Red Hill Bulk Fuel Storage Facility, Oahu, Hawaii

September 7, 2022 Defueling Plan Supplement 1.A

Department of Defense September 7, 2022 Red Hill Defueling Plan Supplement 1.A. (September 7, 2022) —

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INTRODUCTION

On June 30, 2022, the Department of Defense (DoD) provided to the Hawaii Department of Health (DOH) a plan to defuel the Red Hill Bulk Fuel Storage Facility (Red Hill or RHBFSF). That plan outlined a framework and initial milestones to put DoD on course to achieve the completion of defueling Red Hill "at the earliest date consistent with the safe defueling of the facility," as required in DOH's May 6, 2022 Superseding Emergency Order. DoD constructed the plan based on the information that was available in June of 2022. DoD noted, and DOH and the Environmental Protection Agency (EPA) have acknowledged, that the defueling plan is iterative, meaning that its milestones and overall timeline are subject to revision based on the discovery of new information and based on the updated analyses of subject matter experts, both within DoD and outside of DoD.

Based on new information and analysis, **DoD has refined projections for certain internal time periods and—as of September 7, 2022—projects a defueling completion date in July of 2024, approximately six months earlier than projected in the June 30 plan.** DoD continues to seek efficiencies and to make informed tradeoffs, wherever possible, to condense timelines without compromising safety. The defueling plan is still iterative, and DoD continues to consider incoming information and studies, some of which may recommend additional work that the defueling plan does not currently address.

Part I of this September 7, 2022 supplement to DOH provides several updates to the June 30 defueling plan, including:

- a discussion of how DoD will incorporate community engagement into its defueling planning and implementation of the plan;
- an explanation of how DoD proposes to safely "unpack" the pipelines in the facility in order to perform repairs and upgrades to those lines;
- an interim progress update on infrastructure repairs and enhancements;
- a discussion of training improvements; and
- an update on the defueling plan's overall timelines.

Part I also previews additional detailed information that DoD plans to provide DOH in its next supplement later this month. Part II of this supplement contains DoD's responses to DOH's questions and comments in its July 22, 2022 letter to Commander, Navy Region Hawaii.

I. September 7, 2022 Updates to Department of Defense Defueling Plan

A. Community Engagement Updates

DoD recognizes that the 2021 incidents at Red Hill diminished trust between DoD and the people of Hawaii. DoD—at all levels, starting with the Secretary, the Deputy Secretary, and the Secretary of the Navy—is committed to rebuilding that trust and ensuring that the Department follows through on its promises of transparency and coordination with military families, the civilian workforce, and the people of Hawaii. The Joint Task Force Red Hill (JTF-RH), which will begin its work this fall, will lead DoD's engagement with the community on the defueling

process and other Red Hill issues. One of the JTF-RH's key roles is building upon the enhanced engagement approach that local Navy officials have adopted in recent months.

Over the past ten months, DoD has conducted multiple public engagements to keep military families, the civilian workforce and other community members informed on the status of the defueling plan, listen to their concerns, and make resources available to address their concerns. Most notably, DoD held in-person public information meetings, virtual public information sessions, and regular Facebook Live social media updates, and DoD attended monthly neighborhood board meetings, regular sessions at public regulatory meetings, and State of Hawaii House and Senate Committee meetings. Below are some additional ongoing efforts by DoD:

- DoD continuously updates its Joint Base Pearl Harbor Hickam (JBPHH) water information website – www.navy.mil/jointbasewater. DoD is adding to the site a defuel section where it will post relevant information on progress and milestones to the defueling plan.
- DoD has inserted community outreach into the detailed defueling timeline (Figure A of Enclosure (5)). Some of these outreach activities align with specific milestones, while others are regularly-occurring opportunities to engage with the public.

Upon reaching initial operating capability later this month, the JTF-RH will coordinate all defueling-related communication and engagement efforts with DOH and EPA. DoD's next defueling plan supplement will provide additional details about the composition and mission of the JTF-RH. The Department of the Navy will retain lead responsibility for safe drinking water efforts, underground storage tank (UST) closure planning, and release response efforts.

B. DoD's Unpacking Plan

As discussed in the June 30 plan, an initial step in the overall defueling process is draining, or "unpacking," of fuel that is currently in the pipelines at Red Hill. Unpacking is necessary prior to undertaking certain repairs or enhancements (e.g. prior to welding pipelines that contain fuel). Unpacking is less intensive than the tank defueling operations but will require limited use of the distribution system. Because unpacking involves no external pressure in the lines, no movement of fuel from the tanks, and significantly less fuel to move than defueling, unpacking operations are relatively low-risk. As discussed below and in the Enclosure (1) unpacking plan, DoD will take measures to reduce any risk and to ensure that operators complete the unpacking safely. DoD plans to commence unpacking operations in October of 2022.

1. Unpacking Plan Overview

DoD will fully unpack all three fuel lines in four phases: (1) Phase 1: pre-operation planning; (2) Phase 2: valve maintenance/operational check/pressure equalization; (3) Phase 3: gravity-drain down; and (4) Phase 4: vacuum truck suction for residual fuel. As discussed below, each of these phases includes safety measures to ensure that operators are taking all necessary precautions. The unpacking plan details the total amount of fuel that operators will remove from the pipelines: approximately 220,000 gallons of fuel in the JP-5 pipeline,

approximately 170,000 gallons of fuel from the F-24 pipeline, and approximately 690,000 gallons from the F-76 pipeline. DoD expects to unpack a majority of the fuel from each pipeline via gravity flow. DoD estimates that it can complete gravity-flow unpacking in a matter of hours.

Following the gravity-flow unpacking, operators will remove the remaining fuel from the pipeline using vacuum trucks, which will vacuum out the fuel from each product line. The vacuum operation will take place on Pearl Harbor outside of the Under Ground Pump House at Valve Station 1C, away from the Red Hill well. DoD will complete the residual fuel removal over the course of several days. The table below summarizes the estimated quantities and approximate time required to unpack each pipeline.

Table 1- Unpacking Quantities and Timelines

Product	Total Volume (gallons)	Volume Removed by Gravity Flow (gallons)	Time to Remove by Gravity Flow **(hours)**	Volume Removed by Vacuum Truck (gallons)	Time to Remove by Vacuum Truck **(days)**
F24	170,000	150,000	2	20,000	3
JP5	220,000	195,000	3	25,000	2
F76	690,000	620,000	2	70,000	5

2. Safety Measures for Unpacking

The unpacking plan identifies and describes the functions of all key personnel required to conduct safe unpacking operations, including: environmental personnel, operators, and safety and spill response personnel. 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 unpacking operations and, prior to commencement of unpacking, will verify all valve positions. DoD will use validators to verify these inspections and confirm proper operation of valves to ensure correct system configuration. Finally, DoD will assign roving watchstanders to monitor the pipeline during the unpacking process. These manpower redundancies will provide needed controls to minimize the risk of human error.

The unpacking training plan includes spill response drills to prepare for various scenarios, including a "worst case" spill scenario. To address these various spill scenarios, DoD is taking several measures to plan for a robust and effective response to any release and to ensure that fuel cannot reach the Red Hill well. DoD has a particularly robust spill response plan for areas near Adit 3, because of its close proximity to the Red Hill well. DoD will erect barriers to redirect any flow away from Adit 3 and the Red Hill Shaft. The first sites for the barriers are outside the elevator shafts, which will minimize the risk that any spilled fuel would collect at the bottom of an elevator shaft. The second barrier location will be immediately upslope of the wye that separates Adit 3 from the harbor tunnel and will divert any spill of fuel away from Adit 3 and the Red Hill Shaft Pump room.

In addition to barriers, DoD will pre-position absorbents, booms, and fuel skimmers in the lower access tunnel (LAT) in Adit 3 and in the Red Hill shaft pump room prior to unpacking. This pre-positioned equipment will complement the barriers by allowing operators and safety personnel to remove any fuel that is spilled.

3. DOH Concurrence

DoD is submitting with this supplement its unpacking plan, which local Navy operators developed and which includes detailed planning for operations, training, and spill drills. *See* Enclosure (1), unpacking plan; *see also*, Enclosure (2), draft unpacking spill drill plan. Additionally, DoD has scheduled a comprehensive unpacking drill on September 22, 2022. DOH and EPA will observe this comprehensive drill and provide any inputs to DoD prior to DoD's commencement of unpacking. *See also*, *infra,* Table 6 – Defueling plan submittal and concurrence schedule.

C. Infrastructure Repairs and Enhancements

DoD continues to assess, develop, and execute infrastructure repairs and enhancements to the Red Hill facility. The Defueling Plan dated June 30, 2022 focused on the 43 activities associated with the critical defueling recommendations identified in the Simpson Gumpertz & Heger, Inc. (SGH) report dated April 29, 2022 that support defueling. DoD continues to address the existing SGH recommendations by developing scopes of work, awarding contracts, refining technical solutions, and in some cases developing alternative solutions that would condense the critical path for defueling activities.

As of the submission of this supplement, DoD has completed five of the SGH infrastructure recommendations (*see* Table 2). These completed work items are pending third party verification and concurrence by DOH.

Table 2 – Completed Phase 3 Work

SGH ID No.	Specific Requirement
LAT-32	Install protection around overhead valve (PS 27)
LAT-20	JP5 pipe - Install lateral restraint at PS 18
PM-19	JP5 pipe - Connect lateral to protect dresser coupling (Tank 20)
PM-20	JP-5 pipe - Connect lateral to protect dresser coupling (Tank 18)
8	Confirm dresser couplings can seal under vacuum conditions

Of the remaining SGH-recommendations, 30 recommendations are in various stages of development and/or execution (*see* Table 3). These 30 infrastructure recommendations have varying activities underway including assessments, scope development, design, or physical work.

Table 3 – SGH Recommendations Underway

SGH ID No.	Specific Requirement

1	Perform surge analysis for pipelines (JP5, F76, F24); evaluate dresser couplings
31	Evaluate underlying cause of line sag
32	JP5 / F76 pipes - Evaluate need for dresser couplings and remove if possible
14	Evaluate pipe and hose rating between RH and piers / docks
PM-25	Tank 10 12" dresser coupling - Provide thermal blanket
28	Confirm oil tight door can operate upon loss of normal power
LAT-40	Replace column and anchorage (PS 47)
LAT-41	Replace column and anchorage (PS 48)
LAT-42	Replace beam (PS 48)
LAT-46	Replace beam & connect to tunnel wall (PS 69-71)
LAT-55	Repair / provide pipe cradle (PS 6)
AGP-1	F76 line - Repair pipe sections (North Road)
AGP-2	F76 line - Repair pipe sections (North Road)
HT-3	FOR line - Assess pipe integrity and repair as appropriate (PS 124)
HT-6	FOR line - Assess pipe integrity and repair as appropriate (PS 146)
27	Equalization Line - Install across tank isolation valves
PM-1	Equalization Line - Install bypass from Tank 20 to other side of DBB valve (JP5 pipe)
PM-2	Equalization Line - Install bypass after Tank 20 ball valve to main lateral (JP5 pipe)
PM-5	Equalization Line - Install bypass from Tank 6 to other side of DBB valve (F24 pipe)
PM-6	Equalization Line - Install bypass after Tank 6 ball valve to main lateral (F24 pipe)
6	Install Pressure Indicating Transducer Sensors (PITS) in Tank Gallery
LAT-32	JP5 pipe - Confirm system can withstand surge event; modify if necessary
PM-21	JP5 pipe - Connect laterals to protect 20" dresser couplings
PM-22	JP5 pipe - Connect laterals to protect 12" dresser couplings
LAT-24	F24 pipe - Install lateral stops PS 21-103
PM-10	JP5 pipe - Analyze system for surge events; provide axial restraint (Tanks 5, 13-14, 17-20)
PM-11	F24 pipe - Evaluate and design (if required) longitudinal restraints (Tanks 15 & 16)
LAT-38	Replace brace (PS 46-47)
LAT-47	Provide lateral stops & reset pipe cradle (PS 73)
LAT-48	Provide cradle and lateral stops (PS 74)

Finally, DoD believes that it can meet the overall safety objectives of several long lead repair recommendations but also reduce the overall timeframe for defueling by replacing those long lead work items with different technical solutions and/or operational procedures. DoD proposes addressing eight SGH recommendations with alternative solutions that mitigate risk while reducing schedule times. (*see* Table 4 and Table 5). DoD has identified alternative means to mitigate the relevant risk that drove three SGH recommendations associated with the F-76 line. DoD now assesses that it is not necessary to repair the F-76 line, as DoD can safely

complete the defueling of all tanks by utilizing the JP-5 and F-24 fuel lines. Because the two tanks storing F-76 (tanks 15 and 16) are already connected to the JP-5 line, DoD can reroute the F-76 product to the JP-5 line, simply by changing the flange at those tanks. This non-intrusive adjustment would remove the need to repair the F-76 line. It would also remove the need to complete the two recommended bypass installations on the F-76 pipe.

Table 4 – SGH Recommendations for Defueling F-76 Product with Alternative Solutions

SGH ID No.	Specific Requirement
PM-3	Equalization Line - Install bypass from Tank 15 to other side of DBB valve (F76 pipe)
PM-4	Equalization Line - Install bypass after Tank 15 ball valve to main lateral (F76 pipe)
PM-12	F76 pipe - Evaluate and design (if required) longitudinal restraints (Tanks 15 & 16)

In addition to the F-76 line recommendations, DoD also has identified five SGH recommendations that it believes are not required for safe defueling, and DoD proposes alternative approaches to address the relevant risk and to reduce the overall defueling timeline. Those additional recommendations for deferral are listed in Table 5:

Table 5 – Additional SGH Recommendations with Alternative Solutions

SGH ID No.	Specific Requirement
HP-14	Hotel Pier - Replace PVC drain pipe
LAT-15	AFFF Retention Line - install protection to overhead valve (PS 14-15)
LAT-29	AFFF Retention Line - install protection to overhead valve (PS 26)
LAT-44	AFFF Retention Line - install protection to overhead valve (PS 61)
HT-12	AFFF Retention Line - install protection to overhead valve (Adit 3)

Hotel Pier (HP-14): DoD assesses that this recommendation is not a prerequisite for safe defueling. SGH recommended that DoD replace a PVC fuel/oil recovery (FOR) line on Hotel Pier at Pearl Harbor with a steel line. While steel provides additional resiliency, additional resiliency for this line would not translate to a meaningful increase in overall defueling safety, as DoD does not plan to use this secondary line for defueling. The purpose of this pipeline is to capture any liquid that enters the covered concrete trench located beneath the surface of the pier. This trench contains the F-76, JP-5 and F-24 pipelines and provides secondary containment for those pipelines. Any liquid (whether it is typical rainwater or fuel that is released from a breach in the pipeline) entering this trench drains into the PVC pipeline which directs flow to a sump on the pier.[1] If fuel did enter this line, DoD has in place operational procedures to drain the line quickly. DoD will also place a floating boom around the entire pier during defueling operations to contain any inadvertent discharges of fuel to the harbor.

[1] The sump pump directs any fuel products to the fuel oil reclamation facility (FORFAC), where it can be treated and properly dispositioned. Alternatively, flow in this sump can be redirected to the harbor once operators verify that no fuel is in the sump.

Aqueous Film Forming Foam (AFFF) Reclamation System (SGH, LAT-15, LAT-29, LAT-44, HT-12): The AFFF fire suppression system at Red Hill remains fully operational to extinguish a fire. The original PVC AFFF reclamation line, which is the subject of the above four SGH recommendations, was designed to recover and remove AFFF *after* activation of the system. As SGH found, the AFFF reclamation line is unusable because of the damage sustained from holding fuel for an extended period of time.

However, notwithstanding the deactivation of this line, Red Hill has a reliable secondary capability to recover discharged AFFF, and DoD proposes continuing to use the in-place reclamation capabilities during unpacking and defueling operations. In the event of a fire and AFFF system activation during repairs or defueling, the pump in each AFFF retention sump would transfer any fluid to the fuel/oil recovery tank via installed metal piping. These pumps have lower capacity than those in the primary recovery system, and this lower capacity could marginally prolong the period of time fire suppression agent remains on the surface of the Red Hill tunnel before responders can reclaim it.[2] But even with that reduced pumping capacity, DoD assesses that the functional reclamation system would sufficiently remove the AFFF (or other substance) from the tunnel surface and that DoD can activate supplemental response procedures to recover any discharged AFFF or fuel that remains on the surface. Thus, DoD assesses that current reclamation system, when combined with additional protective measures, does not create any significant risk of AFFF or fuel entering the environment.

Because restoring the AFFF reclamation system to rated capacity would involve system re-design and would likely extend the defueling timeline, and because DoD can rely on its in-place reclamation system, DoD proposes to defer work on the four SGH AFFF reclamation line recommendations. DoD intends to take the following additional steps to mitigate any risk of AFFF or fuel entering the environment and particularly the Red Hill shaft:

1) Inspecting the lower access tunnel (LAT) to identify compromised areas of the concrete floor and repairing those areas prior to unpacking.
2) Conducting a thorough review of existing records (e.g. decommissioned pipeline from the former slop tank near Adit 6 and decommissioned fuel line from former power plant generator, etc.) to confirm there are no preferential pathways to contaminate the environment.
3) Designing a method to redirect flow down the harbor tunnel away from Adit 3 and the Red Hill Shaft if a spill were to occur.
4) Assessing methods to test the tightness of the main sumps to confirm their integrity and prevent any release of the fire suppression agent into the environment.
5) Evaluating the bottom of both elevator shafts to confirm that there are no pathways for any fuel that is collected to be released into the environment.

[2] This lower capacity pump in each of the five AFFF recovery sumps in the lower tank gallery has a nominal capacity of 100 gallons per minute. If a fire were to occur, a worst case fire scenario would release approximately 24,000 gallons of water/AFFF solution which would be expected to be recovered from the lower tank gallery and AFFF sumps within approximately 4 hours.

DoD has briefed DOH in detail on its assessment of all options considered for AFFF reclamation, and DoD will continue these discussions with the shared goal of defueling Red Hill at the earliest date feasible, consistent with safety of the community and the environment.

DoD may identify in the future additional opportunities for alternative solutions that mitigate risk and also reduce the defueling timeline. Prior to adopting these or other alternative solutions that depart from an SGH or other independent recommendation, DoD will seek SGH's recommendation and DOH's concurrence.

D. Training

1. Operator Training

Program Changes

DoD updated its Operational Training Program to improve overall safety and functional knowledge for personnel involved in JBPHH fuel operations and supporting infrastructure. In April of 2022, DoD created a series of teams to focus on site specific configuration management, project management, and Lock-out/Tag-out programs. Collectively, the efforts improved institutional understanding of infrastructure conditions, which led to greater fidelity of operational planning. DoD has embedded into Naval Supply Systems Command (NAVSUP) Fleet Logistics Center (FLC) Pearl Harbor Fuels Department a third-party contractor that is an industry expert in safety, training, engineering, and Hazard and Operability Analysis (HAZOP). This embedded contractor team is assisting in development and implementation of a sustainable site-specific operational training program. Additionally, DoD—through NAVSUP FLC Pearl Harbor— is adding 37 personnel, who will onboard between now and November 2022, to further support training, safety, maintenance, and operations.

Concept of Operations (CONOPs) and Operation Orders (OPORDs) are the first two critical operational planning documents generated for all Red Hill fuel evolutions. In April 2022, DoD established a continuous process improvement effort at Defense Fuel Support Point (DFSP) JBPHH to eliminate ambiguity from the OPORDs, thereby increasing standardization of operator inputs and resulting outputs throughout fuel movement evolutions. DoD also has developed and implemented a third critical operational planning document, Valve Alignment Baseline Orders (Baselines), which ensure that valves are positioned correctly before the start of a fuel movement evolution. Upon completion of the fuel movement evolution, the OPORD specifies that valve positions must return to a baseline configuration.

Training Program

DoD's Red Hill operational training program applies lessons learned from Red Hill operations and incidents, as well as comments provide by EPA and DOH during EPA's site inspection in February and March of 2022. As the critical operational planning documents, CONOPs, OPORDs, and Baselines inform the training program for fuel movement evolutions. Supervisors, product developers, and supporting workforce discuss, train on, and walk through the details of each of the three critical operational planning document in advance of any

evolution. For proposed Red Hill fuel movement evolutions, operators will brief supervisors, senior leaders, and regulatory authorities (EPA and DOH) as part of the approval and certification process to prove training effectiveness and readiness. DoD will incorporate any feedback from those briefings prior to generating the final revisions to the planning documents. DoD will use the finalized planning documents to brief the evolution with the assigned personnel on the day of the operation.

2. Environmental and Safety Training

Planning Documents

A key component of safe defueling is the appropriate planning, response actions, and associated training related to potential petroleum discharges. While JBPHH maintained an existing Spill Prevention, Control, and Countermeasures Plan (SPCC) and existing Facility Response Plan (FRP), it has recently updated those plans to enhance procedures in place and training to promote safe defueling. DoD is attaching to this supplement the updated draft plans. *See* Enclosure (3), Revised Draft SPCC Plan and Enclosure (4), Revised Draft FRP. The draft SPCC and FRP plans now contain measures related to the piping system between the RHBFF and the Pump-House at JBPHH. As revised, these plans document actual or planned implementation of corrective actions and clarification of spill response procedures and responsibilities. The updated plans reflect operational improvements made in response to the Navy's Command Investigation and incorporate lessons learned from the May 6, 2021 and Nov 20, 2021 releases.

The FRP addendum, in particular, identifies resources available to respond immediately to small, medium, and worst-case scenario spills at various locations in and outside the Lower Access Tunnel (LAT). Collectively, the revised SPCC and FRP plans include:

1) Discussion of how DoD has addressed fuel containment weaknesses that it identified during inspections and drills, including how it has developed contingency plans to add adequate spill containment capacity or response resources;
2) Evaluation of defueling operating procedures and incorporation of best management practices to prevent and respond to spills;
3) Development of a unified command structure in accordance with Integrated Command System principles.

General Program Changes

DoD has updated the Spill Response Program to improve command and control and overall response capabilities. DoD added two additional dedicated spill responses positions, bringing the total number of spill response positions to five. There also are approximately 50-150 additional trained individuals to respond to a spill. For this new construct, the plans include the updated roles and responsibilities for spill response and reporting by the installation and Region personnel.

Training

DoD has marshalled multiple resources and personnel into a training program that addresses both internal lessons learned from Red Hill incidents, as well as comments provide by EPA and DOH. Moreover, DoD already has initiated spill training exercises both for unpacking and for defueling. DoD has coordinated closely with EPA and DOH representatives to ensure that those functional drills will be full scale exercises that are in compliance with the FRP and with regulatory standards. Together, the exercises will confirm the readiness for deployment of Oil Spill Removal Organization (OSRO) and other resources, booming of the Harbor, use of clear maps and figures of staging areas for equipment and response activities, and the establishment of Incident Command Posts.

Specific training conducted to date includes:

- On 25 May 2022, Commander Navy Region Hawaii (CNRH) Department Heads, Naval Facilities Engineering Command Hawaii (NAVFAC HI) leadership, JBPHH Commanding Officer and various Command Staff, and FLC/Defense Logistics Agency (DLA) leadership received on-scene coordinator training. The training focused on: roles and responsibilities, command structure, response protocols, cleanup procedures, and contracts available. Additionally, the training had a robust discussion period to clarify uncertainties, address seam issues, and highlight various responses that have recently occurred throughout DoD.

- On July 19, 2022, the DoD conducted an internal pre-communications exercise notification seminar specific to the RHBFSF. This seminar looked to establish clear roles and responsibilities pertaining to spill notification procedures, in the event a spill occurs at the RHBFSF. Participants included representatives from: JBPHH Commander/Chief Staff Office; FLC; Federal Fire/Regional Dispatch Center; NAVFAC Environmental Spill Response Team (SRT); JBPHH Internal Training Officers (ITOs); Regional Operations Center (ROC); CNRH Navy On-Scene Coordinator (NOSC); JBPHH Qualified Individual (QI); CNRH Public Affairs Office; amongst others. From this seminar, a RHFSF Notification Call Tree was developed to ensure effective and efficient communication in response to a potential petroleum spill.

- On August 3, 2022, DoD held a Notification Tabletop Exercise (TTX) for the RHBFSF Notification Call Tree. The objectives of the exercise were to:

    - Verify the accuracy of the RHBFSF notification call tree (e.g. Are the necessary entities being informed? Are the contact numbers provided correct?);
    - Measure the amount of time needed to make all the calls in the notification tree (e.g. Are regulatory agencies being notified within 20 minutes of spill discovery?);
    - Evaluate whether information is being documented for reporting purposes (How much of the necessary information is being collected to report back to leadership for the purposes of internal messaging?); and
    - Agree on the flow of information back up through the notification call tree for reporting purposes and leadership updates.

The TTX included the same participants as the July 19, 2022 pre-communication exercise but also included State OSCs.

- On August 23, 2022, DoD conducted a functional exercise geared around a hypothetical small-scale spill at RHBFSF. The goal was to exercise the Notification Call Tree from the field/respective posts and test the capabilities of the QI/Installation staff, including deploying small-scale equipment. DoD activated the Installation Emergency Operation Center (EOC) and the ROC, and it included State OSCs in the exercise. This drill allowed DoD to solidify procedures, ensure response times, and troubleshoot any potential issues that could arise.

  Key takeaways noted during the process included:

  - DoD must diligently reinforce notification procedures to ensure that all regulatory notifications were completed;
  - Personnel must be staged at the gate to meet emergency response personnel; and
  - Checklists need to be created to ensure appropriate information can be provided to outside agencies in a timely manner.

DoD will conduct an additional phase II functional exercise on September 22, 2022 to address a hypothetical worst-case spill scenario from unpacking operations. This exercise will include the participation of the supporting OSRO, the pre-positioning of resources, and activating the JBPHH EOC and CNRH ROC. State OSCs, EPA Federal OSC, and Coast Guard Federal OSC will provide oversight of the exercise.

To support this upcoming exercise, DoD has scheduled bi-weekly coordination meetings to finalize spill plans, discuss strategies, and address operational concerns and impacts, so that personnel from all involved parties understand the challenges, their respective roles, and goals of the exercise. Particular emphasis will be placed on potential pathways to the environment in the LAT and into the Adit 3 (including any breaches in concrete, groundwater sump and Hume line, soil vapor probes, and groundwater monitoring wells) to evaluate potential exposure to the environment in the event of a spill. DoD will continue assess, repair and seal as necessary any cracks and spalling. DoD will also deploy diversion structures at Adit 3 to preclude a release to the environment, and DoD will supplement those structures with industrial spill mats to cover drains and other features that cannot be sealed with other solutions. DoD will preposition spill equipment and booms at the receiving waters for port operations. And DoD will coordinate with state and federal OSCs to complete an after-action report following the exercise to ensure continuous improvement of the spill/emergency response program.

Following unpacking, DoD will work with federal and state OSCs to design additional enhanced exercises to simulate and prepare for a worst-case scenario for defueling.

E. Defueling Plan Timeline Updates

In the June 30 Defueling Plan, DoD acknowledged that it did not have a complete critical path schedule and that it would provide an updated schedule in a September 2022 supplement.

Since that time, DoD has developed more detailed defueling timelines. Increased planning fidelity has revealed that DoD is on track to complete defueling approximately six months earlier than initially forecasted: in July of 2024, rather than December of 2024. DoD is attaching to this supplement its detailed critical path method (CPM) schedule, built from Microsoft Projects, for defueling Red Hill. *See* Enclosure (5).

The CPM schedule details all key activities, including training, spill response, operations, repairs, quality assurance, and community engagement to defuel Red Hill safely. **The network diagram provided in Enclosure (5) shows the relationships and connections of each activity to the other and shows the critical path. The Gantt chart provides a chronological timeline of all activities through defueling.** Generally, the new schedule and overall timeline reflect that DoD has condensed the Phase 3 repair timeline by approximately one month; has clarified the quality assurance and quality control (QA/QC) timeline, confirming that DoD will execute Phase 3 repair activities and Phase 4 QA/QC activities in parallel rather than sequentially; and has refined the Phase 5 defuel activity timeline from four to eight months to approximately five months.

DoD believes that it is possible to identify further opportunities to condense the schedule and defuel earlier than July 2024, and DoD is committed to exploring further potential timeline reductions. In order to reduce the overall defueling timeframe while still defueling safely, DoD plans to assess those opportunities with both the independent third-party contractor (SGH) and DOH. DoD will provide DOH officials with a current CPM schedule monthly to ensure that DOH has current information on the status of the schedule.

F. DoD's Upcoming Supplement

DoD plans to provide DOH with an additional defueling plan supplement later this month. The next supplement will incorporate analysis from recent and expected studies that DoD did not receive in time to address in this September 7 submission and which may identify additional infrastructure modifications to support defueling. For example, DoD received on August 31, 2022 a report entitled *Fuel Transfer System Inspection Report* (hereinafter "the Section 318 report"[3]), a Congressionally-required assessment of the RHBFSF pipelines and the fire suppression system from the Red Hill tanks to the underground pump house (UGPH). Because DoD received this final report approximately one week before the submission of this deliverable to DOH, DoD did not have the opportunity to conduct a thorough assessment of the report or to assess the tradeoffs in adopting or deferring the recommendations in that report. DoD already has begun an in-depth review of the Section 318 report, and DoD will address that report's findings in the next defueling plan supplement.

Similarly, DoD received on August 23, 2022 two EPA reports detailing EPA inspections at Red Hill: a JBPHH Underground Storage Tank (UST) Report and a Spill Prevention, Control, and Countermeasure (SPCC) Report. These reports contain assessments of Red Hill operations and contingency response capabilities and recommend incorporating certain spill

[3] Congress required the completion of this report in the National Defense Authorization Act (NDAA) for Fiscal Year 2022, section 318.

control and countermeasures. As with the Section 318 report, DoD did not have sufficient time to analyze the two EPA reports and incorporate their findings and recommendations into this September 7 submission, and so DoD will incorporate the findings of those reports into its upcoming supplement.

In addition to the incorporation of the above reports and an explanation of if and how those reports' findings affect the defueling plan and its timelines, DoD will provide in its next supplement a more detailed status update and description of work for each Phase 3 work activity, along with the contract type that DoD is using to execute that work. DoD also plans to provide in the next supplement a more refined update on Phase 5 defuel planning and an update on DoD's progress in completing all of the May 6, 2022 Superseding Emergency Order directives. The upcoming supplement will also include updated versions of any other deliverables—including relevant SPCC and FRP plans—and additional updates on internal milestones and overall schedules, and it will include discussion of how the defueling plan addresses comments and recommendations that DoD received from EPA.

Finally, DoD expects that the upcoming supplement will include a description of the composition and mission of the JTF-RH, which DoD expects to assume responsibility for the implementation of the Red Hill defueling plan. As the JTF Red Hill stands up, the Commander will determine the appropriate division and delegation of functions and responsibilities that are set forth in the defueling plan.

II. RESPONSES TO DOH COMMENTS

GENERAL COMMENTS

1. *General Comment (Table 1, Pages 6-9): In Paragraph 4 of Section 11, Order, of the EO, DOH identified a minimum of seven (7) elements to be included in the Plan. The DoD Plan indicated that all the elements were either "partially complete" or "ongoing." We understand that much of the additional information and details such as defueling procedures, infrastructure repair design, and schedule will be completed on August 31, 2022, with the submission of the detailed Plan in September 2022. Address the following listed comments and include components related to the described unpacking process and Aqueous Film Forming Foam (AFFF) drain line repair. We look forward to receipt of the detailed Plan.*

   Response: This September 7, 2022 supplement describes and attaches the unpacking plan. This supplement also includes DoD's recommendation for addressing the recommendation for repair of the AFFF reclamation line.

   a. Unpacking

   Section I.B. of this supplement discusses DoD's unpacking plan, and DoD has attached the plan to this supplement. *See* Enclosure (1). The unpacking plan provides details on operations, training, and spill drills. Additionally, DoD has scheduled a comprehensive unpacking drill on September 22, 2022. DOH and EPA have the opportunity to observe

this comprehensive drill and to provide any inputs to DoD prior to DoD's commencement of unpacking.

b. Aqueous Film Forming Foam (AFFF) drain line repair

Section I.C. of this supplement discusses the AFFF reclamation line and DoD's proposal to forego the repair of the AFFF reclamation line, which DoD assesses is both unnecessary for safe defueling and likely to extend overall timelines.

2. *Schedule Time for DOH Review: The Plan specified that additional studies are being completed and additional information is forthcoming, thus the information required in the EO will be provided in phases. Phase 2, Identify Actions Required to Enable Defueling, is expected to be completed on August 31, 2022, with the DoD planning to submit the detailed Plan to DOH in September 2022. Yet, Phase 3 is expected to commence in September 2022. The DOD's schedule does not incorporate time for DOH review. Time for DOH review is required to be included as part of the revised overall detailed critical path management (CPM) project schedule.*

Response: The enclosed CPM schedule incorporates eight proposed DOH milestone review periods at critical points throughout the implementation of the defueling plan. DoD proposes a general review framework whereby DOH completes reviews of DoD deliverables (e.g., the unpacking plan, response plans, third-party assessor quality assurance/control plans, etc.) and provides comments within one week of submission. DoD acknowledges that DOH may require more time to review certain lengthy or particularly complex submissions, and DoD will add into the CPM schedule any necessary extensions to planned review periods. Under the proposed framework, the parties would meet to discuss DOH's comments and questions and agree upon any necessary plan revisions prior to DOH's concurrence.

The table below shows milestone submittals agreed upon by all attendees at the meeting between DoD, EPA and DOH on August 16, 2022. Submittal due dates and response dates shown are based on the current CPM schedule and are subject to change.

Table 6 – Defueling plan submittal and concurrence schedule

Milestone Submittal	Date Due to Agencies	Concurrence Date from Agencies
Draft Spill Drill Plan prior to Unpacking fuel lines	9/7/22	9/20/22
Updated spill plan documents (SPCC/FRP/ICP)	9/7/22	10/7/22
Unpacking of fuel lines	9/7/22	10/5/22
Consolidated repair list to defuel upon completion of all assessment (including NDAA section 318, Pipeline assessment from underground pump house to hotel pier, and SGH recommended assessments)	10/24/22	11/25/22

Spill Drill Plan prior to defueling	11/10/23	12/7/23
3rd party quality assurance plan for repairs	11/24/22	12/14/22
Completion of all repairs required for defueling	1/2/24	1/29/24
Request for approval to repack fuel lines and defuel	1/11/24	2/7/24

DoD remains committed to a streamlined submission and review process and appreciates DOH's willingness to engage in weekly technical review sessions. Regular technical review sessions keep DOH subject matter experts informed on an ongoing based and thus are critical to an efficient review process.

3. *AFFF Drain Line: We understand that the Navy is currently evaluating alternative designs for the repair of the AFFF drain line that was damaged on November 20, 2021. This discussion is not included in the Plan and should be included. This repair is critical to the emergency and spill response actions and may impact the overall construction schedule. The final chosen alternative, basis for selection, design, schedule, and operation plans shall be provided as part of the Plan.*

Response: Section I.C. of this supplement discusses the DoD's proposal on how to address AFFF reclamation. As discussed above, DoD evaluated alternative designs for the repair of the AFFF drain line that was damaged on November 20, 2021. But DoD also determined that the repair and restoration of that drain line is not necessary for safe defueling, and because Red Hill maintains a current capability to remove and recover AFFF discharge, the replacement of the damaged line is not critical to emergency and spill response actions. Relying on the facility's existing reclamation capabilities—while adding enhanced supplemental response and recovery measures—will allow DoD to avoid delays in the overall construction schedule and to defuel the facility sooner, without compromising safety.

SPECIFIC COMMENTS

4. *Page 1, Paragraph 2 and Overall Project Schedule: The Plan indicates that defueling will be completed within eight (8) months ("four to eight months" per page 17 of the Plan). Recent meetings indicated evaluations are ongoing and there have been changes since the Defueling Plan was written. Is four (4) to eight (8) months still the estimated time period to defuel once it is initiated? The detailed CPM schedule should identify dates for the duration and time frame for each project task.*

Response: DoD currently estimates that the Phase 5 defueling activity timeframe is approximately five months.[4] DoD will continue to refine the plan, based on continual subject matter expert analysis and based on any changed conditions. DoD will add calendar dates for specific tasks to the execution plan once it identifies the date of initial

[4] Delays that could affect a planned timeline include weather events and increased military operational support requirements outside of Red Hill.

fuel movement. The detailed CPM schedule identifies current planning dates for the duration and timeframes for each project task.

The current CPM schedule contemplates that the first tanker, which is under existing contract and which has an approximately 10.5-million-gallon capacity, will move JP-5 fuel to the mainland utilizing three round-trip cycles, which each take approximately 45 days. DoD is in the process of contracting for a second tanker, also with approximately 10.5-million-gallon capacity, to allow DoD to move seven round-trip loads of fuel between JBPHH and a contractor owned/contractor operated (COCO) on-island fuel storage facility located near West Oahu.[5] Each of these round trips would occur over a 14-day cycle.

The DoD defueling timeframe assumes a 14-day cycle, which aligns deliveries with predicted commercial industry schedules. The 14-day cycle time includes the following activities:

1) pier arrival (1-day);
2) loading fuel (3 days);
3) departure and transit time to the COCO facility (1 day);
4) concurrent unloading of fuel at the COCO facility[6], debriefing of the completed operation, resetting of the facility, execution of operational requirements (i.e. non-Red Hill activities at Hotel Pier) in support of local customers and operations, and preparation for the next defuel evolution (9 days).

The cycle time also includes resetting operations at both the pier and the RHBFSF while the tanker is transiting away from and to the facility. Cycle times and the resetting of fuel operations are required after each evolution, regardless of whether there is a shift to a different fuel type. To minimize operational risk, there will be no simultaneous fuel operations utilizing the Upper Tank Farm (UTF) at JBPHH during defueling operations.

As part of the iterative planning process, DoD continues to assess the Phase 5 portion of the defueling plan, including identifying tank defueling sequencing. SGH initially suggested defueling the tanks from lower elevation to higher elevation. However, after additional engagements, SGH agrees with DoD's current plan to defuel tanks from a high to low elevation through two pipelines (*see supra*, Section I.C, for a discussion about DoD's decision to use only the JP-5 and F-24 lines to defuel). This sequencing will minimize unintentional line sag. Additionally, once the higher elevation tanks are empty, they can be used to assist in venting.

5. *Page 1, Paragraph 3: Current estimates for completion of defueling is by the end of calendar year 2024. This is two and a half (2.5) years from now and initial*

[5] The current defueling plan does not include inventory replenishment, but DoD will use inventory replenishment at JBPHH as a component of defueling if it determines that doing so would accelerate the overall defueling process.

[6] DoD expects that the unloading will take approximately three days. Because that unloading is concurrent with the nine-day debriefing and resetting period, the three day unloading period does not extend the overall cycle timeline.

estimates were two (2) years to complete (in the Simpson Gumpertz & Heger Inc. Report (SGH Report) and previous presentations). The Plan states that installing the bypass system is complex and due to the custom fittings required, there will be significant lead times, and this will drive the schedule. Based on this, it appears that the bypass lines are the main reason the project has been extended from two (2) to two and a half (2.5) years. Given that the bypass (pressure equalization) lines are additional protection (in addition to the modified operating procedures to prevent surge and structural supports to prevent damage in the event of a surge), explain why the Navy believes that this additional time for installing the bypass lines is warranted.

Response: DoD no longer identifies the bypass line work as critical path work. *See* Enclosure (5), CPM Schedule. Since DoD's June 30 defueling plan submission, DoD has identified an engineering solution to install bypass pipelines that removes that bypass work from the critical path for defueling. DoD now estimates that it can complete the bypass work by June of 2023.

The SGH Report analysis didn't cover the frequency of surge events that occur during fuel movement "evolutions" in the Red Hill Bulk Fuel Storage Facility. DOH is requesting the following information:

a. *Total number of surge events that occurred in 2021,*
b. *Total number of fuel evolutions that occurred in 2021, and*
c. *If data exists, also provide the number of surge events that occurred in the last five years verses total number of fuel evolutions in the last five years.*

Response: As to surge events, there were two confirmed surge events that occurred in 2021, the first on May 6 and the second on September 29. There are no confirmed surge events prior to 2021. While some data exists that could be consistent with one or more additional surge events during the requested timeframes, that data does not confirm whether additional surge events occurred.

As to fuel evolutions, DoD estimates that approximately 100 fuel evolutions have occurred per year at RHBFSF, including in 2021. FLC Pearl Harbor is obtaining detailed Automated Fuel Handling Equipment (AFHE) data for more precise data on the time period requested.

6. *Page 2 Unpacking:*

a. *Page 2 states, "All three product pipeline systems contain some fuel, and some of the infrastructure repairs (e.g., JP5 [sic] pipeline repairs, installation of Pressure Indicator Transmitters (PITs), etc.) cannot commence until those lines are unpacked." However, Page 15 states, "To enhance safety of the unpacking process, DLA is contracting for 14 additional Pressure Indicating Transmitter sensors. These sensors go into all three fuel lines to provide continuous reading of the pressure in the pipe and would allow the operators to detect in real time and address any pressure anomalies during operations." Will the unpacking*

occur to allow for the pressure indicating transmitter sensors to be installed, or can they be installed safely with fuel in the system for the purpose of unpacking for other repairs? Provide information on the planned location of these 14 PIT sensors. Confirm that the Pressure Indicator Transmitters are the same as the Pressure Indicating Transmitter sensors.

Response: The Pressure Indicator Transmitters mentioned are synonymous with Pressure Indicating Transmitters (PITs). DoD must remove fuel from the pipelines prior to installation of the PITs.

DoD plans to install two additional PITs on the F-24 pipeline in the tank gallery and three additional PITs on the JP-5 pipeline in the tank gallery. DoD plans to forego using the F-76 pipeline and will instead use the JP-5 pipeline to transfer fuel out of the tanks containing F-76. DoD will inspect the pipelines out of the two F-76 tanks to confirm that they are still in good condition before defueling them using the JP-5 pipeline.[7] New PITs on the F-24 line will be located on the main pipeline downstream of the sectional valves near Tanks 1/2, and at the end of the line near Tanks 15/16. PITs on the JP-5 pipeline will be located on the main pipeline downstream of the sectional valves near Tanks 1/2, below the isolation valve near Tanks 10/11, and at the end of the line near Tanks 19/20. *See* the below schematics in figures 1 and 2.

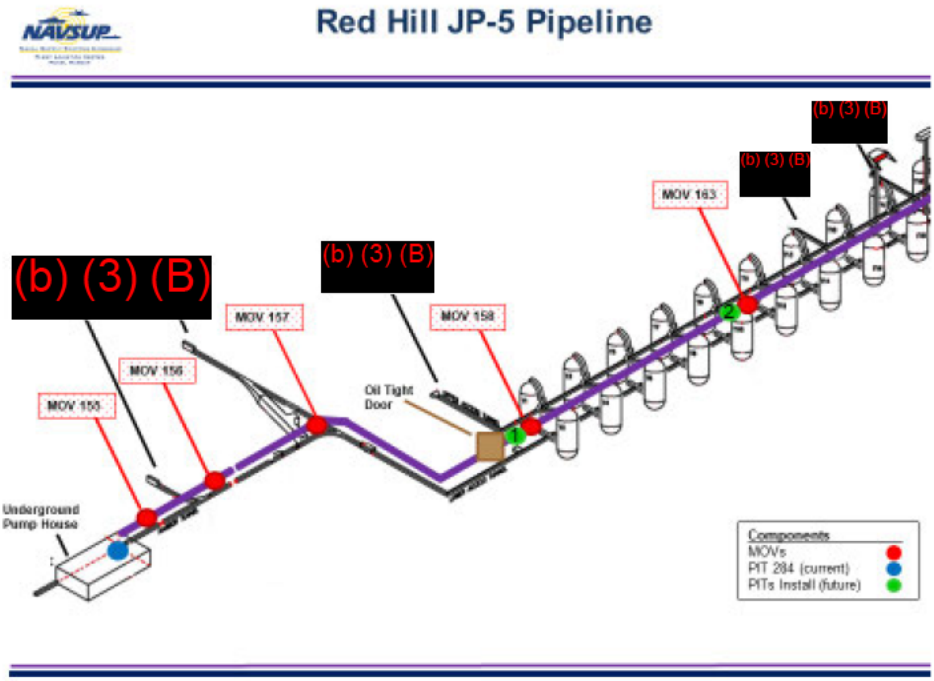

Figure 1- Red Hill JP-5 Pipeline

[7] As discussed in Section I.C, the F-76 tanks are already connected to the JP-5 pipeline.

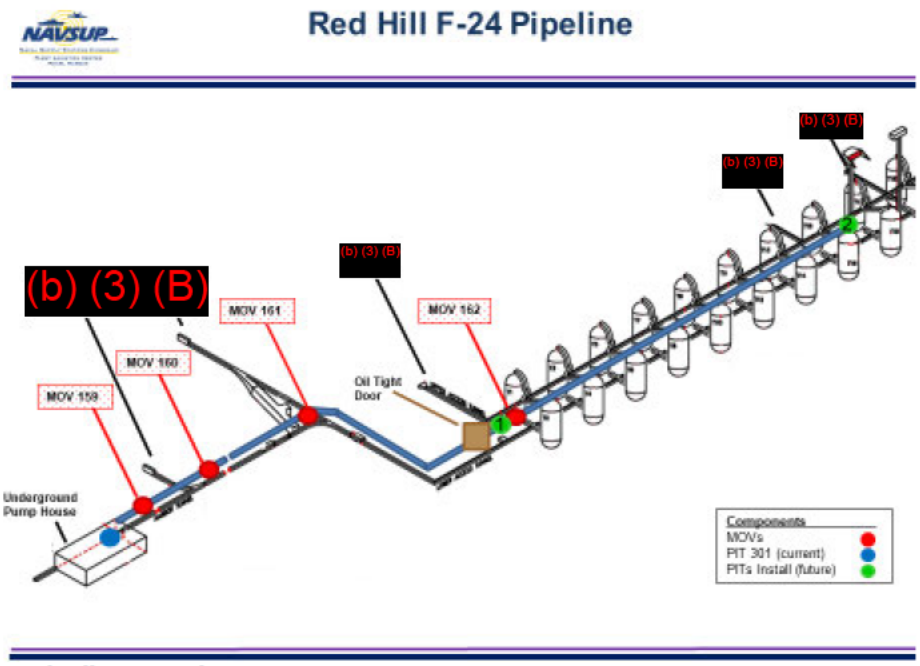

Figure 2 – Red Hill F-24 Pipeline

The CPM schedule shows installation of all PITs by January 2023. DoD has amended its initial plan to install 14 PITs, reducing the number of PITs to five. It has done so for two reasons:

1) DoD has elected to forego repairs on the F-76 pipeline and instead use the JP-5 pipeline to transfer fuel out of the two F-76 tanks at RHBFSF. Doing so eliminates the need to make repairs on the large 32-inch diameter pipeline and eliminates the need to install PITs on that pipeline.
2) DoD has elected not to install PITs near the UGPH. Installing these PITs would not provide significant additional information about vacuum conditions and thus would not provide a safety benefit.

b. *The Plan indicates that the DoD will seek DOH approval to commence unpacking and must demonstrate to DOH that the planned unpacking is safe. In order to adequately review the upcoming request to unpack, submit the following:*

   i. *Operational procedures including process flow diagrams/schematics;*

Response: DoD held a Red Hill Pipeline Unpacking Brief with DOH on July 28, 2022. The brief presented the Concept of Operations (CONOPS) to unpack each fuel line (by product type). DoD has included with this September 7 supplement its unpacking plan (*see* Enclosure 1) and its draft unpacking spill drill plan (*see* Enclosure 2). The unpacking plan contains:

1) Concept of Operations
2) Operation Orders

3) Baseline Valve Alignments

ii. Confirmation that there are adequate pipe system supports;

Response: The SGH third-party assessment evaluated representative sections of the pipe supports in the lower access tunnel and the harbor tunnel. SGH concluded that the structural capacity of the pipe supports, with SGH's recommended repairs and enhancements, will be adequate for operational and seismic loading associated with defueling. Pipe support repairs do not need to be completed prior to unpacking because the pipelines will not be exposed to pressure from the tanks.

iii. Controls and procedures currently in place to prevent incidences that may cause a release;

Response: Based on lessons learned from prior incidents, DoD operators will now closely monitor pipeline pressures at the UGPH to ensure that the pipeline is completely full prior to transferring fuel. The operation orders now have a requirement for the operator to document these pressures. In the event that the pressure falls below a set value, DoD will stop the fuel evolution, and operators will fill the pipeline to capacity (eliminating vacuum conditions) before resuming the fuel transfer. As noted elsewhere in this supplement, DoD is installing additional pressure indicating transmitters (PITs) at the upstream end of the pipeline in the tank gallery to provide better indication of pressure levels.

DoD also has implemented a formal procedure to confirm that all valves are in the proper position (now known as a baseline valve alignment) prior to preparing for transferring fuel or conducting other evolutions. The baseline valve alignment requires a two-person verification of the flow path and valves isolating the flow path. This is similar to the process that DoD uses in the nuclear submarine community. DoD is now implementing a revamped LOTO program that adds additional oversight to ensure key separation of responsibilities and redundant program execution. The new program includes workforce training, improved records management, and increased audit requirements. DoD expects to implement this program fully prior to unpacking the pipeline for repairs and modification.

iv. Existing spill prevention and response plans and procedures;

Response: DoD has updated its spill response plans and procedures and attached copies of the updated SPCC Plan and FRP. Additionally, DoD will invite regulatory agencies to review scenarios and witness spill response drills and provide feedback. DoD is providing the interim spill response plans (including the ICP, FRP and SPCC) to the EPA and DOH with this supplement. DoD will submit the final versions for review by DOH and EPA as soon as possible.

v. *Unpacking schedule; and*

Response: DoD plans to conduct an observed spill drill on September, 22, 2022, prior to the commencement of unpacking in October 2022.

vi. *Confirmation that the skillet is still inserted in the JP-5 pipeline isolating the newly repaired portion of the JP-5 pipeline from the JP-5 pipeline that Navy plans to unpack.*

Response: At the Red Hill Pipeline Unpacking and Spill Response site visit conducted on July 28, 2022, DoD and DOH staff both confirmed the insertion of the skillet segregating the newly repaired section of the JP-5 pipeline from the downstream section of JP-5 pipeline that still contains fuel.

c. *During unpacking as well as during defueling, strict inventory of fuel volumes should be measured, reviewed, and documented.*

Response: DoD's AFHE system improves control and inventory accountability, provides continuous monitoring for spill prevention, and increases efficiency. The AFHE system receives input from the automatic tank gauging (ATG) system. The ATG can detect changes in the fuel level in fuel tanks down to approximately 1/16-inch.

Additionally, DoD conducts manual tank gauging (MTG) before and after each fuel transfer to provide verification of quantities of fuel transferred out of the RHBFSF. DoD records fuel levels and closely monitors the ATG and MTG for precision and accuracy. The AFHE and MTG levels are recorded and compared against one another to confirm that there has not been an unscheduled fuel movement (UFM) or a loss of inventory. DoD updates records daily with reconciled inventories.

7. **Page 3, Paragraph 1:**

a. *The Plan says, "The bypass work in particular is complex because the contractor will have to install the bypass lines while fuel remains in the tanks and because of the constrained work location... Navy has experienced delays of up to 30 weeks for on-island orders for similar materials." Provide information on the design, installation, and operation of the new system.*

Response: DoD is moving forward with design of the bypass lines around tank isolation valves at Red Hill. Once design is complete, DoD will provide design plans to DOH prior to beginning construction. DoD will oversee quality assurance on the installation of the bypass lines in a similar manner to the quality assurance process used for the replacement of sample lines for RHBFSF Tanks 5, 13, 14 and 17. DoD will operate the bypass lines in accordance with specific operation orders. DoD will submit these operation orders to DOH for concurrence as part of each milestone submittal. And DoD will conduct training in the form of walkthroughs prior to initial operations of the bypass lines.

b. *Installation and operation of new bypass lines to the existing piping and tanks may add risk in addition to noted benefits. How will DOD assess the risk benefit of this bypass line? How will these bypass lines be tested prior to defueling?*

Response: Increasing the length of small (approximately one-inch diameter) fuel piping inside the facility does carry some additional risk (more piping equals more opportunities for leaks). However, DoD has a proven method for testing small diameter piping using radiography (i.e., x-ray) to evaluate welds and joints and for conducting hydrostatic testing to ensure the piping does not leak prior to placing the piping in service. Once installed, these bypass lines will mitigate risk of developing the conditions in the pipeline that lead to the vacuum and subsequent surge by enabling a slower, more gradual equalization of pressure across the large tank isolation valves. The DoD has qualitatively weighed the risk of a leak from additional small diameter fuel piping against the benefit of reducing the likelihood of another surge event, and DoD determined the benefit of the bypass lines outweighs the minimal risk of a fuel leak.

Upon installation of the bypass lines, DoD will test the lines, per industry standards, to ensure system integrity and proper operation. This work will be verified by a third-party quality assurance contractor. DoD will incorporate this system design change into all operations orders and training.

8. *Page 3, Paragraph 1: It appears that the DOD is planning on performing all the SGH recommendations. DOH understands that in some cases, the evaluation of what needs to be done is still being evaluated and that the actual recommendation for implementation may change based on current evaluations, such as the surge and associated stress analysis. Verify which is correct. When the recommended analyses are completed, provide the DOH with the summary of analysis and associated recommendation.*

Response: Section I.C. contains a brief discussion of the status of all SGH Phase 3 infrastructure recommendations, including DoD's analysis and recommendation not to follow three of the recommendations, and DoD's proposal to defer another five of the recommendations. As noted in Section I.F, DoD will include in its next supplement a more detailed description of the status of and timelines for all Phase 3 work items. DoD believes that there are additional opportunities to reduce the schedule and is committed to explore further potential timeline reductions. In an effort to reduce the overall defuel timeframe while still defueling safely, DoD plans to assess those opportunities with both the independent third-party contractor, SGH, and DOH.

9. *Page 3, Paragraph 1, Last Sentence: The DOD states that future updates to this Plan will contain more refined timelines. Provide a detailed CPM schedule (Gantt chart format), when adequate information is known, of the tasks to be performed with durations, dependencies, and dates showing both critical path and other tasks that can be updated and tracked against the baseline as the process progresses. The schedule should include procurement, training, and*

expected document review/approval by the DOH, as well as infrastructure repairs, to ensure that no tasks are missed and to assist the regulatory agencies in allocating sufficient resources to ensure timely reviews and approvals and to help the DOD maintain the project schedule.

Response: A detailed CPM schedule is provided as Enclosure (5), and DoD will provide an updated schedule on a monthly basis.

10. *Page 6, Table 1a: When the DOD receives the FY2022 National Defense Authorization Act (NDAA) section 318 assessments, DOD Inspector General (IG) Audit report, and EPA inspection reports, submit unredacted copies to the DOH as soon as possible, and redacted versions of these documents as soon as practicable following the date on which the unredacted documents are submitted to the DOH, not later than 10 business days following the date on which the unredacted documents are submitted to the DOH. See 10 U.S.C. §130e; chapter 92F, HRS; chapter 2-71, HAR.*

Response: Pursuant to 10 USC §130e; chapter 92F, HRS; chapter 2-71, HAR, DoD is providing DOH unredacted copies of the Section 318 report and the EPA Inspection reports. DoD intends to provide redacted versions of those documents no later than ten business days following the date this submission, to allow for public release without affecting national security interests. DoD will follow a similar process for submission of the DoD Inspector General Audit, when it receives that report (anticipated spring of 2023).

11. *Page 6, Table 1c - On the CPM task schedule, identify what items are complete, a percent complete for ongoing tasks, and scheduled completion date for future tasks. "Partially complete" is not very informative, especially when some of the recommendations require additional assessment. Reference to the SGH Report just states what MAY be done, but not what is complete or what is planned.*

Response: Section I.C. discusses the status of all 43 SGH infrastructure recommendations. As noted in Section I.F, DoD will include in its next supplement a more detailed description of the status of and timelines for those Phase 3 work items.

12. *Page 7, Table 1d: The DOD "... concurred with all of SGH's recommendations for critical action prior to defueling." See previous comments regarding the bypass lines and the additional evaluations we understand are currently underway, which may change statements made in this Plan. In general, inform the DOH when changes are made as soon as possible, so we do not provide comments based on old or changed information that may no longer be appropriate or useful.*

Response: DoD will continue to coordinate closely with the regulatory agencies so that they remain informed of revisions to the schedules and plans. Since the submittal of the initial defueling plan on June 30, 2022 to DOH, DoD has met at least weekly with the regulatory agencies, and will continue to do so.

13. *Page 7, Table 1e: We understand that additional studies (i.e., NDAA and the DOD IG Report, EPA Inspection Report) may impact revisions to the Plan. Prior to incorporation into the Plan, we request the DOD discuss these changes with the DOH in order to provide the DOH an opportunity to provide early comment and to expedite review and approval as much as possible. In addition, include a description of the inspection and testing procedures that will help ensure that the repaired and modified systems were constructed in accordance with SGH's recommendations and will not leak. Testing methods should comply with applicable regulations and industry standards.*

Response: DoD is providing concurrently with this supplement copies of the Section 318 report and the EPA inspection reports. DoD expects the UGPH to Hotel Pier Pipeline Assessment to be completed by the end of September and will provide copies to the regulatory agencies upon receipt of that report. DoD has not yet received copies of the DoD IG report and does not anticipate receiving this report until early 2023 at the earliest.

DoD anticipates that some of these assessments will recommend additional repairs to both the pipelines and pipe supports in the tank gallery and harbor tunnel. DoD will provide to EPA and DOH a list of any additional repairs that it plans to undertake based on the reports' recommendations and will update the CPM schedule to reflect those additional repairs and any impacts on the critical path schedule.

DoD will continue to use the proven inspection and testing process that it has used successfully on other RHBFSF projects to confirm that pipelines do not leak and will confirm with DOH that those testing methods meet all regulatory requirements. DoD will provide this information in the third-party quality assurance plan that it will submit to DOH and EPA on November 24, 2022, in accordance with the defueling plan schedule. DoD has contracted with SGH to have SGH confirm that all repaired and modified systems are in accordance with SGH's recommendations.

14. *Page 8, Table 1f:*

a. *"As tasked in phase two of the Red Hill defueling plan, CNRH [Commander Navy Region Hawaii] is currently updating the Red Hill Response Plan, based on the November 2021 executed response." We recognize that the Command Investigation identified deficiencies in the November 2021 response. Thus, these deficiencies should be addressed in the revised Plan. The Plan identified that the response plan will be completed by August 31, 2022, but does not identify when the response plan will be submitted to DOH. The preparation of the response plan was not included in Figure 1. We anticipate that the response plan will likely be based on the Facility's Spill Prevention and Countermeasure Control (SPCC) requirements and Fuel Response Plans (FRP), and we understand that the EPA has required the Navy to submit their SPCC and FRP. Submit a copy of these documents to DOH at the same time as to EPA so that we may provide comment as early as possible.*

Response: Please see the response to Specific Comment No. 6.b.iv. While JPBPHH maintained an existing SPCC and existing FRP in place, DoD has recently updated those plans to enhance procedures in place and training to promote safe defueling. DoD is providing herewith the updated draft plans to DOH and EPAfor review. *See* Enclosure (3) (SPCC Plan) and Enclosure (4) (FRP). Additional revisions to those plans may be necessary to address the recently received results of EPA's regulatory inspection, dated August 22, 2022.

b. The DOH approval of the Plan may not be provided until EPA and the DOH concerns and comments related to SPCC and FRP as it pertains to Defueling Operations are adequately addressed. The DOH concerns include thefollowing:

i. Pipeline system [from the tank gallery to receiving locations- piers, aboveground tank farm(s)] for defueling must be repaired (such as pipe supports) and tested (such as integrity testing) to the extent that they may accept fuel from the underground tanks without creating a risk of a release.

Response: DoD has contracted with SGH to verify the satisfactory testing of all completed repairs and modifications to confirm that there is not an additional risk of a spill due to faulty workmanship. These inspections include non-destructive evaluations, hydrostatic testing, and visual inspections. DoD has also contracted with the firm that completed the process hazard analysis for the third-party assessment to confirm that DoD has addressed all recommended improvements to operations.

ii. Facility Response Planning: The Navy must identify tunnel fuel containment weaknesses (for example during planned drills) and identify and implement repairs and contingency plans needed to provide adequate spill containment capacity and/or response resources to address all realistic release scenarios including:

1) Fuel release within the lower access tunnel during defueling [and potential release into the subsurface];
2) Release of fuel into Adit 3 (and potential release into the Red Hill Shaft); and
3) Release of fuel into Hotel Pier and surface waters at Pearl Harbor.

Response: DoD is pursuing the following six actions to identify and mitigate potential conditions that could result in a potential fuel release to contaminate the aquifer:

1) Inspecting the tunnels to identify compromised areas of the concrete floor, and repairing those areas prior to unpacking;
2) Conducting a thorough review of existing records to confirm there are no preferential pathways to contaminate the environment;
3) Designing methods to redirect flow from a spill down the harbor tunnel and away from Adit 3 and the Red Hill Shaft. These include pre-deployment of protective measures such as flood control barriers, spill mats to protect

preferential pathways to water, and sealing of cracks and significant chips in the concrete.

4) Assessing methods to test the tightness of the main sumps to confirm their integrity and prevent any release of fuel into the environment.
5) Evaluating the bottom of both elevator shafts to confirm that there are no pathways for any fuel that is collected to be released into the environment.
6) Prepositioning of assets for fuel oil recovery and pre-deployment of booms, skimmers, vacuum trucks, etc.

iii. Defuel operating procedures must be evaluated and approved so that best management practices to prevent spills and respond to spills can be integrated.

Response: As described in Section I.B., DoD has implemented several operational improvements and best management practices. These include baseline valve alignment with two-person verification, Lockout/Tagout program, engineering assessments, visibility of pressure conditions, prescriptive operational orders, HAZOP analysis for each operation, increased roles and personnel support for operations, and third party support.

iv. In the event of a spill during defueling operations there must be a clear incident command organization or system that is in place where the Navy On-Scene Coordinator is integrated with the Incident Commander or Qualified Individual. The incident command team should institute a unified command which includes the DOH, EPA, United States Coast Guard and other applicable parties.

Response: DoD conducted an initial spill response drill on August 23, 2022, with DOH in attendance. DoD designed this functional exercise to plan for a potential small-scale spill at RHBFSF, using the clarified notional incident chain of command. The goal was to exercise the Notification Call Tree from the field/respective posts and test the capabilities of the QI/Installation staff and the deployment of small-scale equipment. DoD activated the Installation Emergency Operation Center (EOC), Regional Operations Center (ROC), and included state OSCs in this exercise. As a result of this drill, DoD was able to solidify procedures, ensure response times, and troubleshoot any potential issues. DoD is planning a second spill response drill for September 22, prior to commencement of pipeline unpacking. DoD will also conduct a final spill response drill prior to repacking the pipelines and transferring fuel out of the RHBFSF. Both EPA and DOH are invited to witness all spill response drills. DoD will arrange for the standup of incident command team, to include DOH, EPA, United States Coast Guard, and other applicable parties, as required.

c. Overall safety and contingency plan shall consider other potential emergency events (e.g., fire, earthquake) that may occur prior or during defueling. Discuss actions that will be taken during and after the event and basis for decisions to resume defueling. Such a plan should be in compliance with applicable OSHA and

applicable Fire Codes and approved by the appropriate Fire Marshall. In addition, we recommend that the Navy assign a dedicated safety and emergency response officer for the defueling operations, whose job is to ensure all workers' compliance with the safety plan.

Response: As required by 33 CFR, Defense Fuel Support Point Joint Base Pearl Harbor Hickam maintains an Operation, Maintenance, Environmental, and Safety Plan (OMES) approved by the Coast Guard. Chapter 7 of the OMES Plan, Emergency Response Procedures, supplements the ICP and SPCC and addresses emergency events and responses, in compliance with OSHA. Chapter 7 of the OMES manual includes emergency response procedures for natural disasters and acts of God. DoD expects that the incoming JTF-RH will include staffing for response and safety functions.

15. *Pages 8-9 states, "DOD expects to be able to provide DOH updated critical path information in in [sic] September 2022." The DOH understands that the Plan, at this point, is iterative due to the ongoing investigations and assessments. However, we would anticipate that at the completion of Phase 2 and with the development of the CPM schedule, the main components of the Plan will be identified. The DOH understands that a CPM schedule is a living document and will be updated with both additional tasks and timeframes as conditions and information change. The DOH believes this is the best way to inform all parties of the expected tasks, time frames, changes and completion dates to complete a project within schedule. Provide a full CPM schedule of defueling activities while highlighting the critical path. We recognize that as schedules change, different activities may potentially become part of the critical path, and these activities should be identified.*

Response: A detailed CPM schedule is attached as Enclosure (5), and DoD will provide DOH updates on a monthly basis.

16. *Page 10; Figure 1: It is not clear that repairs will undergo Quality Assurance/Quality Control (QA/QC) inspections during the repairs (Phase 3). However, the text states otherwise in page 8, Table 1. The result of delaying QA/QC inspections of the repairs until Phase 4 (as shown in Figure 1) will result in longer schedules to defuel. Provide clarification.*

Response: DoD will not delay QA/QC inspections of repairs until Phase 4. DoD will conduct that QA/QC work in real time, as it completes the Phase 3 repairs. DoD has contracted with SGH to provide independent third-party quality assurance for this ongoing QA/QC work. Third-party quality assurance inspections will be completed for each repair and modification, and DoD will provide the results of those inspections to DOH and EPA.

17. *Table 2, Page 12:*

a. *Some recommendations from the SGH Report (SGH Process Hazard Analysis Facility Recommendations, Table 8.1, page 303) were not included in this list, but were listed as high priority. Add the following to the Plan:*

Response: Responses are embedded in the table below:

ITEM	DEFICIENCY ID	DESCRIPTION	STATUS	PRIORITY
SGH Process Hazard Analysis Facility Recommendations Prior to Defueling (Table 8.1, page 303)				
1	1	To increase the reliability of operator response to normal, return to service, and emergency operations, develop written procedures detailing operator actions, including which steps should be field verified by two individuals, in order to reduce the likelihood of loss of containment. Training and refresher training should address both what and why. Ensure operating procedures, training materials, and training records are part of the document control system. (High Priority.)		1
Response: Item 1 – DoD, in partnership with third-party industry experts, developed detailed operational orders including safety and two-person valve integrity and baseline valve plant configuration and training. The program and its contents are being reviewed by subject matter experts from the DoD's Safety, Training and Environmental Office for completeness, and a team of experts will assist in standing the programs up. A component of the program is to document and maintain training records for easy reference and auditability.				
ITEM	DEFICIENCY ID	DESCRIPTION	**STATUS**	PRIORITY
2	25	Include verification step in Operations Order that piping is restrained before starting any evolution involving transferring liquid from any tank in Red Hill Tank Gallery. (High Priority.)		1
Response: Item 2 - System configuration of Red Hill fuels infrastructure is reviewed as part of the criteria for developing Operation Orders and Baseline Valve Alignments. A separate pre-check of system configuration, including verification of pipeline stability, will be performed prior to OPORD execution and a signature block confirming completion will be included in the OPORD.				
3	9	Consider adding observer and/or remote camera observation at Dresser Couplings during initial pressurization prior to defueling. (High Priority.)		2

Response: Item 3 - Watchstanders will observe the Dresser Couplings during initial pressurization and will confirm system integrity as part of their roving verification responsibilities.				
4	38	Develop a car-seal or lock administrative control system and identify safety-critical manual valves which should be controlled to reduce the likelihood of human error. Valves to consider include but are not limited to 24" butterfly tank vent valves at Red Hill (RHL), manual block valves on the inlet or discharge of relief devices, manual block valves on bleed of the body cavity of twin-seal Double Block, and Bleed (DBB) device, key firewater supply, and distribution valves. (High Priority.)		3
Response: Item 4 - The Lockout / Tagout (LOTO) program requires the "lock-out" of non-flow path valves, which isolates the flow path. This includes all Red Hill Tank skin valves and ball valves that are not part of the fuel line flow path, UGPH valves that lead to Surge Tanks, and valves that isolate flow to non-aligned distribution areas (Upper Tank Farm Tanks, Bldg. 1554, and Truck Loading Rack). Valves along the FOR line in Red Hill will also be locked out while water draw and sampling evolutions are not being conducted. Lastly, skillets and flanges that are installed to prevent flow will be tagged to indicate as such. Operation of components isolated under the LOTO program is prohibited without prior authorization from command leadership.				
ITEM	DEFICIENCY ID	DESCRIPTION	STATUS	PRIORITY

5	99	The Navy policy is to use the Incident Command System (ICS)/Unified Command (UC) for structuring Navy spill response management organizations. The NAVSUP FLCPH fuel personnel manages the initial response. If additional resources are needed, the Federal Fire Department Incident Commander will establish an emergency command post and assume responsibility for the response. The Emergency Spill Coordinator or the Commanding Officer can contact the Region Navy On-Scene Coordinator to activate the Region Spill Management Team (SMT). The Region SMT will then establish other ICS functions. Port Operations is the coordinator for the Facility Response Team (FRT), an on- water contractor resource based on Ford Island. The roles, staffing, and resources for each organization need to be clearly defined, drilled, and aligned prior to defueling operations. (High Priority.)		NA
Response: Item 5 - The Facility Response Plan is a living document that will evolve with the development of the defuel plan. CNRH mas made significant updates to the spill response plans (SPCC/FRP/ICP) to incorporate lessons learned and preliminary feedback from the regulators. Within the documents, roles and responsibilities for all responders are being further delineated. Additionally, these roles will be continuously tested and practiced through tabletop exercises and future small / large scale drills. The recently completed spill exercises based on the revisions to the spill response plans were successful. DOH observed these exercises. With the spill exercises and improvements to the overall spill response program, there is sufficient coverage for any future operations.				
6	107	Consider additional operators and technical support for defueling operations. (High Priority.)		NA
Response: Item 6 - DoD has increased both roles and personnel in support of all operations. For defueling evolutions, personnel will be placed at locations where: mechanical operations occur; system pressure readings are available; and any areas potentially open to environment (high point vents, sumps, pier risers) initially on start-up, throughout line-up changes, and during shutdown. In addition to rovers and assigned personnel at issuing locations, two control room operators will be present at all times, independent validators will verify all valve positions, and a Supervisor of the Watch will provide oversight throughout the operation.				

b. Some items marked (In Appendix A-2, SGH Report, pages 404-405 of 882,)

as high priority (P1) for structural repairs at Hotel Pier were not included as work needed for defueling. Since Hotel Pier is going to be critical for defueling, we recommend that the following items be included in Table 2 repair list for defueling: Items: HP-5, HP-6, HP-7, HP-8, HP-11, HP-12, and HP-13.

Response: Although the third-party assessment did not list the referenced repairs as necessary prior to defueling, DoD is reviewing these repairs to assess whether and to what extent they address risk of a fuel spill during defueling operations. DoD will complete any repairs that meaningfully address and mitigate overall risk prior to defueling. DoD will coordinate its assessments of these potential repairs with its third-party quality assurance contractor.

While DoD does not expect to utilize the FOR line for defueling, DoD will specifically add HP-8 (Broken FOR pipe support between bents 1 and 2) to the list of repairs for defueling. HP-5, 6, 7, 11 and 12 refer to overall structural degradation of the pier. DoD will add an activity to the repair list to re-assess if these repairs are needed for defueling and to ensure any cracks or spalling on the pier does not impact the integrity of fuel pipeline supports.

18. *Page 18 states, "As repairs are completed and sources identified, DLA will identify the specific tank defueling sequencing." However, we understand that the SGH Report suggested that tanks for a specified fuel should be defueled in the order of lower elevation to upper elevation. If correct, this should be considered in developing the operational sequencing of defueling.*

Response: As discussed in Response to Specific Question 4, DoD currently plans to defuel the tanks from a high to low elevation, and SGH concurs with that approach. Ultimately, the sequencing of tank defueling is partly dependent on the sequence of the completion of repairs to the respective fuel lines. As DoD completes repairs to fuel product lines (JP-5 and F-24) DoD will update its sequencing planning. DoD will include the operational sequencing for the tanks in a future supplement and prior to commencement of defueling.

19. *Page 18, Phase 5:*

a. *Why not two (2) tankers to minimize transit time? Provide justification for the use of just one (1) tanker.*

Response: The current DoD Phase 5 defuel schedule utilizes two Jones Act-compliant tankers. According to this schedule, DoD will complete defueling in approximately five months, using two tankers rotating on a 14-calendar day cycle (see paragraph 19(c) below). Enclosure (1) shows 97 days using a 5-day work week[8] (136 calendar days). Current DoD analysis indicates that adding an additional tanker to the current 14-day cycle plan does not reduce the overall defuel and repositioning timeline, as the lack of

[8] Defueling operations will continue over weekends and holidays, except in cases where private industry (e.g. COCO receiving operations) does not allow for it.

receipt availability at the commercial facility receiving the Red Hill fuel negates any advantage from having an additional tanker to conduct more frequent deliveries to the commercial facility. DoD must share access to the commercial distribution network within the State of Hawaii and does not have exclusive access to commercial fuel storage and distribution facilities on Oahu.

b. *Cycle time - Are resetting operations needed during fuel transfers of same fuel types or when switching fuels? Provide clarification.*

Response: Cycle times and the resetting of fuel operations are required after each evolution, regardless of whether there is a shift to a different fuel type.

c. *A 12-day cycle is subject to delays as listed. Provide bounded time estimates to include the delays that could result from the contingencies.*

Response: DoD is executing on a 14-day cycle to minimize impacts to commercial support to the state of Hawaii. A 14-day cycle time, when compared against a 12-day cycle time, does not significantly change the overall defueling timeline. Aligning deliveries with commercial receiving capacity allows for more consistent streamlined operations for the tanker transiting to the commercial fuel storage facility. DoD has accounted for normal schedule delays in the overall defueling timeline, such as resetting the facility, providing fuel to the fleet, and availability delays at the commercial facility. DoD is unable to provide bounded time estimates for significant natural disasters, unscheduled maintenance requirements, or unplanned real world military operations. However, routine weather events can translate to ship schedule delays of up to one to two weeks.

Conclusion

DoD continues to be focused on the safe and expeditious defueling of Red Hill and on the protection of the population of Hawaii, the environment, and the security of the nation. DoD is targeting late September 2022 for its next defueling plan supplement and, with the leadership of the incoming Joint Task Force, looks forward to continuing to provide DOH additional detailed planning and critical path information in the months ahead.

III. Acronyms

Acronym	Meaning
AFFF	Aqueous Film Forming Foam
AFHE	Automatic Fuel Handling Equipment
AISC	American Institute of Steel Construction
AOC	Administrative Order on Consent
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
COMNAVREGHI	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
DLA	Defense Logistics Agency
DoD / DOD	Department of Defense
DoH / DOH	Department of Health
DOT PHMSA	Department of Transportation, Pipeline Hazardous Materials Safety Administration
EO	Emergency Order
EOC	Emergency Operations Center
EPA	Environmental Protection Agency
ERP	Emergency Response Plan
EXWC	Engineering and Expeditionary Warfare Center
FE	Finite Element
FFS	Fitness for Service

FLC	Fleet Logistics Center
FOR	Fuel Oil Reclamation or Recovery
FRP	(Red Hill Fuel Storage) Facility Response Plan
FRT	Facility Response Team
HAR	Hawaii Administrative Rules
HAZOP	Hazard and Operability
HI DoH	Hawaii Department of Health
HP	Hotel Pier
HPV	High Point Vent
HRS	Hawaii Revised Statues
ICP	Integrated Contingency Plan
ICS	Incident Command System
IDWST	Interagency Drinking Water System Team
IG	Inspector General
IMP	Integrity Management Plan
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
MOC	Management of Change
MSC	Military Sealift Command
MTG	Manual Tank Gauging
NAVFAC	Naval Facilities Engineering Systems Command
NAVFACHI	Naval Facilities Engineering Systems Command Hawaii
NAVSUP	Navy Supply Systems Command
NAVSUP FLCPH	Navy Supply Systems Command Fleet Logistics Center Pearl Harbor
NDAA	National Defense Authorization Act
NOSC	Navy On-Scene Coordinator
OMES	Operation, Maintenance, Environmental and Safety Plan
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
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
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
SOW	Supervisor of the Watch
SPAWAR	Space and Naval Warfare Systems Command (now NAVWAR - Naval Information Warfare Systems Command)
SPCC	Spill Prevention Control and Countermeasures Plan
SRT	Spill Response Team
TBD	To Be Determined
TTT	Tank Tightness Testing
TTX	Table Top Exercise
UC	Unified Command

UFM	Unscheduled Fuel Movement
UGPH	Underground Pump House
USC	United Stated Code
USCG	US Coast Guard
USINDOPACOM	United States Indo-Pacific Command
UST	Underground Storage Tank
WAP	Work Authorization Program
WDT	Water Development Tunnel

IV. LIST OF ENCLOSURES AND CONCURRENT SUBMISSIONS

ENCLOSURES

1. Unredacted Unpacking Plan
2. Unredacted Draft – Working Document: Unpacking Spill Exercise Plan
3. Unredacted Draft – Working Document: Revised Draft Spill Prevention Control and Countermeasures Plan (SPCC)
4. Unredacted Draft – Working Document: Revised Draft Facility Response Plan (FRC)
5. Critical Path Method (CPM) Schedule
6. Unredacted Draft – Working Document: Revised draft Integrated Contingency Plan (ICP)

TRANSMITTED WITH THIS DEFUELING PLAN SUPPLEMENT 1.A

1. Unredacted copy of the NDAA for FY22 Section 318 report entitled "August 31, 2022 Fuel Transfer System Inspection, Lifecycle Sustainment, and Fire Suppression Inspection Reports "
2. EPA's report: August 17, 2022, JBPHH Underground Storage Tank (UST) Report
3. EPA's report: August 16, 2022, Spill Prevention, Control, and Countermeasure (SPCC) Report