1/2023	7/1/2023
Final QV Submission to DOH/EPA	7/1/2023	7/31/2023
Unpacking CONOP to DOH/EPA	8/27/2023	9/26/2023
Defuel Preparedness Report	9/01/2023	10/01/2023
Additional supplement addressing plan to remove residual fuel	TBD	

### IV. Conclusion

JTF-RH remains focused on the safe and expeditious defueling of Red Hill. To avoid any confusion or ambiguity and in the spirit of transparency, DoD acknowledges that a substantial amount of fuel (between 100,000 and 400,000 gallons) will remain in RHBFSF at the conclusion of defueling actions covered in this supplement. DoD will provide DOH and EPA with additional supplements as needed to comprehensively address all additional actions necessary to ensure removal of all fuel from RHBFSF.

Through continued collaboration among multiple stakeholders, JTF-RH continues to identify opportunities to safely accelerate defueling and looks forward to continued collaboration with DOH, EPA, and other stakeholders. DoD's commitment to protect the people of Hawaii, the environment, and the security of the nation will guide JTF-RH actions in implementing the defueling plan.

## V. Acronyms

<b><u>Acronym</u></b>	<b><u>Meaning</u></b>
ACP	Access Control Point
AFFF	Aqueous Film Forming Foam
AFHE	Automatic Fuel Handling Equipment
AISC	American Institute of Steel Construction
API	American Petroleum Institute
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
AST	Above-Ground Storage Tank
ATG	Automatic Tank Gauging
BFP	Backflow Prevention
CCC	Cross Connection Control
CFR	Code of Federal Regulations
CIR	Clean, Inspect and Repair
CNRH	Commander, Navy Region Hawaii
COA	Course of Action
COCO	Contractor Owned / Contractor Operated
COMNAVREG HI	Commander, Navy Region Hawaii
CONOP	Concept of Operations
CPF	Commander, US Pacific Fleet
CPM	Critical Path Method
CRO	Control Room Operator
DBB	Double Block and Bleed
DCR	Demand-to-Capacity Ratios
DFM	Diesel Fuel – Marine
DFSP	Defense Fuel Support Point
DISF	Defueling Information Sharing Forum
DLA	Defense Logistics Agency
DoD / DOD	Department of Defense
DoH / DOH	Department of Health
DOT PHMSA	Department of Transportation, Pipeline Hazardous Materials Safety Administration
EA / OEA	Environmental Assessment / Overseas Environmental Assessment
EO	Emergency Order
EOC	Emergency Operations Center
EPA	Environmental Protection Agency
ERP	Emergency Response Plan

<b><u>Acronym</u></b>	<b><u>Meaning</u></b>
EXWC	Engineering and Expeditionary Warfare Center
FE	Finite Element
FFS	Fitness for Service
FLC PH	Fleet Logistics Center Pearl Harbor
FOR	Fuel Oil Reclamation or Recovery
FRP	(Red Hill Fuel Storage) Facility Response Plan
FRT	Facility Response Team
GAO	Government Accountability Office
HAR	Hawaii Administrative Rules
HAZMAT	Hazardous Material
HAZOP	Hazard and Operability
HI DOH	Hawaii Department of Health
HP	Hotel Pier
HPV	High Point Vent
HRS	Hawaii Revised Statutes
ICP	Integrated Contingency Plan
ICS	Incident Command System
IDWST	Interagency Drinking Water System Team
IG	Inspector General
IMP	Integrity Management Plan
ISRT	Interagency Spill Response Team
ITO	Internal Training Officers
JB	Joint Base
JBPHH	Joint Base Pearl Harbor Hickam
JTF-RH	Joint Task Force – Red Hill
LAT	Lower Access Tunnel
LL	Lessons Learned
LOTO	Lock out Tag Out
LPD	Low Point Drain
MOC	Management of Change
MSC	Military Sealift Command
MTG	Manual Tank Gauging
NAVFAC	Naval Facilities Engineering Systems Command
NAVFAC HI	Naval Facilities Engineering Systems Command Hawaii
NAVSUP	Navy Supply Systems Command
NDAA	National Defense Authorization Act
NEPA	National Environmental Policy Act

OEA	Overseas Environmental Assessment
OMES	Operation, Maintenance, Environmental and Safety Plan

<u>Acronym</u>	<u>Meaning</u>
OPORD	Operation Order
ORA	Operational Readiness Assessment
OSC	On-Scene Coordinators
OSD	Office of the Secretary of Defense
OSHA	Occupational Health and Safety Administration
OSRO	Oil Spill Response / Recovery Organization
PACFLT	US Pacific Fleet
PAO	Public Affairs Office
PCAR	Preliminary Condition Assessment Report
PHA	Process Hazard Analysis
PIT	Pressure Indicating Transducer / Transmitter
PITS	Pressure Indicating Transducer Sensors
POL	Petroleum, Oil, and Lubricants
PPE	Personal Protective Equipment
PS	Pipe Support
PSM	Process Safety Management
PVC	Polyvinyl Chloride
PWS	Public Water System
QA	Quality Assurance
QC	Quality Control
QI	Qualified Individual
RBPS	Risk-Based Process Safety
RFI	Request for Information
RH	Red Hill
RHBFSF	Red Hill Bulk Fuel Storage Facility
RHDCDWG	Red Hill Defueling Coordination and De-confliction Working Group
ROC	Regional Operations Center
RP	Recommended Practices
RRA	Risk and Resilience Assessment
SCADA	Supervisory Control and Data Acquisition
SECNAV	Secretary of the Navy
SGH	Simpson Gumpertz & Heger Inc.
SIM	Structural Integrity Management
SME	Subject Matter Expert
SMT	Spill Management Team
SOW	Statement of Work
SUPSALV	Naval Sea Systems Command Supervisor of Salvage and Diving

UGPH	Underground Pump House
USINDOPACOM	United States Indo-Pacific Command
USTRANSCOM	United States Transportation Command
UTF	Upper Tank Farm



Enclosure (1) to  
Red Hill Bulk Fuel Storage Facility, Oahu, Hawaii  
15 May 2023 Supplement 2

## **Defueling Fire Suppression CONOP**

Enclosure (2) to  
Red Hill Bulk Fuel Storage Facility, Oahu, Hawaii  
15 May 2023 Supplement 2

## **Spill Response Scenarios**



Enclosure (3) to  
Red Hill Bulk Fuel Storage Facility, Oahu, Hawaii  
15 May 2023 Supplement 2

## **Oil Pressure Door CONOP**

Enclosure (4) to  
Red Hill Bulk Fuel Storage Facility, Oahu, Hawaii  
15 May 2023 Supplement 2

**Red Hill F-24/JP-5  
Repacking Lines CONOP  
(UTF Equalization, B1554 Pump)**

Enclosure (5) to  
Red Hill Bulk Fuel Storage Facility, Oahu, Hawaii  
15 May 2023 Supplement 2

**Red Hill Tank Mains Defuel CONOP**  
(2 tankers per week no pumps)

Enclosure (6) to  
Red Hill Bulk Fuel Storage Facility, Oahu, Hawaii  
15 May 2023 Supplement 2

## **Red Hill Flowable Tank Bottoms Draining CONOP**

Enclosure (7) to  
Red Hill Bulk Fuel Storage Facility, Oahu, Hawaii  
15 May 2023 Supplement 2

## **Red Hill Unpacking Lines CONOP**



Enclosure (8) to  
Red Hill Bulk Fuel Storage Facility, Oahu, Hawaii  
15 May 2023 Supplement 2

## **JTF-RH Integrated Master Plan (IMS)**