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In reply, please refer to:
File:

May 3, 2023

Rear Admiral Stephen Barnett
Commander, Navy Region Hawai'i
850 Ticonderoga Street, Suite 110
Joint Base Pearl Harbor Hickam, Hawai'i 96860-5101
[via email only: stephen.d.barnett.mil@us.navy.mil]

Dear RDML Barnett:

SUBJECT: DOH Comments on Red Hill Bulk Fuel Storage Facility
Tank Closure Plan – Supplement 1

The Hawai'i Department of Health (DOH) has reviewed the U.S. Department of the Navy's (Navy's) Red Hill Bulk Fuel Storage Facility (Facility), *Tank Closure Plan – Supplement 1* (*Supplement 1*), dated February 28, 2023. This and the November 1, 2022 *Tank Closure Plan* were submitted pursuant to the DOH Emergency Order (EO), dated May 6, 2022, requiring a Closure Plan consisting of a Defueling Phase and Closure Phase. *Supplement 1* focuses on the cleaning portion of the Closure Phase. This submission was accompanied by:

- Enclosure 1: Prescriptive Specifications, Cleaning Tanks and Sumps, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam Hawaii, dated February 9, 2023;
- Enclosure 2: Red Hill Bulk Fuel Storage Facility, Standard Operating Procedures for Visual Monitoring to Verify Tank Cleaning Completion;
- Enclosure 3: Statement of Work, Red Hill Bulk Fuel Storage Facility Pipeline Cleaning, Joint Base Pearl Harbor Hickam, Pearl Harbor, Hawaii;
- Enclosure 4: Critical Path Method Schedule: Gantt Chart and Network Diagram, dated January 21, 2023;
- Enclosure 5: Responses to 11 Jan 2023 DOH comments on the Tank Closure Plan; and
- Enclosure 6: Appendix C Defense Critical Infrastructure Security Info.

The DOH's primary concern regarding the Closure Phase of the Closure Plan is that the Navy has yet to provide a schedule that describes with appropriate detail and precision the steps it will take to close the Facility. As stated in Paragraph 8 of our EO, the Closure Phase of the Closure Plan should include a "description of the sequence and process in which the tanks and pipelines are planned to be cleaned, including the four surge tanks and related piping; the

infrastructure and procedures needed to perform the work and ensure pipeline integrity before the cleaning process; the method of permanent closure (remove, fill, or close in place) and associated design and process; ultimate disposition of any accumulated sludge or waste material from the 20 Tanks, four surge tanks, and associated piping; and site assessment in connection with the Facility's permanent closure."

Given that the November 1, 2022 *Tank Closure Plan* did not include sufficient detail to evaluate the aforementioned items, the DOH recommended the Closure Phase of the Closure Plan be submitted and reviewed in phases, so that priority can be given to actions that need to be completed first and timelines can be expedited accordingly. However, the project schedule submitted with *Supplement 1* does not clearly identify when all stages of the plan will be submitted. Based on the EO and information provided to date, submissions for the Closure Phase of the Closure Plan appear to fall into the following three categories:

1. Tank and pipeline cleaning and associated waste management and spill mitigation and release response.
2. Tank and pipeline disposition and associated waste management.
3. Closure site assessment and remediation.

Enclosed are our comments and questions for *Supplement 1*, which addresses aspects of the Closure Phase related to item 1 above. We understand the Navy is unable to provide a comprehensive description of the processes and management strategies associated with item 1 until the contractor(s) is/are selected. For example, the Navy represents in *Supplement 1* that the contractor is responsible for developing the work plans for tank and pipeline cleaning, waste management, and spill mitigation and release response, which is understandable given the contingencies involved. However, the Enclosure 4 Critical Path Method Schedule does not include dates for when these documents will be submitted.

Regarding items 2 and 3 listed above, the DOH has stated in our January 11 and March 15, 2023 letters that we will be unable to approve the Closure Phase of the Closure Plan until the Navy describes, in sufficient detail, how it will render the Facility unusable for future hazardous substance storage, what infrastructure will be removed and exactly what portion of the existing facility will be left in place, the Navy's justification for its design for closure and description of any necessary long-term maintenance, and the Navy's plan for site assessment investigation and remediation. Details on the timing of these submissions are absent from Enclosure 4. Notably, with respect to work related to site assessment, the original *Tank Closure Plan* discussed only ongoing work associated with current release response actions, thus even the planning component of the *Tank Closure Plan* remains incomplete.

As the Closure Plan remains incomplete, even with respect to only the Closure Phase, the DOH is unable to approve the plan. This means, the Closure Phase of the Closure Plan is disapproved and will remain so until the deficiencies noted in the enclosed comments as well as

previous comments have been corrected. We look forward to working with the Navy to expedite tank and pipeline cleaning as well as the overall closure activities for the Facility.

Should you have any questions regarding this letter or the enclosed comments, please contact Ms. Kelly Ann Lee, Red Hill Project Coordinator, at (808) 586-4226 or kellyann.lee@doh.hawaii.gov.

Sincerely,

Kathleen Ho

KATHLEEN S. HO
Deputy Director for Environmental Health

Enclosure

c: Mr. Grant Scavello, U.S. Environmental Protection Agency (w/encl.) [via email only]
Mr. Evan Osborne, U.S. Environmental Protection Agency (w/encl.) [via email only]

RED HILL BULK FUEL STORAGE FACILITY *TANK CLOSURE PLAN – SUPPLEMENT 1*

General Comments

1. The Hawai'i Department of Health's (DOH's) Emergency Order, dated May 6, 2022, requires the Closure Phase of the Closure Plan to "[incorporate], at a minimum, the following:

   Description of the sequence and process in which the tanks and pipeline are planned to be cleaned, including the four surge tanks and related piping...the method of permanent closure (remove, fill, or close in place) and associated design and process; ultimate disposition of any accumulated sludge or waste material from the 20 Tanks, four surge tanks, and associated piping; and site assessment...." (Paragraph 8, page 8).

   Because the Closure Plan will remain incomplete for some time, according to the proposed schedule, the DOH continues to recommend that the U.S. Department of the Navy (Navy) submits the plan in sections, as they are completed, in order to continuously expedite the schedule. We understand the structural analysis in the upcoming *Tank Closure Plan - Supplement 2* and findings of the beneficial reuse study, to be submitted in May 2023 and Fall 2023 respectively, will support the Navy's proposal for tank and piping disposal (as a component of the Closure Phase). We also understand from Enclosure 4 that the site assessment plan will not be submitted until at least August 2023, and the scope and details of site assessment have yet to be determined. Therefore, the Closure Phase of the Closure Plan remains incomplete.

2. Provide a map identifying all existing underground storage tank (UST) system infrastructure that will no longer be used, such that they will be cleaned and decommissioned (e.g., removed, filled, or other method approved by the DOH). If the latter is unknown at this time, provide whatever information is currently available and update with each submission.

3. Section 5 describes three separate beneficial reuse studies to be completed before the Navy submits a closure design to the DOH for review. When will each of these studies be completed? When does the Navy expect to propose a beneficial reuse selection and tank and piping closure design to the DOH?

4. We understand the Navy will keep the public informed about the Nakupuna Companies beneficial reuse study using "press releases, website updates and during monthly neighborhood board meetings with the community" (Enclosure 5, page 22). Describe how the Navy will keep the public informed on the statuses and results of the other two studies performed by the University of Hawai'i and Department of Defense. The Navy should be clear that it will not necessarily select a beneficial reuse idea proposed by the public.

5. Please provide the Unified Facilities Guide Specifications referenced in *Supplement 1* and the enclosures.

6. *Supplement 1* and the enclosures propose ultraviolet (UV) visual inspection to determine whether the tanks are clean. However, none of the references the Navy provides verify UV visual inspection is effective for the specific types of fuels at the Red Hill Bulk Fuel Storage Facility (Facility) (or jet fuel in general). We were unable to find any examples online of UV fluorescence being used to verify that jet fuel tanks are clean. We also note the Navy does not provide a backup method, should UV inspection prove ineffective. Provide information to support the use of this method.

Specific Comments

7. **Page 4, 1. Introduction:** The fourth bullet under "Supplement 1 provides the following" lists "Detailed procedures for waste management." However, *Supplement 1* only provides a summary of these procedures and states the contractor will be responsible for the detailed means and methods. Please provide the contractor's waste management plan for the DOH's review and approval and an estimate of when this will be submitted.

8. **Page 4, 1. Introduction:** The fifth bullet under "Supplement 1 provides the following" lists "A process for updating the Facility Response Plan [FRP]." However, *Supplement 1* only states the Navy will update the FRP once it receives the contractor's Environmental Protection Plan (EPP). Please provide the EPP and updated FRP for the DOH's review and an estimate of when these documents will be submitted.

9. **Page 5, 1. Introduction, Figure 1-1:** The figure indicates "DOH concurrence on permanent tank closure method & procedures" ("Phase 1") will occur before "[i]dentify, evaluate, and select beneficial non-fuel reuse option" ("Phase 2"). As we have stated in our previous letters and comments, the DOH cannot concur with the Navy's proposed method of tank closure until we receive the full closure design. We understand from the Navy that the closure design will depend on the beneficial reuse option selected. This means, the order of Phases 1 and 2 should be switched.

10. **Page 6, 2.1 Definitions, number 3:** This number states "[b]ecause solids cannot be pumped, sludge and other non-flowable material will need to manually removed from the bottom of the tank and lifted out using the center boom in each tank to the upper access tunnel where it can be removed from the facility." Provide information on how the sludge will be lifted, containerized, moved out of the tanks, stored (and where) in the upper access tunnel, and the associated spill mitigation and spill response method. Has the Navy considered removing the sludge via the main fuel nozzle and into a container?

11. **Page 7, 2.2 Tank Cleaning:** The second paragraph states Tanks F-13, F-14, F-17, and F-18 have undergone the Clean, Inspect, Repair (CIR) process, and therefore, the Navy does not plan to clean those tanks again. However, we understand, based on meetings with the Navy and U.S. Environmental Protection Agency (EPA), the CIR process cleans tanks for maintenance rather than closure. Explain and justify the continued applicability of the same cleaning process. If a similar cleaning process will be used for tanks currently with fuel in them, how was it decided that UV testing will only be done for tanks that have not yet been cleaned? Also see comment 6 above.

12. **Page 10, 2.4 Pipeline Cleaning:** The top of the page states "[i]n sections where pigging cannot be performed, the pipelines shall be cleaned using forced air ventilation." How will the "dirty" air be measured to determine when the pipe is considered "clean?" We acknowledge that, short of removing and cleaning the pipes, forced air is likely the next most effective option. Given that piping contains lead and asbestos, the final determination for its management could also assist in determining the pipe cleaning method. For example, if it is prudent to abate the asbestos prior to recycling the metal, and it is easier to do so after the pipes are removed, then could these portions of piping be removed for cleaning, abatement, and disposal at the same time?

13. **Page 10, 2.4 Pipeline Cleaning:** At the juncture where the closed pipelines and remaining operational pipelines meet, explain how this "separation" will occur. Will it be disconnected to prevent future use and potential contamination to the remaining fuel system? How will this portion of end piping be cleaned? If piping will be removed, has the structural stability of the remaining operational pipes been determined?

14. **Page 10, 2.4 Pipeline Cleaning:** The bottom of the page states "[p]ipelines shall be considered clean when no free liquid is observed at the discharge end and the measurement of the Lower Explosive Limit (LEL) is not above the background level." At the LEL, there will still be residual fuel that could later evaporate to above the LEL (when there is no dilution from forced air). Has the Navy considered continuing airflow until the vapors cannot be detected? In addition, after unpacking, the Joint Task Force – Red Hill (JTF-RH) noted fuel remained in several locations along the piping where slope is relatively flat or line sag has occurred. Thus, the lengths of the pipelines need to be checked, including all low points and low point valves, to determine that the pipelines are clean, as opposed to only relying on observations at the discharge end.

15. **Page 13, 5. Planning for Beneficial Non-fuel Reuse:** We understand, based on the *Tank Closure Plan*, the Navy will not explain what measures it will take to render the Facility unusable for future hazardous substance storage until it selects and proposes a beneficial reuse option. However, the first paragraph of this section states "[t]he Navy expects that any potential beneficial reuse will not significantly impact the tank closure process." If that is the case, in the next supplement report, define how the Facility will be physically rendered unusable for future fuel storage.

ENCLOSURE 1: *PRESCRIPTIVE SPECIFICATIONS, CLEANING TANKS AND SUMPS, RED HILL BULK FUEL STORAGE FACILITY JOINT BASE PEARL HARBOR-HICKAM HAWAII*

General Comment

16. This enclosure is mostly related to worker safety. The DOH does not typically review or comment on worker safety issues because this is outside the scope of our regulatory oversight. Thus, our comments on this enclosure are primarily related to UST cleaning and waste management.

Specific Comments

17. **Page 1, 1.1 References:** *Supplement 1*, page 7, states four tanks "have already been cleaned in accordance with American Petroleum Institute Recommended Practices (API RP) 1604 and Unified Facilities Guide Specifications (UFGS) Section 3.2.1." However, these two specifications are not listed under Enclosure 1, 1.1 References.

18. **Page 3, 1.2 Submittals:** This statement of work is performance based, and thus leaves the means and methods to the contractor. There are several submittals listed that will require the DOH's review and approval prior to commencement of work, including, but not limited to: identification of cleaning agents, cleaning work plan, spill mitigation and response plan, and waste storage and disposal plan. Please identify in the schedule (Enclosure 4), when submittal of those plans is expected, and estimated review times.

19. **Page 11, 2.1.1 Cleaning Agents:** Detergent and solvent are specified as FS-O-D-1276 and MIL-PRF-680 respectively. Explain what these are and how they will be used.

20. **Page 17, 3.3 Table of Tank and Sump History/Dimensions:** Our understanding is Tank F-6 currently contains F-24, not JP-5. Please confirm and provide an updated and completed table.

21. **Page 18, 3.3 Table of Tank and Sump History/Dimensions:** There is reference to a fuel oil recovery (FOR) sump near Adit 3. Please clarify whether this sump is the main containment sump of the FOR system that is located near Tanks 1 and 2, rather than Adit 3; or if this is the sump near Adit 3 that was involved in the November 2021 release. If it is the latter, please clarify whether this sump is also part of the FOR system and if the main containment sump will be included in the list of sumps to be cleaned.

22. **Page 18, 3.3 Table of Tank and Sump History/Dimensions:** Similar to the sump near Adit 3, which may not be part of the FOR system, we understand there are additional sumps that are located between the tank gallery and the underground pump house. Will those sumps be cleaned as well?

23. **Page 18, 3.3 Table of Tank and Sump History/Dimensions:** If the FOR sump near Adit 3 is the main containment sump located near Tanks 1 and 2, please confirm the volume of the sump. In addition, three surge tanks are not part of the scope for tank cleaning, however, all four surge tanks currently contain fuel. Please explain.

24. **Page 19, 3.4.2 Flowable Tank Bottom and Sludge:** Please provide the referenced technical specification 01 14 00.05 20.

25. **Page 20, 3.5.2 Rinsate Removal and Disposal:** Will aboveground storage tank (AST) 311 be emptied prior to cleaning the bulk fuel tanks? Or will rinsate from the bulk fuel tanks mix with the contents currently in AST 311?

26. **Page 20, 3.5.4 Washing:** This section mentions rinsing and power washing. Does the Navy intend to use rinsing or power washing as the primary cleaning method?

27. **Page 21, 3.5.5 Wash Water, Detergent Solution, and Sediment Removal:** For larger tanks, this section specifies using the FOR line and Tank 311. We understand there may be some reconfiguration of the FOR system during defueling. The DOH recommends coordinating the final FOR line configuration with the JTF-RH to ensure tank cleaning plans are prepared appropriately.

28. **Page 21, 3.5.5 Wash Water, Detergent Solution, and Sediment Removal:** This section states rinsate from the surge tanks and sumps will be continuously pumped out. Please identify where the rinsate will be pumped from and to what container/location.

29. **Page 21, 3.5.5 Wash Water, Detergent Solution, and Sediment Removal, item a:** This item references a "paragraph entitled 'Water, Sediment, and Sludge Analysis." We were unable to locate this paragraph.

30. **Page 21, 3.5.5 Wash Water, Detergent Solution, and Sediment Removal, item b:** The sludge and sediment must be characterized for proper disposal. Please provide copies of the results when testing is complete.

31. **Page 21, 3.6 Sump Cleaning:** The specifications mention cleaning the sumps to pass UV visual inspection. In addition to our previous comments on the applicability of UV testing for jet fuel, we question the effectiveness of UV testing the sumps, which may not have smooth surfaces. Please explain.

32. **Page 23, 3.6.3.1 Sludge Disposal Using Landfill:** For non-hazardous waste disposal into a municipal solid waste landfill, the waste must also meet landfill bulk liquid restriction requirements. In addition, landfill approval for acceptance should be obtained prior to delivery.

33. **Page 23, 3.6.7 Disposal of Used Blasting Abrasive:** The hazardous waste determination must be made in accordance with State hazardous waste regulations.

ENCLOSURE 2: *RED HILL BULK FUEL STORAGE FACILITY, STANDARD OPERATING PROCEDURES FOR VISUAL MONITORING TO VERIFY TANK CLEANING COMPLETION*

Specific Comments

34. **Page 1, I. General Provisions:** The third bullet states "[t]his SOP [Standard Operating Procedure] is modeled after 'California Code of Regulations Title 23 § 2642 – Visual Monitoring' (Cal. Code Regs. Tit. 23, § 2642) which describes procedures for visual inspection of underground storage tank for hazardous substances." This regulation appears similar to Hawai'i's UST regulations associated with walk-through inspections. Hawai'i's walk-through inspection requirement is for operational tanks and is not related to tank cleaning or tank closure. Please describe how this California regulation would apply to determine when the tank interiors are clean.

35. **Page 1, I. General Provisions:** The fourth bullet states "[a]pplication of ultraviolet light to induce fluorescence and identify petroleum products during visual monitoring is based upon approved field screening procedures accepted by State of Hawaii Department of Health's (HDOH) Hazard Evaluation and Emergency Response (HEER)." However, the DOH, Technical Guidance Manual (TGM) cited only describes using UV to identify petroleum in soil and groundwater, not on tank surfaces for cleaning. Please:

    a. Explain how this technology will be used for tank surfaces;
    b. Identify examples of equipment and corresponding specifications that may be used to perform this work;
    c. Provide examples of this technology being used for similar applications; and
    d. Explain how the Navy will ensure the equipment is operated by highly trained technicians familiar with the technology and its application.

36. **Page 1, I. General Provisions:** The DOH-TGM referenced in the fourth bullet specifically provides the following recommendations for using screening tools: 1) Conduct an initial site-specific evaluation of this method; and 2) conduct laboratory confirmation data for formal decision making. Explain how these recommendations will be accomplished for this project.

37. **Page 2, II. Inspection & Enforcement Overview:** The sixth bullet in this section states if standing liquid is observed at the base of the tank, inspection personnel will use a bailer to collect a sample and record a description of the sample. What would the source of water be, if the tank cleaning specifications require the tanks to be dried after rinsing? Will the liquid sample be tested, and if yes, what method and reporting requirements will be followed?

38. **Page 3, III. Visual Monitoring Program:** During the report inspection, the contractor should also indicate the type of fuel and location of any detections.

39. **Page 3, III. Visual Monitoring Program:** The second bullet states, "[p]rior to use, UV light instruments must be demonstrated to be capable of producing fluorescence on a fuel contaminated surface from a distance of 25 feet." Please explain:

    a. Why the distance of 25 feet was chosen;
    b. What the Navy plans to do if 25 feet is not achievable, or if the process does not work;
    c. To what standard the equipment will be able to identify the presence of petroleum; and
    d. How environmental impacts were considered in choosing the detection standard.

40. **Page 3, VI. Supplemental Material: Theory of Operation for Fluorescence Screening:** The last paragraph states, "[g]iven the proven application and scientific study of fluorescence screening to identify petroleum-based contamination in the field of environmental restoration and within the state of Hawaii, this tool is well supported for its application as visual monitoring tool to verify completion of tank cleaning." As previously mentioned, the DOH-TGM cited in this enclosure only discusses applying this technology to subsurface contamination. The TGM does not discuss using UV for tank cleaning, nor does it describe equipment besides those used for direct push rigs. Thus, more information is needed to understand how this technology and available equipment can be applied to determine whether the tanks are appropriately cleaned.

ENCLOSURE 3: *STATEMENT OF WORK, RED HILL BULK FUEL STORAGE FACILITY PIPELINE CLEANING, JOINT BASE PEARL HARBOR HICKAM, PEARL HARBOR, HAWAII*

General Comments

41. This statement of work is performance based, and thus leaves the means and methods to the contractor. There are several submittals mentioned that will require the DOH's review and approval prior to commencing work, including, but not limited to: work plan, project pigging plan, environmental protection plan (including spill prevention and response plan), plan to assess pipeline cleanliness, design quality control plan, and pipeline inspection completion report. In the project schedule (Enclosure 4), include estimated dates when the DOH can expect these submissions, and include estimated review times.

42. How will the FOR line be cleaned? This statement of work (SOW) does not appear to apply to the FOR line. If it is intended to apply, then the FOR line should be added to the scope. If it does not apply, how will the FOR be cleaned?

43. This SOW does not mention forced air ventilation but Section 2.4 of *Supplemental 1* does. Will this work be performed by a different contractor?

Specific Comments

44. **Page 1, 3.C.2 Background:** The plan assumes the maximum operating pressure of the pipeline is 275 psig (pounds per square gauge). Please coordinate with the JTF-RH on the applicable maximum operating pressure, as appropriate.

45. **Page 14, 5.12.4 Waste Disposal:** This section does not mention a waste disposal plan, but the contractor will be responsible for disposal of waste. The waste disposal plan should also discuss how waste will be collected and stored prior to disposal.

ENCLOSURE 4: *CRITICAL PATH METHOD SCHEDULE: GANTT CHART AND NETWORK DIAGRAM*

General Comments

46. There are no dates on the Gantt chart other than a general timeline at the top, so we are unable to locate specific dates without cross-referencing task IDs on the network diagram, which itself is difficult to read given the scale. Would it be possible to provide two schedules – one at a high-level and one with detail? A high-level schedule would also benefit the public. For example, we understand the Navy is preparing an easily readable schedule of the Nakupuna Companies beneficial reuse study, based on feedback from the community.

47. Based on the other enclosures, there are a number of plans contractors must provide to the Navy and DOH for review and approval before work can proceed. Submission dates and time to review these products must be incorporated into the schedule.

48. Enclosure 5 mentions "a later supplement focusing on the Site Assessment and Release Investigation and Response aspect of tank closure" (page 4). We assume this refers to a future *Tank Closure Plan – Supplement 3* (*Supplement 3*), as we understand the upcoming *Tank Closure Plan - Supplement 2* will focus on the third-party structural analysis. If this is correct, add *Supplement 3* and the DOH's review of *Supplement 3* to the schedule. Submission of *Supplement 3* should also be added to "Appendix A: Updated Plan of Action and Milestones" in *Supplement 1* (page 18).

49. The schedule indicates vents will be secured. What does this mean, and how will it affect condensate generation and air flow through the tanks?

Specific Comments

50. **ID 8:** This item states "NEPA [National Environmental Policy Act] Compliance for Defueling" occurs from December 2, 2022 to January 5, 2024. However, the JTF-RH's press release, dated March 14, 2023, states NEPA review will occur from March 20, 2023 to August 31, 2023. Please clarify.

51. **ID 9:** We understand, based on a meeting with the Navy and EPA on March 9, 2023, a "Final Closure Alternates Report" will not be submitted because the *Red Hill Tank Closure Plan Analysis of Alternatives & Concept Design to Close In Place* (*Analysis of Alternatives*) provided on December 22, 2022 is a final document. Please update the schedule accordingly.

52. **ID 13:** The network diagram indicates the DOH received *Supplement 1* on February 14, 2023. Please correct this to February 28, 2023.

53. **ID 14:** There is no time allotted for the DOH's review and comment of the upcoming *Tank Closure Plan - Supplement 2*. Please add this to the schedule.

54. **ID 45 through ID 394:** We understand the Navy is leaving the tank cleaning schedule to the tank cleaning contractor. However, given that the current schedule indicates cleaning will take two years, we reiterate our previous comment to prioritize cleaning the tanks that contain fuel over the tanks that are empty and may not require additional cleaning.

55. **ID 451:** A plan for site assessment work that addresses our previous comments has not yet been provided, nor a date for when it will be submitted. Please include this in the schedule. We are, therefore, unable to provide detailed comments on this aspect of the proposed schedule at this time. We note, however, the schedule does not appear to include time for field work to conduct the site assessment and only provides a due date for the Site Investigation Report. This portion of the schedule will need to be revised pending submission of the site assessment plan.

56. **ID 459:** The sumps are scheduled to be closed in early 2025, but the last tank to be cleaned (Tank 20) is scheduled for cleaning in 2026. This timing does not make sense because the *Tank Closure Plan* proposes to use the sumps to drain rinsate from the tanks as they are cleaned. Explain this scheduling.

57. **ID 459:** Should time be allotted for cleaning the FOR lines, or has this time been included with another line item?

58. **ID 466:** Should the Hazardous Waste Accumulation Area be scheduled for closure before all of the sludge is removed from the tanks? Currently, Tank 20 is not scheduled to be cleaned until 2026, whereas the Hazardous Waste Accumulation Area will be

closed in early 2025. If cleaning priority is given to tanks with sludge in them, then perhaps, the Hazardous Waste Accumulation Area can be closed sooner.

ENCLOSURE 5 – *RESPONSES TO 11 JAN 2023 DOH COMMENTS ON THE TANK CLOSURE PLAN*

Specific Comments

59. **Comment 1:** After reviewing the *Tank Closure Plan* and *Analysis of Alternatives*, the difference(s) between Alternatives 1 (Closure in Place) and 2 (Closure in Place for Potential Non-Fuel Reuse of Tanks) remains unclear. Until the Navy provides sufficient clarity, the DOH will assume Alternative 1 represents closure in place with no beneficial reuse (such that the closure design will be incorporated in the upcoming *Tank Closure Plan - Supplement 2* structural analysis), and Alternative 2 represents closure in place with beneficial use (such that the closure design will depend upon the beneficial reuse selection). Being that the Navy is already seeking public input for potential beneficial reuse options, it is unclear why the Navy has chosen to request approval for Alternative 1 before completing the beneficial use study.

60. **Comment 2:** The response states "[a] significant advantage of Closure in Place is that it will allow the greatest flexibility for beneficial non-fuel reuse of the tanks." This is concerning because creating flexibility also means future administrations could reopen the Facility. The DOH cannot approve a *Tank Closure Plan* until the Navy defines what steps it will take to render the Facility unusable for future hazardous substance storage.

61. **Comment 4:** The Navy's response specifies the FOR lines will be used throughout the closure process to collect rinsate from the tanks as they are cleaned. While it is stated the sumps will be cleaned after use, there is no discussion of whether the FOR lines or the above ground tank will be cleaned. Please clarify.

62. **Comment 5:** The response states "[t]he Navy is submitting Supplement 1 in order to provide the requested details on tank and pipeline cleaning." The enclosures in *Supplement 1* are performance specifications for contractors that will ultimately determine the means and methods of performance. While the specifications provide some information, the DOH will need to review and approve the contractors' detailed plans before work can begin.

63. **Comment 6:** The information provided in the *Tank Closure Plan* is only limited to work currently on-going in the Tank Gallery and Adit 3 area. The potential for additional site characterization work in this area should be considered after defueling and tank cleaning, as previous efforts were limited due to concerns of creating preferential pathways for future releases. In addition, the site assessment for the purposes of closure is not limited to the location of past known releases but should include the entire UST system.

64. **Comments 8:** The response mentions "a later supplement focusing on the Site Assessment and Release Investigation and Response aspect of closure." The DOH cannot approve the *Tank Closure Plan* before reviewing this submittal. Please update the schedule to identify when the site assessment plan will be submitted.

65. **Comment 15:** The response states "[t]he Navy will take the appropriate steps (i.e. tanks and pipeline are clean and remain in place and surge tanks are filled with inert material) to render the tanks unusable for fuel storage...." These steps will only render the surge tanks – but not the fuel tanks – unusable for fuel storage. We look forward to receiving a proposal from the Navy that demonstrates how the fuel storage tanks and pipeline will also be rendered unusable for fuel and other hazardous material storage.

66. **Comment 16:** The cost comparison provided in the *Analysis of Alternatives* did not provide much additional clarity from the *Tank Closure Plan* because a beneficial reuse has not yet been proposed.

67. **Comment 17:** No details on long-term maintenance plans or structural inspections were provided in the *Analysis of Alternatives*. We expect greater detail as to what will be involved in these inspections to be included with the structural stability analysis in the upcoming *Tank Closure Plan – Supplement 2*, along with the consultant's recommended frequency.

68. **Comment 20:** The response states "[t]he Navy is not proposing to clean Tanks F-13, F-14, F-17, and F-18 again because these tanks were cleaned previously using the Clean, Inspect, Repair (CIR) process, which involves a rigorous cleaning, accompanied by testing to show the tanks are safe for worker occupancy." The purpose of cleaning at that time was maintenance rather than closure. Explain and justify the continued applicability of the same cleaning process. We understand the Navy intends to use similar methods to clean tanks that currently contain fuel, followed by a UV method to determine if they are clean. Please the explain the inconsistency of not using the UV testing method on previously cleaned tanks.

69. **Comment 22:** Waste must be characterized for disposal. However, if the FOR line and sumps are part of the UST system, in accordance with chapter 11-280.1, Hawai'i Administrative Rules, the UST system must be cleaned as part of permanent closure or change in service.

70. **Comment 29:** The *Analysis of Alternatives* did not provide sufficient detail to fully define what "Closure in Place" entails. It did not provide a description of what infrastructure will remain as necessary for structural support while removing all others, nor does it describe how fuel or other hazardous substances will be prevented from being stored in the system, such as filling the nozzles with concrete. Please provide this information or indicate when it will be available.

71. **Comment 31:** The response states some tanks have already been cleaned in accordance with API RP 1604 as part of the CIR process. However, the purpose of cleaning at that time was for maintenance rather than closure. Explain and justify the continued applicability of the same cleaning process. In addition, similar cleaning processes are proposed for tanks that currently contain fuel, and these tanks will be UV tested to determine whether they are clean. Why are these tanks treated differently from previously cleaned tanks?

72. **Comment 32:** Please include the submission of a third-party Quality Assurance Plan and time for the DOH's review in the schedule.

73. **Comment 33.a:** The response states "the tank closure contractor will determine the sequence for cleaning the tanks and will be responsible for preventing or addressing any accidental contamination." We assume this information will be provided in the contractor's work plan, which the DOH will receive for review and approval.

74. **Comment 34:** The DOH has not approved a cleaning method for pipelines for the purposes of defueling. Perhaps, this response is referring to unpacking rather than cleaning. We note that about eight inches of fuel has been trapped in a relatively flat portion of piping. Thus, additional verification measures, some of which were mentioned in *Supplement 1*, are required to ensure fuel has been completely removed prior to cleaning.

75. **Comment 38:** The response mentions that the performance standard requires continuous removal of liquid from the tanks either through the FOR line or placement into totes. However, we could not find the alternative use of totes or the limitation of head on the tank bottom in Enclosure 3.

76. **Comment 40:** Please be reminded that the FOR line may be reconfigured. The closure team should coordinate with the JTF-RH on the status of the FOR line during the transition from the defueling phase to the closure phase to ensure that the infrastructure can still be used for cleaning activities, as necessary.

77. **Comment 48:** We do not understand why Alternative 2 is labeled as "Closure In Place & Preparation for Non-Fuel Reuse" in the *Analysis of Alternatives*. How can the Navy prepare for a non-fuel reuse without knowing what the reuse will be?

78. **Comment 50:** We disagree with the statement that the *Analysis of Alternatives* "contains information that completely describes and evaluates the alternatives." As stated in our comments for that submittal, the evaluation is only cursory.

79. **Comment 53:** The response states "[t]he Navy expects to perform post-closure monitoring and maintenance of the tanks." Noting that past submissions did not provide details on these subjects, when will the DOH receive this information?

80. **Comment 60:** The response did not address our comment because the *Analysis of Alternatives* did not provide all of the requested information.

81. **Comment 61:** The response did not address our comment because the *Analysis of Alternatives* did not consider long-term operations and maintenances.