

Enclosure (4) to
Red Hill Bulk Fuel Storage Facility, Oahu, Hawaii
28 September 2022 Supplement 1.B

Infrastructure Repairs and Enhancements Report (as of 28 Sept 2022)

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Page 14: Attachment 1 – Status Definitions for Repair and Enhancement Activities

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Enclosure 4

Infrastructure Repairs and Enhancements Report

This document contains a detailed description of each repair or enhancement activity accepted by the Department of Defense (DoD) as being necessary for the defueling of the Red Hill Bulk Fuel Storage Facility (RHBFSF) on Oahu, Hawaii. The information provided includes the necessary information to understand the progress towards completion and how each activity relates to other activities on the critical path method (CPM) schedule. The unique identification (UID) number can be used to identify its place on the CPM Gantt chart. The CPM Gantt chart illustrates the project plan, which identifies all tasks with their actual or projected start and finish dates, predecessors and successors, and a timeline with schedule bars that visualize the work. The CPM Network Diagram groups the activities below as those that do not require unpacking of the fuel lines in UID #235 and those that require the unpacking of the fuel lines in UID #287. The activities tied to UID #235 include those that are currently on the critical path. The activities that are on or near the critical path to support defueling are identified in Block 10 for each activity. The percent complete is shown for any activity that has a status of “Work in Progress.” If the activity is not in progress or the work is completed but is awaiting Third Party Verification then no percentage complete will be shown. The description of the status for each activity is at Attachment 1 and a description of each contract is at Attachment 2.

1. UID: 208	2. Report: SGH ID: 6	3. Contract: AFSI Contract	4. Status: Work in Progress (25%)	5. Est. Comp. Date: 1/13/23
6. Title: Install Pressure Indicating Transmitter Sensors (PITS) in Tank Gallery				
7. Description: Installation of additional PITS in piping at the Red Hill Tank Gallery and Harbor Tunnel to better detect potential vacuum conditions. PITS detect pressure at a specific location in the pipeline. Detection of vacuum conditions provides surge protection by identifying a potential for a high-pressure surge event before occurrence of a fuel spill.				
8. Additional Info: PITS will only be installed in the JP5 and F24 pipelines as the F76 line is not planned to be used for defueling. Unpacking of the fuel pipelines is required because holes must be drilled in the pipelines to install the PITS. Installation of PITS is dependent on concurrence from DOH for unpacking fuel lines.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: No	

1. UID: 236	2. Report: SGH ID: 8	3. Contract: Pipeline Repairs Contract	4. Status: Received DOH Concurrence	5. Est. Comp. Date: Completed
6. Title: Confirm dresser couplings can seal under vacuum conditions				
7. Description: Consult manufacturer on reverse pressure capability (vacuum) of dresser couplings installed around pumps at Underground Pump House and Red Hill Tank Gallery. Consider modifying the design as required. A Dresser coupling is a pipe fitting used to connect two sections of pipe.				
8. Additional Info: SGH addressed this item when they prepared the third-party assessment and confirmed dresser couplings are sufficient under vacuum conditions during the third-party assessment. Documentation was submitted to DOH with the SGH report confirming the performance of the couplings.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: No	

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1. UID: 237	2. Report: SGH ID: 14	3. Contract: NDAA 318 A/E Assessment	4. Status: Work in Progress (80%)	5. Est. Comp. Date: 9/30/22
6. Title: Evaluate pipe and hose rating between Red Hill and piers / docks				
7. Description: Evaluate ratings of piping and hoses to ensure they can withstand appropriate pressures involved in defueling. Specifically include segments of piping and hoses exposed to high pump discharge pressure and static pressure when transferring fuel out of Red Hill.				
8. Additional Info: Assessment is in progress				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: No	

1. UID: 238	2. Report: SGH ID: 28	3. Contract: FS Contract	4. Status: Work in Progress (10%)	5. Est. Comp. Date: 12/15/22
6. Title: Confirm oil tight door can operate upon loss of normal power				
7. Description: Test of the oil tight door to confirm it can still close during a power outage. Complete any required repairs or enhancements necessary to enable the oil tight door to close if power is lost. Continue preventative maintenance on oil tight door.				
8. Additional Info: Records indicate the oil tight door is connected to the emergency back-up generator. DoD is preparing to turn off normal power source to test the oil tight door using the emergency back-up generator as the power source without removing power from other sections of Red Hill.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: No	

1. UID: 239	2. Report: SGH ID: 31	3. Contract: Pipeline A/E Contract	4. Status: Work in Progress (90%)	5. Est. Comp. Date: 9/30/22
6. Title: Evaluate underlying cause of line sag				
7. Description: Evaluate underlying cause of line sag causing a vacuum leading to a surge event. Review the surge events of May 6, 2021, and Sept 29, 2021, to understand the root cause and modify infrastructure or processes as needed to prevent similar conditions.				
8. Additional Info: Line sag evaluated and cause identified in the May 6, 2021 Root Cause Analysis. Mitigation includes installation of PITS and operational controls.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: No	

1. UID: 241	2. Report: SGH ID: 1	3. Contract: Pipeline A/E Contract	4. Status: Work in Progress (90%)	5. Est. Comp. Date: 9/30/22
6. Title: Perform surge analysis for pipelines (JP5, F76, F24); evaluate dresser couplings				
7. Description: Perform surge/stress analyses for fuel pipelines to determine whether a larger load than evaluated by Third Party Assessment (SGH) could occur during defueling. Evaluate dresser couplings to determine whether they have sufficient strength to withstand expected pressures for possible surge events.				
8. Additional Info: Surge and stress analyses are in progress and expected to be completed by September 30, 2022. Stress analysis will determine if additional work is required to confirm dresser couplings can withstand peak stress expected.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: No	

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Infrastructure Repairs and Enhancements Report

1. UID: 242	2. Report: SGH ID: LAT-3	3. Contract: Pipeline Repairs Contract	4. Status: Work in Progress (10%)	5. Est. Comp. Date: 1/11/23
6. Title: JP5 pipe - Confirm system can withstand surge event; modify if necessary				
7. Description: Design piping system to withstand repeat of the May 6, 2021, surge event. Modify as necessary to provide resiliency in the event of a similar surge event.				
8. Additional Info: Surge and stress analyses are in progress. Stress analysis will determine if additional work is required to confirm dresser couplings can withstand peak stress expected.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: No	

1. UID: 243	2. Report: SGH ID: LAT-15	3. Contract: N/A	4. Status: Pursuing Alternative Solution	5. Est. Comp. Date: 12/15/23
6. Title: AFFF Reclamation Line - install protection to overhead valve (PS 14-15)				
7. Description: Provide protection to overhead valve on the AFFF reclamation line to avoid pipeline damage caused by a collision with a moving object (such as the harbor tunnel train).				
8. Additional Info: DoD's AFFF removal proposal provided in the September 7th, 2022 supplement 1.A would eliminate the requirement for these actions, provide an effective alternative to AFFF removal and prevent any delays to defueling Red Hill. This requirement is not necessary if DOH concurs with DoD's proposed way ahead.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: Yes	

1. UID: 244	2. Report: SGH ID: LAT-20	3. Contract: Pipeline Repairs Contract	4. Status: Pending Third Party Verification	5. Est. Comp. Date: Completed
6. Title: JP5 pipe - Install lateral restraint at PS 18				
7. Description: JP-5 elevated pipeline had limited or no lateral restraint. Install a lateral restraint to the existing pipe to provide resiliency in the event of a high-pressure surge event.				
8. Additional Info: Work is complete. DoD completing closeout documentation for submission to third-party for verification of work.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: No	

1. UID: 246	2. Report: SGH ID: LAT-29	3. Contract: N/A	4. Status: Pursuing Alternative Solution	5. Est. Comp. Date: 12/15/23
6. Title: AFFF Reclamation Line - install protection to overhead valve (PS 26)				
7. Description: Provide protection to overhead valve on the AFFF reclamation line to avoid pipeline damage caused by a collision with a moving object (such as the harbor tunnel train).				
8. Additional Info: DoD's AFFF removal proposal provided in the September 7th, 2022 supplement 1.A would eliminate the requirement for these actions, provide an effective alternative to AFFF removal and prevent any delays to defueling Red Hill. This requirement is not necessary if DOH concurs with DoD's proposed way ahead.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: Yes	

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Infrastructure Repairs and Enhancements Report

1. UID: 247	2. Report: SGH ID: LAT-32	3. Contract: PWD Shops	4. Status: Pending Third Party Verification	5. Est. Comp. Date: Completed
6. Title: Install protection around overhead valve (PS 27)				
7. Description: Provide protection to overhead valve to avoid pipeline damage caused by a collision with a moving object (such as the harbor tunnel train).				
8. Additional Info: Work is complete. DoD is completing closeout documentation for submission to third party for verification of work.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: No	

1. UID: 248	2. Report: SGH ID: LAT-38	3. Contract: Pipeline Repairs Contract	4. Status: Work in Progress (10%)	5. Est. Comp. Date: 3/16/23
6. Title: Replace brace (PS 46-47)				
7. Description: Existing columns and bracing are heavily corroded. Bracing will be replaced at pipe supports 46 and 47 to ensure adequate pipeline support.				
8. Additional Info: No work involving welding can occur prior to unpacking of fuel pipelines. Work is planned to commence after unpacking of pipelines.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: No	

1. UID: 249	2. Report: SGH ID: LAT-40	3. Contract: Pipeline Repairs Contract	4. Status: Work in Progress (15%)	5. Est. Comp. Date: 3/15/23
6. Title: Replace column and anchorage (PS 47)				
7. Description: Existing columns and bracing are heavily corroded. Column and anchorage will be replaced at pipe support 47 to ensure adequate pipeline support.				
8. Additional Info: No work involving welding can occur prior to unpacking of fuel pipelines. Work is planned to commence after unpacking of pipelines.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: No	

1. UID: 250	2. Report: SGH ID: LAT-41	3. Contract: Pipeline Repairs Contract	4. Status: Work in Progress (15%)	5. Est. Comp. Date: 3/16/23
6. Title: Replace column and anchorage (PS 48)				
7. Description: Existing columns and bracing are heavily corroded. Column and anchorage will be replaced at pipe support 48 to ensure adequate pipeline support.				
8. Additional Info: No work involving welding can occur prior to unpacking of fuel pipelines. Work is planned to commence after unpacking of pipelines.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: No	

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1. UID: 251	2. Report: SGH ID: LAT-42	3. Contract: RMMR Contract	4. Status: Work in Progress (15%)	5. Est. Comp. Date: 9/23/22
6. Title: Replace beam (PS 48)				
7. Description: Replace beam due to corrosion at end closer to the tunnel wall. Structural integrity of beam component ensures adequate support of pipeline.				
8. Additional Info: Work is in progress and tracking for completion.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: No	

1. UID: 252	2. Report: SGH ID: LAT-44	3. Contract: N/A	4. Status: Pursuing Alternative Solution	5. Est. Comp. Date: 12/15/23
6. Title: AFFF Reclamation Line - install protection to overhead valve (PS 61)				
7. Description: Provide protection to overhead valve on the AFFF reclamation line to avoid pipeline damage caused by a collision with a moving object (such as the harbor tunnel train).				
8. Additional Info: DoD's AFFF removal proposal provided in the September 7th, 2022 supplement 1.A would eliminate the requirement for these actions, provide an effective alternative to AFFF removal and prevent any delays to defueling Red Hill. This requirement is not necessary if DOH concurs with DoD's proposed way ahead.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: Yes	

1. UID: 253	2. Report: SGH ID: LAT-46	3. Contract: RMMR Contract	4. Status: Work in Progress (15%)	5. Est. Comp. Date: 12/22/23
6. Title: Replace beam and connect to tunnel wall (PS 69-71)				
7. Description: Replace beam and connect to wall due to corrosion at end closer to the tunnel wall. Structural integrity of beam component ensures adequate support of pipeline.				
8. Additional Info: Proposal is under technical review. Approval to begin work will be provided once the proposal is determined to meet the contractual requirements.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: Yes	

1. UID: 254	2. Report: SGH ID: LAT-47	3. Contract: RMMR Contract	4. Status: Work in Progress (10%)	5. Est. Comp. Date: 1/29/23
6. Title: Provide lateral stops and reset pipe cradle (PS 73)				
7. Description: Provide lateral stops, missing pipe cradle / reset pipe cradle to support elevated pipe (line). Provides resiliency to pipeline system in the event of a high-pressure surge event.				
8. Additional Info: Materials are on order. RMMR Contractor is coordinating execution of work with site for on schedule completion.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: No	

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Infrastructure Repairs and Enhancements Report

1. UID: 255	2. Report: SGH ID: LAT-48	3. Contract: RMMR Contract	4. Status: Work in Progress (10%)	5. Est. Comp. Date: 1/29/23
6. Title: Provide cradle and lateral stops (PS 74)				
7. Description: Provide lateral stops, missing pipe cradle / reset pipe cradle to support elevated 16" pipe (F24 line). Provides resiliency to pipeline system in the event of a high-pressure surge event.				
8. Additional Info: Materials are on order. RMMR Contractor is coordinating execution of work with site for on schedule completion.				
9. Source: SGH Third Party Assessment		10. Critical Path/Near Critical Path: No		

1. UID: 256	2. Report: SGH ID: LAT-55	3. Contract: RMMR Contract	4. Status: Work in Progress (15%)	5. Est. Comp. Date: 12/22/22
6. Title: Repair / provide pipe cradle (PS 6)				
7. Description: Repair pipe cradle that is missing on one side of pipe. Structural integrity of beam component ensures adequate support of pipeline.				
8. Additional Info: Proposal is under technical review. Authorization to begin work will be given to the contractor for execution of work once proposal is approved.				
9. Source: SGH Third Party Assessment		10. Critical Path/Near Critical Path: No		

1. UID: 257	2. Report: SGH ID: PM-10	3. Contract: Pipeline Repairs Contract	4. Status: Work in Progress (10%)	5. Est. Comp. Date: 9/15/23
6. Title: JP5 pipe - Analyze system for surge events; provide axial restraint (Tanks 5, 13-14, 17-20)				
7. Description: JP5 pipeline is not restrained at ends of the main pipeline and laterals. Pipeline is free to move in the event of a surge resulting in damage to coupling. Need to install restraints at ends of JP5 pipeline and laterals on Tanks 5, 13, 14, 17, 18 and 20 to ensure pipeline will not move excessively and damage couplings.				
8. Additional Info: Solution is dependent upon the stress analysis included in Pipeline Repairs Contract. Stress analysis is in progress				
9. Source: SGH Third Party Assessment		10. Critical Path/Near Critical Path: Yes		

1. UID: 258	2. Report: SGH ID: PM-11	3. Contract: Pipeline Repairs Contract	4. Status: Work in Progress (10%)	5. Est. Comp. Date: 9/15/23
6. Title: F24 pipe - Evaluate and design axial restraint (Tanks 15 and 16)				
7. Description: F24 pipeline is not restrained at ends of the main header and laterals. Pipeline is free to move in the event of a surge resulting in damage to coupling. Need to install restraints at ends of F24 main pipeline and laterals on Tanks 15 and 16 to ensure pipeline will not move excessively and damage couplings.				
8. Additional Info: Solution is dependent upon the stress analysis included in Pipeline Repairs Contract. Stress analysis is in progress.				
9. Source: SGH Third Party Assessment		10. Critical Path/Near Critical Path: Yes		

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1. UID: 260	2. Report: SGH ID: PM-19	3. Contract: Pipeline Repairs Contract	4. Status: Pending Third Party Verification	5. Est. Comp. Date: Completed
6. Title: JP5 pipe - Connect lateral to protect dresser coupling (Tank 20)				
7. Description: Dresser couplings may not have capacity to withstand surge load like the May 6, 2021, event (if it is replaced-in-kind and laterals to Tanks 19 and 20 are not connected properly). Brace end of lateral connection to prevent movement in the event of a high-pressure surge event.				
8. Additional Info: Work is complete. DoD is completing closeout documentation for submission to third-party for verification of work.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: No	

1. UID: 261	2. Report: SGH ID: PM-20	3. Contract: Pipeline Repairs Contract	4. Status: Pending Third Party Verification	5. Est. Comp. Date: Completed
6. Title: JP5 pipe - Connect lateral to protect dresser coupling (Tank 18)				
7. Description: Dresser couplings may not have capacity to withstand surge load like the May 6, 2021, event (if replaced-in-kind and laterals to Tanks 19 and 20 are not connected properly). Lateral connection provides resiliency in the event of a high-pressure surge event.				
8. Additional Info: Work is complete. DoD completing closeout documentation for submission to third-party for verification of work.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: No	

1. UID: 264	2. Report: SGH ID: PM-25	3. Contract: Pipeline Repairs Contract	4. Status: Work in Progress (50%)	5. Est. Comp. Date: 11/1/22
6. Title: Tank 10 12-inch dresser coupling - Provide thermal blanket				
7. Description: Dresser coupling thermal blanket on 12-inch line not installed. Thermal blanket provides fire protection.				
8. Additional Info: Materials on site. Contractor scheduling work for installation.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: No	

1. UID: 265	2. Report: SGH ID: HT-12	3. Contract: N/A	4. Status: Pursuing Alternative Solution	5. Est. Comp. Date: 12/15/23
6. Title: AFFF Reclamation Line - install protection to overhead valve (Adit 3)				
7. Description: Provide protection to overhead valve on the AFFF reclamation line to avoid pipeline damage caused by a collision with a moving object (such as the harbor tunnel train).				
8. Additional Info: DoD's AFFF removal proposal provided in the September 7th, 2022 supplement 1.A would eliminate the requirement for these actions, provide an effective alternative to AFFF removal and prevent any delays to defueling Red Hill. This requirement is not necessary if DOH concurs with DoD's proposed way ahead.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: Yes	

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Infrastructure Repairs and Enhancements Report

1. UID: 266	2. Report: SGH ID: HP-14	3. Contract: JBPHH Hotel Pier Contract (PVC to Steel)	4. Status: Pending DOH concurrence	5. Est. Comp. Date: 12/15/23
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6. Title: Hotel Pier - Replace PVC drain pipe

7. Description: Replace Polyvinyl Chloride (PVC) Fuel Oil Reclamation (FOR) drain line located under Hotel Pier with appropriate materials. PVC FOR line is a secondary containment drain line and provides drainage from the pipeline containment trench to Hotel Pier collection sump.

8. Additional Info: Design contract is underway. DoD assesses this is not required for safe defueling and is seeking DOH concurrence.

9. Source: SGH Third Party Assessment 10. Critical Path/Near Critical Path: **Yes**

1. UID: 268	2. Report: TBD	3. Contract: Pipeline Repairs Contract	4. Status: Assessing Design and Contract Planning	5. Est. Comp. Date: 8/15/23
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6. Title: Perform pipeline repairs identified from Red Hill pipeline inspections / assessments

7. Description: Placeholder for NDAA 318 mandated pipeline assessment repair recommendations above the scope of RMMR contract.

8. Additional Info: NDAA 318 mandated pipeline assessment repair recommendations are under review by DoD to determine which repairs are above the scope of RMMR contract.

9. Source: NDAA Section 318 10. Critical Path/Near Critical Path: No

1. UID: 269	2. Report: TBD	3. Contract: RMMR Contract	4. Status: Assessing Design and Contract Planning	5. Est. Comp. Date: 4/1/23
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6. Title: RMMR Repairs per NDAA Assessment

7. Description: Placeholder for NDAA 318 mandated pipeline assessment repair recommendations within the scope of RMMR contract.

8. Additional Info: NDAA 318 mandated pipeline assessment repair recommendations are under review by DoD to determine which repairs are within the scope of RMMR contract.

9. Source: NDAA Section 318 10. Critical Path/Near Critical Path: No

1. UID: 310	2. Report: SGH ID: PM-21	3. Contract: Pipeline Repairs Contract	4. Status: Work in Progress (10%)	5. Est. Comp. Date: 5/16/23
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6. Title: JP5 pipe - Connect laterals to protect 20" dresser couplings

7. Description: Dresser couplings at Tanks 2, 4, 6, 8, 10, 12, 14 and 16 may not have capacity to withstand surge load similar to 5/6/21 event. Dresser couplings to be protected by ensuring cross-tunnel lateral piping is connected or provide axial restraints at tank piping laterals.

8. Additional Info: Solution is dependent upon the stress analysis included in Pipeline Repairs Contract and concurrence from DOH for unpacking fuel lines. F76 connection at Tanks 15 and 16 to JP5 pipeline is a predecessor to this item.

9. Source: SGH Third Party Assessment 10. Critical Path/Near Critical Path: No

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1. UID: 311	2. Report: SGH ID: PM-22	3. Contract: Pipeline Repairs Contract	4. Status: Work in Progress (10%)	5. Est. Comp. Date: 5/16/23
6. Title: JP5 pipe - Connect laterals to protect 12" dresser couplings				
7. Description: Dresser couplings at Tanks 2, 4, 6, 8, 10, 12, 14 and 16 may not have capacity to withstand expected pressures for possible surge events. Dresser couplings to be protected by ensuring cross-tunnel lateral piping is connected or provide axial restraints at tank piping laterals.				
8. Additional Info: Solution is dependent upon the stress analysis included in Pipeline Repairs Contract and concurrence from DOH for unpacking fuel lines. F76 connection at Tanks 15 and 16 to JP5 pipeline is a predecessor to this item.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: No	

1. UID: 313	2. Report: SGH ID: 32	3. Contract: Pipeline Repairs Contract	4. Status: Work in Progress (50%)	5. Est. Comp. Date: 2/16/23
6. Title: JP5 / F76 pipes - Evaluate need for dresser couplings and remove if possible				
7. Description: Evaluate the need for dresser couplings in the JP5 and F76 main distribution piping in Red Hill Tank Gallery between Tank 14 and Tank 16. If they can be removed safely, remove the dresser couplings. 32" coupling to be addressed as part of the F76 cut-over item.				
8. Additional Info: Solution is dependent upon the stress analysis included in Pipeline Repairs Contract and concurrence from DOH for unpacking fuel lines. F76 connection at Tanks 15 and 16 to JP5 pipeline is a predecessor to this item.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: No	

1. UID: 316	2. Report: SGH ID: PM-1, PM-2	3. Contract: Pipeline Repairs Contract	4. Status: Work in Progress (15 %)	5. Est. Comp. Date: 6/16/23
6a. Title: Equalization Line - Install bypass <u>from</u> Tank 20 to other side of DBB valve (JP5 pipe)				
6b. Title: Equalization Line - Install bypass <u>after</u> Tank 20 ball valve to main lateral (JP5 pipe)				
7. Description: Lack of bypasses on DBB and ball valves on Tanks 6 and 20. Install pressure equalization lines across isolation valves at Tanks 6 and 20 to slowly equalize pressure between tank and piping to minimize the likelihood of a pressure surge.				
8. Additional Info: Dependent on concurrence from DOH for unpacking fuel lines. F76 connection at Tanks 15 and 16 to JP5 pipeline is a predecessor to this item.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: No	

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Infrastructure Repairs and Enhancements Report

1. UID: 318	2. Report: SGH ID: PM-3, PM-4, PM-12	3. Contract: Pipeline Repairs Contract	4. Status: Pursuing Alternative Solution	5. Est. Comp. Date: 12/16/22
6a. Title: Equalization Line - Install bypass <u>from</u> Tank 15 to other side of double block and bleed (DBB) valve (F76 pipe)				
6b. Title: Equalization Line - Install bypass <u>after</u> Tank 15 ball valve to main lateral (F76 pipe)				
6c. Title: F76 pipe - Evaluate and design (if required) longitudinal restraints (Tanks 15 and 16)				
7. Description: Lack of bypasses on DBB and ball valves on Tank 15. F76 piping is longitudinally unrestrained at the end of the main 32-in. header. Pipeline is free to move in the event of a surge and could cause overstress. Proposed solution is to cut the F76 tanks over to the JP5 mainline which will then be used to drain the F76 fuel, eliminating need to repair or use the F76 pipelines.				
8. Additional Info: Using JP5 pipeline to drain F76 from Tanks 15 and 16. Work includes installation of equalization lines on the JP5 valves at Tank 15. Design is in progress.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: No	

1. UID: 319	2. Report: SGH ID: 27, PM-5, PM-6	3. Contract: Pipeline Repairs Contract	4. Status: Pursuing Alternative Solution	5. Est. Comp. Date: 6/16/23
6a. Title: Equalization Line - Install bypass <u>from</u> Tank 6 to other side of DBB valve (F24 pipe)				
6b. Title: Equalization Line - Install bypass <u>after</u> Tank 6 ball valve to main lateral (F24 pipe)				
6c. Title: Equalization Line - Install across tank isolation valves				
7. Description: Lack of bypasses on DBB and ball valves on Tanks 6 and 20. Install pressure equalization lines across isolation valves at Tanks 6 and 20 to slowly equalize line pressure to tank head in order to minimize the likelihood of a pressure surge.				
8. Additional Info: The fuel lines must be unpacked to complete this work. The F76 cut-over solution (Tanks 15 and 16) to JP5 pipeline is a predecessor for these actions.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: No	

1. UID: 320	2. Report: SGH ID: HT-6	3. Contract: RMMR Contract	4. Status: Work in Progress (10%)	5. Est. Comp. Date: 10/3/22
6. Title: FOR line - Assess pipe integrity and repair as appropriate (PS 146)				
7. Description: Light corrosion on areas of Fuel Oil Reclamation (FOR) line. Pipe integrity assessment completed with resulting recommendation to mechanically clean and re-coat bare piping in area.				
8. Additional Info: Maintenance team scheduling for completion.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: No	

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1. UID: 321	2. Report: SGH ID: LAT-24	3. Contract: Pipeline Repairs Contract	4. Status: Work in Progress (10%)	5. Est. Comp. Date: 2/16/23
6. Title: F24 pipe - Install lateral stops PS 21-103				
7. Description: F24 elevated pipeline has limited or no lateral restraint. Install lateral stops on pipe supports to provide resiliency of pipeline system in the event of a high-pressure surge event. Lateral stops to be installed on pipe supports 21-103 to provide lateral support to the F24 mainline.				
8. Additional Info: Solution is dependent upon the stress analysis included in the Pipeline Repairs Contract. Stress analysis is in progress tracking for completion by September 30, 2022.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: No	

1. UID: 324	2. Report: TBD	3. Contract: N/A	4. Status: Pursuing Alternative Solution	5. Est. Comp. Date: 12/15/23
6. Title: AFFF - Repair / Replace Reclamation line				
7. Description: DoD evaluated courses of action to repair / replace Aqueous Film Forming Foam (AFFF) reclamation line to ensure safe defueling of Red Hill. Rather than replace the AFFF reclamation line DoD is proposing an alternative means of removal.				
8. Additional Info: DoD's AFFF removal proposal provided in the September 7th, 2022 supplement 1.A would eliminate the requirement for these actions, provide an effective alternative to AFFF removal and prevent any delays to defueling Red Hill. Action of this item is pending concurrence by DOH on DoD's AFFF removal proposal.				
9. Source: DoD Evaluation			10. Critical Path/Near Critical Path: Yes	

1. UID: 326	2. Report: SGH ID: HT-3	3. Contract: RMMR Contract	4. Status: Work in Progress (90%)	5. Est. Comp. Date: 10/3/22
6. Title: FOR line - Assess pipe integrity and repair as appropriate (PS 124)				
7. Description: Light pitting and corrosion on areas of Fuel Oil Reclamation (FOR) line. Pipe integrity assessment completed with resulting recommendation to mechanically clean and re-coat bare piping in area. Assures pipeline integrity.				
8. Additional Info: Maintenance team scheduling for completion.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: No	

Enclosure 4

Infrastructure Repairs and Enhancements Report

1. UID: 334	2. Report: TBD	3. Contract: NDAA 318 A/E Assessment	4. Status: Work in Progress (80%)	5. Est. Comp. Date: 9/30/22
6. Title: Completion of Assessments – NDAA: Red Hill Fuel Transfer, Fire Suppression System, Life Cycle and Navy: Underground Pump House (UGPH) to Hotel Pier Assessment				
7. Description: NDAA Section 318 required Secretary of the Navy to direct an inspection of the pipeline system, supporting infrastructure, and appurtenances (customized component parts), including valves and any corrosion prone equipment, at RHBFSF. DoD continued inspection from UGPH to Hotel Pier.				
8. Additional Info: Assessments are complete and un-redacted versions (raw data) provided to DOH. DoD reviewing data to determine any additional repairs required for defueling.				
9. Source: NDAA Section 318 / DoD Evaluation			10. Critical Path/Near Critical Path: No	

1. UID: 433	2. Report: SGH ID: HP-5, 6, 7, 8, 11, 12, 13	3. Contract: JBPHH Hotel Pier Contracts (Pier Structure)	4. Status: Assessing Design and Contract Planning	5. Est. Comp. Date: 9/15/23
6. Title: Hotel Pier Structural Repairs				
7. Description: Repair concrete structure, fenders, bulkhead, and miscellaneous items; replacement floating fenders, oil boom, pile anodes, and incidental related work. These repairs were not identified as required prior to defueling per SGH assessment.				
8. Additional Info: DOH recommended including these repairs identified in the SGH Third Party Assessment as part of defueling due to DOH concerns about the structural assessment of Hotel Pier included in the SGH report. DoD is coordinating with SGH and DOH to identify if this is required for defueling as these could become critical path activities effecting the defuel timeline.				
9. Source: DOH Recommendation			10. Critical Path/Near Critical Path: No	

1. UID: 456	2. Report: SGH ID: AGP-1	3. Contract: RMMR Contract	4. Status: Pursuing Alternative Solution	5. Est. Comp. Date: 10/3/22
6. Title: F76 line - Repair pipe sections (North Road)				
7. Description: Repair pipe sections, pipe supports, and replace sections of F76 pipe sections at North Road due to crevice corrosion and deep pits at pipe support contacts. Assures pipeline integrity.				
8. Additional Info: Maintenance order has been approved by DoD. Submission of maintenance order by RMMR Contractor is required to complete any maintenance that requires operational support (i.e. Lock out tag out, coordination with operations, etc.) RMMR Contractor scheduling work. DoD is pursuing an alternative solution for F76 line and may not be required to defuel because all fuel would be transferred to tankers via Hotel Pier. However, work is still on RMMR Contractor's schedule for execution and is 15% complete.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: No	

Enclosure 4
Infrastructure Repairs and Enhancements Report

1. UID: 457	2. Report: SGH ID: AGP-2	3. Contract: RMMR Contract	4. Status: Pursuing Alternative Solution	5. Est. Comp. Date: 10/3/22
6. Title: F76 line - Repair pipe sections (North Road)				
7. Description: Repair pipe sections, pipe supports, and replace sections of F76 pipe sections at North Road due to crevice corrosion and deep pits at pipe support contacts. Assures pipeline integrity.				
8. Additional Info: Maintenance order has been approved by DoD. Submission of maintenance order by RMMR Contractor is required to complete any maintenance that requires operational support (i.e. LOTO, coordination with operations, etc.) RMMR Contractor scheduling work. DoD is pursuing an alternative solution for F76 line and may not be required to defuel because all fuel would be transferred to tankers via Hotel Pier. However, work is still on RMMR Contractor's schedule for execution and is 15% complete.				
9. Source: SGH Third Party Assessment			10. Critical Path/Near Critical Path: No	

Enclosure 4
Infrastructure Repairs and Enhancements Report
Attachment 1
Status Definitions for Repair and Enhancement Activities

1. **Pending Work Induction:** Recommendation is identified as a required repair, enhancement or mitigation measure for defueling operation. Identified work is pending induction and determination of best contract execution method.
2. **Developing Scope of Work:** Scope of work (whether for assessment, design, repair, enhancement or mitigation measure required for defueling operation) is under development.
3. **Accessing Design and Contract Planning:** Work identified in follow-on assessment (i.e. Section 318 Report, Underground Pump House to Hotel Pier Pipeline Assessment, Stress or Surge Analysis). DoD is assessing acquisition strategies to most efficiently address requirement.
4. **In Acquisition / Pending Contract Award (Assessment, Design or Construction):** Contract for identified assessment, design, repair or enhancement and/or mitigation measure is in the acquisition process pending (specify whether assessment, design or construction) contract award.
5. **Work in Progress:** Assessment, design, repair, enhancement and/or mitigation measure to pipeline system and infrastructure is in progress with total percent complete (i.e. design, acquisition and construction) shown in parentheses.
6. **Pursuing Alternative Solution:** DoD is proposing a different solution to address the recommendation in the third-party assessment.
7. **Pending Third Party Verification:** Repair, enhancement, alternative solution and/or mitigation measure is complete pending verification by contracted third-party evaluator. DoD has contracted with an Architecture / Engineering (A/E) firm for third-party quality assurance (QA) review and verification of contract items. Intent is for the third-party QA team to certify repair or enhancement is complete and submit to DOH for concurrence and close-out.
8. **Pending DOH Concurrence:** third-party A/E team verified completion of the recommendation and is ready for DOH concurrence.
9. **Received DOH Concurrence:** DOH concurred recommendation has been met and the action is considered complete.

Enclosure 4
Infrastructure Repairs and Enhancements Report
Attachment 2

Contracts to Support Defueling of Red Hill Bulk Fuel Storage Facility

- a) **Pipeline A/E Contract:** contract for Architecture / Engineering (A/E) services; executed with A/E firm to complete root cause analyses for the 5/6/21 and 9/29/21 surge events.
DoD Agent: Naval Facilities Engineering Systems Command (NAVFAC);
Contract #: N3943020D2242; Contractor: Austin Brockenbrough & Associates, LLC;
See Enclosure 5 for a copy of the redacted contract.

- b) **National Defense Authorization Act (NDAA) Section 318 A/E Assessment:** contract for Architecture / Engineering (A/E) services to conduct an inspection of the pipeline system, supporting infrastructure, and appurtenances, including valves and any other corrosion prone equipment at Red Hill Bulk Fuel Storage Facility (RHBFSF). The Secretary of the Navy directed this inspection requirement in accordance with the NDAA for Fiscal Year 2022, Section 318: Inspection of Piping and Support Infrastructure at Red Hill Bulk Fuel Storage Facility, Hawaii.
DoD Agent: NAVFAC; Contract #: N3943020D2242; Contractor: Austin Brockenbrough & Associates, LLC; See Enclosure 5 for a copy of the redacted contract.

- c) **Pipeline Repairs Contract:** contract for design and construction to repair fuel piping at the RHBFSF; executed with contractor to complete design and repair of contract items.
DoD Agent: NAVFAC; Contract #: N394320D2225; Contractor: APTIM Federal Services, LLC; See Enclosure 5 for a copy of the redacted contract.

- d) **Recurring Maintenance / Minor Repair (RMMR) Contract:** contract that provides quarterly, semi-annual, and annual maintenance service for capitalized installation level real property. Also included is a minor repair and emergency response services for mission essential repairs.
DoD Agent: United States Army Corps of Engineers; Contract #: 47QSHA18D000Y;
Contractor: Pond & Company

- e) **Automated Fuel Systems Installation (AFSI) Contract:** contract that provides engineering services for the design, fabrication, integration, installation, configuration management, quality assurance, logistics, maintenance, life-cycle management and technical support capability for the installation of Automated Fuel Systems and other fuel related systems and equipment.
DoD Agent: Defense Logistics Agency; Contract #: SP4702-19-D-0005;
Contractor: Englobal Government Services

- f) **Public Works Department (PWD) Shops:** in-house multi-trade shop forces within the Public Works Department perform construction and maintenance work based on resources available in lieu of a contract.

- g) **Facility Support (FS) Contract:** contracts that provide for facility services, maintenance, and installation support services for example grounds maintenance, custodial, pest control, integrated solid waste management, street sweeping, facility and utility operations and

Enclosure 4

Infrastructure Repairs and Enhancements Report

maintenance, and transportation.

1. **Elevator Maintenance:**

DoD Agent: NAVFAC; Contract #: N6247820D2478;

Contractor: Otis Elevator Company

2. **Fire Suppression System Maintenance:**

DoD Agent: NAVFAC; Contract: N6247818D2466;

Contractor: Media Plumbing & Heating, Inc. DBA Kinetix

h) **AFFF Systems Repair Contract:** a contract for design and construction of Aqueous Film Forming Foam (AFFF) fire suppression system repairs; executed with contractor to complete design and repair of contract items. The acquisition for design services is underway.

i) **JBPHH Hotel Pier Contracts:** comprised of separate contracts for design and construction; executed with architect/engineering (A/E) firm to complete design. Once design is complete, a second contract is awarded to a construction company to complete the repair work.

1. **PVC to Steel:**

DoD Agent: NAVFAC; Contract #: N6247820D5036/ N6247822F4351;

Contractor: Jacobs/Black & Veatch Joint Venture

2. **Pier Structure:**

DoD Agent: NAVFAC; Contract #: N6247820C4001;

Contractor: Triton Marine Construction Corp

j) **Fleet Logistics Center Pearl Harbor (FLCPH) Technical Support Contracts:** separate contracts to support FLCPH in defueling operations management, training and other support to facilitate safe defueling.

1. **Fuels Department Support:** provide technical support, technical writing, and knowledge management services to FLCPH Fuels Department, such as completely overhauling fuel movement operations orders.

DoD Agent: Naval Supply Systems Command (NAVSUP);

Contract #: N0060422P4022; Contractor: Pond & Company;

See Enclosure 5 for a copy of the redacted contract.

2. **Third Party Assessment Implementation Support:** provide engineering, process safety and hazard operability support, and training services to FLCPH Fuels Department specifically towards assisting with implementation the Third Party Assessment's operational recommendations.

DoD Agent: NAVSUP; Contract #: N0060422C0005; Contractor: Brice Solutions, LLC; See Enclosure 5 for a copy of the redacted contract.