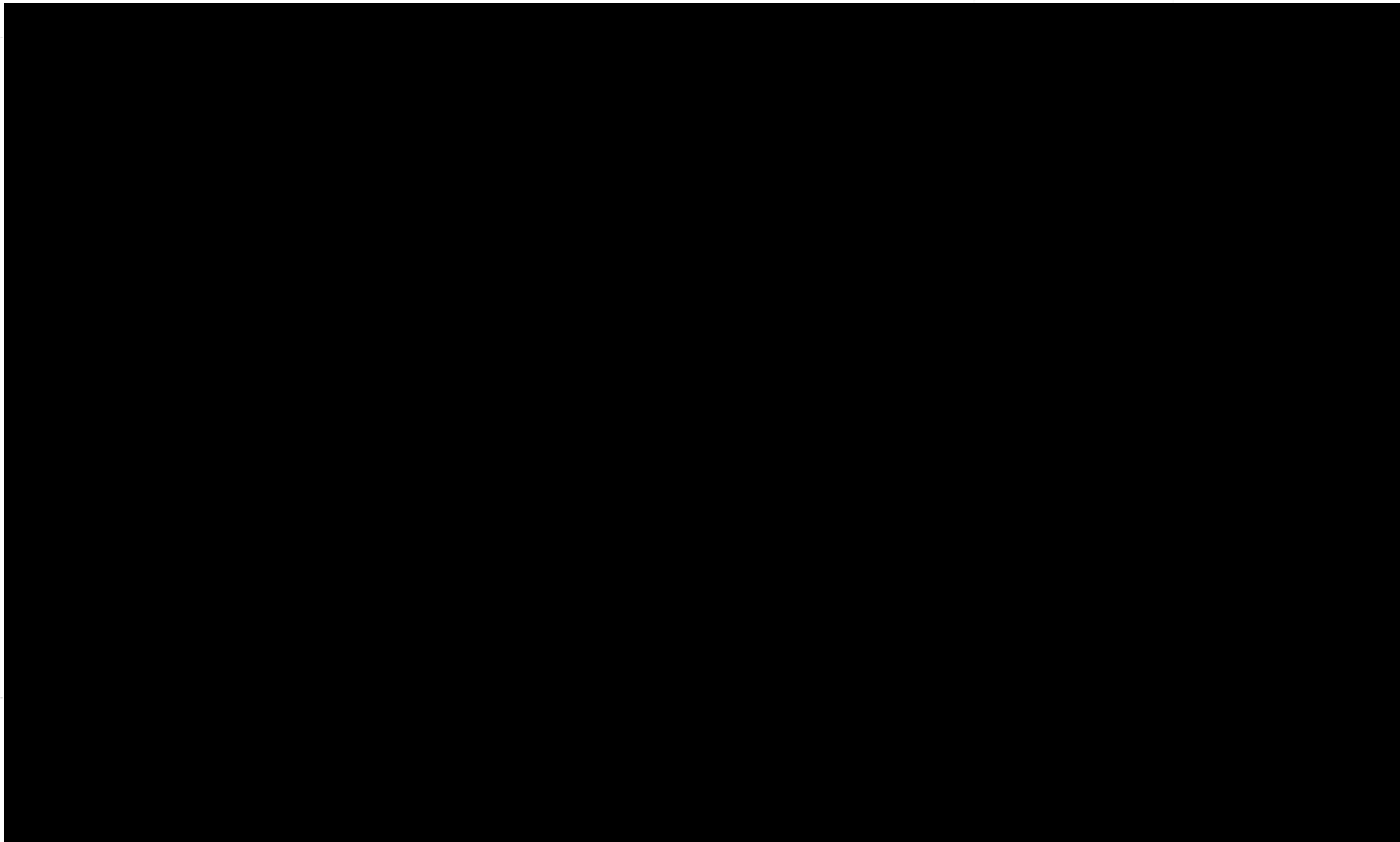


**Red Hill Bulk Fuel Storage Facility (RHBFSF) AFFF Reclamation Line Repair Plan
(June 02, 2023)**

1. INTRO/BACKGROUND

As identified in Department of Defense’s Red Hill Defueling Plan Supplement 2 (May 16, 2023), JTF-RH is submitting this formal proposal to DOH and EPA that incorporates and addresses all feedback and concerns regarding the AFFF Reclamation Line. This proposal will forego the replacement of the existing AFFF Reclamation Line.

Our plan includes restoring the existing AFFF reclamation system from the Tank Gallery to AFFF Tank, as well as (potentially) installing a bypass from the AFFF Reclamation Line to the F-76 line. The necessity to install a bypass is contingent upon EPA and DOH’s concurrence with DoD’s intent to not restore the AFFF Fire Suppression system that supports the underground storage tanks for defueling (Note: need concurrence by July 01, 2023). Any AFFF reclamation system “wet” testing will be conducted after the decision whether to use the AFFF Fire Suppression system has been made.



2. JTF-RH REPAIR PLAN FOR EXISTING AFFF LINE

The following repairs are necessary for restoring the existing AFFF reclamation system: PVC line joint repairs, damaged low point drain (LPD) repair, LPD protection, pipe support repair/adjustment, Adit 3 belly pump replacement, and AFFF sump pump test/repair.

The current status of repairs for the AFFF Reclamation Line are listed below:

- PVC line joint repairs – A jet-fuel resistant elastomeric joint sealant (“Sikaflex-1A”) will be applied by NAVFAC PWD personnel starting on June 5, 2023 to all joints on the AFFF Reclamation Line, estimate completion in late June.
- Damaged LPD repair – A cap was installed on the broken LPD [REDACTED] on May 25, 2023 by NAVFAC PWD personnel. No further action required.
- LPD protection - Administrative controls will be implemented in lieu of physical barriers that may be ineffective and/or impede tunnel clearances. Administrative controls include: restricted use of the train during defueling; inspection prior to each operation and inclusion in OPORDs; install caution signage and reflective markings IVO LPDs to be installed by NAVFAC PWD personnel, estimate completion in late June.
- Pipe support repair/adjustment – Work will include repairing several corroded pipe supports and ensuring pipe supports are in contact with the pipe. Materials have been ordered and NAVFAC PWD personnel will begin work on June 5, 2023, estimate completion in late June.
- Adit 3 belly pump replacement - Pump is being manufactured, estimate delivery, installation and testing by NAVFAC PWD personnel in late June.
- AFFF sump pump test/repair – AFFF sump pumps were “dry” tested on February 1-2, 2023, all pump motors actuated with the exception of Pumps 1 and 4 in Zone 1 (4 pumps in each Zone 1-5, 20 pumps total). In advance of wet testing, the risers for AFFF were drained on May 26, 2023, where 38 gallons of fuel/water mixture were recovered (residual from May 2021 event). For reference, two working pumps per sump are included in the JTF-RH Response plans. AFFF sump pumps still need to be wet tested, additional details provided below and will be included in future discussions and updates.

3. JTF-RH PLAN TO REVISE EXISTING AFFF LINE

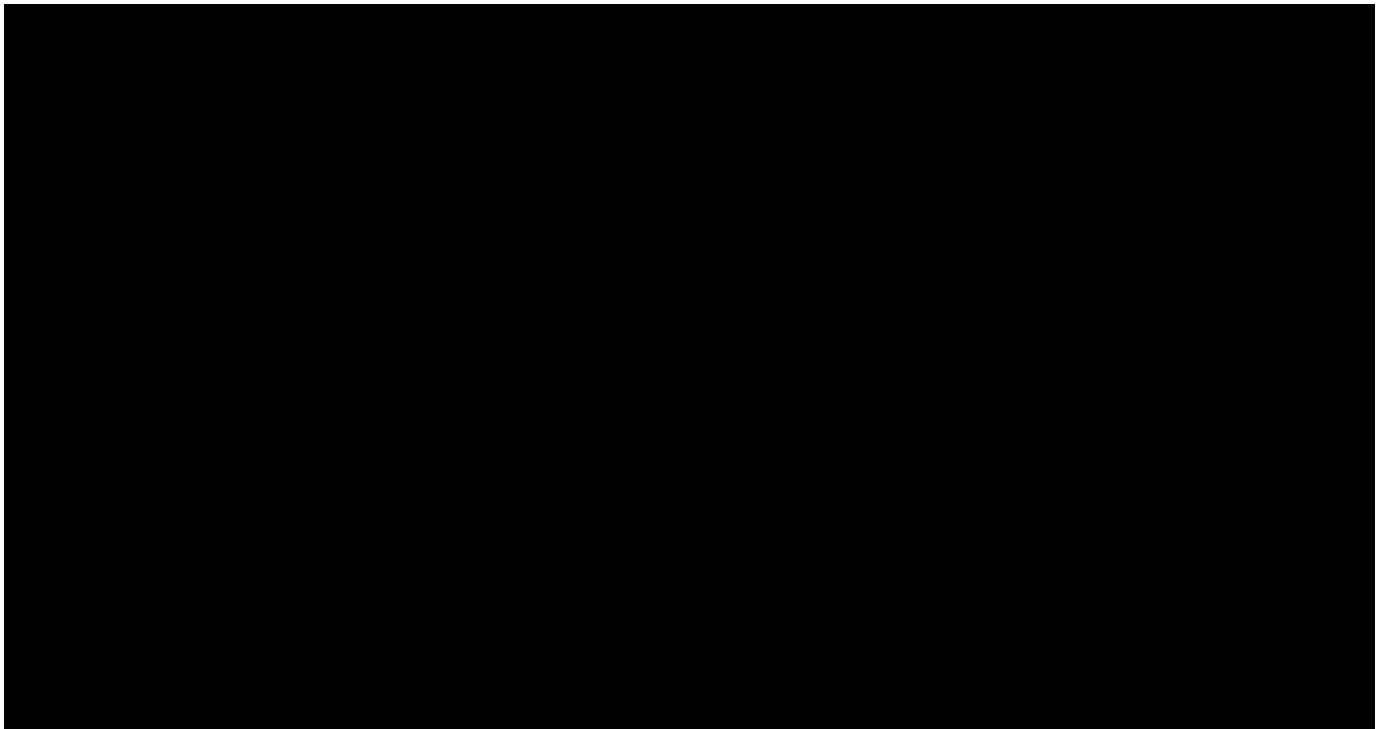
JTF-RH plans to cross-connect the AFFF Reclamation Line with the empty F-76 fuel pipeline for fuel recovery in a contingency/response scenario. At JTF-RH’s request, SGH visited RHBFSF in April 2023 to determine the feasibility of a cross-connect, to include potential bypass locations and benefits of implementation, and included analysis in a memo dated May 18, 2023 (Ref (a)).

Based upon SGH’s memo and further analysis, and the assumption that the AFFF Fire Suppression system for the underground storage tanks WILL NOT be used during defueling,

JTF-RH plans to implement a bypass of the AFFF Reclamation Line to the F-76 fuel line [REDACTED]. Design and contracting efforts are underway with NAVFAC Hawaii. Additional details will be provided in future discussions and updates. The bypass can be in place prior to the end of July.

There are several benefits to implementing the bypass, to include:

- Most notably, spilled contents would flow to the UGPH instead of an above ground storage tank IVO Adit 3. This eliminates risk to the aquifer (Red Hill Water Shaft).
- Reduce number of potential PVC joints on the AFFF Reclamation Line that could possibly leak (beyond the bypass).
- Increased holding volume for any spilled contents ([REDACTED] gal for the F-76 line vs [REDACTED] gal for AFFF Reclamation Line and AFFF Tank combined).
- Assures spilled fluid wouldn't stay in AFFF Reclamation Line for an extended period of time – eliminates potential leaks.



Critical Wet Testing Requirements

The below are critical requirements for wet testing the AFFF Reclamation system:

- Any wet testing requirements (beyond the bypass) will be conducted post-AFFF decision on July 01, 2023.
- Full pressurization of the line is not necessary due to the expected 20K gallons from the likely spill scenario.
- Real-time inspections of the AFFF Reclamation Line are required during testing.

AFFF Sump Pump Wet Testing Plan

Isolate and test each individual zone, 1 pump at a time, using full port recirculation to minimize the amount of water used for each test. Planning to use a test fixture to redirect piping back into the sump. The contractor will also be able to repair sump pumps as necessary, should less than 2 pumps be operational. Anticipate using 1500 gallons of water per zone, and disposal will be via the FOR line or totes.

PVC Line Joint Repair Integrity Testing Plan

Close 3 AFFF Reclamation Line valves outside of the Oil Pressure Door (OPD) to prevent downstream flow from the AFFF Reclamation Line in the Tank Gallery, then isolate each of the AFFF zones. Stage spill kits to respond to each of the joints in the test zone. Starting with Zone 1, fill the line with 3000 gallons of water with tracer dye. Observe the pipeline over a period of 1 hour for any leaks. Mark any leak locations for follow up repairs.

Prepare Zone 2 for observation. Open up isolation valve and transfer the 3000 gallons of water from Zone 1 to Zone 2. Repeat holding period of 1 hour and observe for leaks. Repeat above steps for each zone until Zone 5 is complete.

Use [REDACTED] drainage header to remove dyed water (mixed with possible fuel residual from May 6, 2021 release) via FOR line or via totes. Drain low points in each zone.

Additional information can be found in the JTF-RH AFFF Reclamation Line – F-76 Bypass CONOP Brief (Ref (b)).