



**REGION 9**

SAN FRANCISCO, CA 94105

April 18, 2025

Captain Robert Kleinman  
Department of the Navy, Naval Facilities Engineering Systems Command (NAVFAC) Hawai'i /EV21  
Building 55  
400 Marshall Road  
Joint Base Pearl Harbor-Hickam, Hawai'i 96860-3139

Subject: EPA comments on the Draft Environmental Assessment for Red Hill Water Treatment Facility, City and County of Honolulu, Oahu, Hawai'i

Dear Captain Robert Kleinman:

The U.S. Environmental Protection Agency has reviewed the above-referenced document pursuant to the National Environmental Policy Act (42 U.S.C. Section 4331 *et seq.*) and our NEPA review authority under Section 309 of the Clean Air Act. The EPA recognizes the ongoing coordination with the Department of the Navy and the Hawai'i Department of Health regarding the protection of human health, and we appreciate the opportunity to provide feedback on the proposed Red Hill Water Treatment Facility.

The Navy, in coordination with HDOH, has prepared a Draft Environmental Assessment analyzing the construction and operation of a new water treatment facility to reconnect the Navy's Red Hill Shaft to the Joint Base Pearl Harbor-Hickam drinking water system and discontinue the discharge of water into Halawa Stream. The project is consistent with the Navy's commitment agreed upon in the January 2022 Red Hill Shaft Recovery and Monitoring Plan, which calls for the recovery and remediation of the Red Hill Shaft drinking water quality by removing any fuel contamination and by creating a contaminant capture zone in the vicinity of the Red Hill Shaft. The Draft EA acknowledges longer term actions may include the permitting, design, and construction to return the well to service as a safe, potable water source. The Draft EA describes two action alternatives and a "no action" alternative. Please consider the following recommendations as the Navy is preparing the Final EA and Finding of No Significant Impact.

**Project Need and Relevant Laws**

In Section ES.1, the Draft EA states that "the permanent water treatment facility and the interim granulated activated carbon (GAC) water treatment facility would treat water from the Red Hill Shaft to meet National Primary Drinking Water Regulations (NPDWR) and HDOH Safe Drinking Water Standards before it is distributed to the Navy drinking water system" (p. ES-1). However, the National

Primary Drinking Water Regulations are not listed as an applicable law in Section 1.7, *Relevant Laws and Regulations*. Furthermore, the EPA notes that the HDOH Safe Drinking Water Standards do not yet include several rules from the NPDWR relating to per- and polyfluoroalkyl substances (PFAS) in drinking water. Thus, the EPA currently retains primary enforcement authority for these rules.

Additionally, the Draft EA states that “the Red Hill Oily Waste Disposal Facility was impacted solely by petroleum hydrocarbons (TPH), and therefore would be regulated by the HDOH pursuant to the Hawai’i Environmental Response Law rather than by the EPA pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)” (p. 3-13). We note that the Final EA would benefit from a broader discussion of recent history of drinking water contamination and facility closure due to the introduction of petroleum hydrocarbons, and how that impacts the need for the project and description of the project setting. Section 3.3.2.4 of the Draft EA states that “the Defense Environmental Restoration Program was created at Joint Base Pearl Harbor Hawai’i to identify areas on base that are considered environmental concerns under federal laws. The goal of the Defense Environmental Restoration Program is to identify, investigate, and clean up contamination from CERCLA hazardous substances or pollutants or contaminants” (p. 3-14). The EPA is overseeing the PFAS investigation at Red Hill pursuant to the Pearl Harbor Federal Facility Agreement.

As stated above, the Draft EA notes the need to meet NPDWR and the State of Hawai’i HDOH Safe Drinking Water Standards before it is distributed to the Navy drinking water system; and it also states that the purpose and need for the proposed action is to “restore the Red Hill Shaft as a valuable drinking water source for the Joint Base Pearl Harbor-Hickam, in compliance with NPDWR and HDOH Safe Drinking Water Standards” (ES-2). We note that the new permanent treatment facility needs to consider potential contamination of jet fuel and petroleum hydrocarbons which are not fully captured by existing NPDWR and HDOH standards.

***Recommendations for the Final EA:*** The EPA recommends the Navy provide a citation to the NPDWR and HDOH standards and to CERCLA. Please also include a short summary of the site’s recent history of being closed due to jet fuel contamination in the Project Need section and Section 3.1.1 and/or 3.2.1. The EPA recommends the Navy update the Final EA to confirm the need to provide clean drinking water that does not contain jet fuel, in addition to meeting NPDWR and HDOH Safe Drinking Water Standards.

### **Hazardous Materials**

We note that Section 3.3.2.3 of the Draft EA states that “[n]o construction and demolition debris containing hazardous materials such as asbestos containing materials, lead based paint, or polychlorinated biphenyls is expected to be generated by the Preferred Alternative” (p. 3-14). The EPA notes that PFAS are not included in the hazardous waste analysis, yet the Navy is conducting a remedial investigation into PFAS contamination at Red Hill. Available data indicates there is a potential PFAS source on the former oily waste disposal facility operated by the Navy which is in immediate proximity to the proposed treatment plant. To complete their investigation and potentially remediate PFAS sources, the Navy will need physical access to areas on the site of the proposed treatment facility. Existing data on PFAS contamination should be evaluated in the context of the construction project to determine if there are critical areas on the site where access needs to be preserved for environmental

sampling, monitoring well installation, and, potentially, remedial actions. Alternatively, an expedited investigation of conditions on the proposed water treatment facility site can be conducted in advance of facility construction to assure there is no conflict with the CERCLA investigation and any remedy that may be required. Further, because the proposed construction activity may expose workers to hazardous materials, providing additional detailed information about the physical location of potential PFAS-contaminated sites may offer critical information to inform safe construction and demolition practices.

***Recommendations for the Final EA:*** The EPA recommends the Navy identify a process for preserving access to PFAS-impacted sites and indicate whether an expedited investigation in advance of facility construction is necessary to accommodate the Navy's hazardous materials analysis. We also recommend considering PFAS in the hazardous materials analysis, and identifying the locations of known PFAS impacted sites and status of cleanups. Additionally, the EPA recommends identifying methods to protect construction workers from hazardous materials, including PFAS, in the project area.

### **Granular Activated Carbon Treatment (GAC)**

#### *Granular Activated Carbon Treatment Service Life*

In Section 3.3.2.2, the Draft EA states that "new GAC media would need to be installed and old GAC media removed and disposed of every few years" (p. 3-13). It is unclear exactly how often the GAC media would need to be removed and what threshold the Navy would use to determine removal is warranted. The Navy may be able to provide estimates of when the GAC media will near the end of service life by considering the rate at which water is being pumped from the aquifer for usage on the base and comparing it to known information from the manufacturer. Additionally, the Navy may also consider testing for contaminants in the water after it has gone through the water treatment facility to determine when contaminant breakthrough occurs, which would indicate the need to replace the GAC media.

***Recommendation for the Final EA:*** The EPA recommends that the Navy estimate service lifetimes for the GAC media and identify thresholds for servicing.

#### *Backwash Contamination and Optimizing Treatment*

In Section 2.3.2.4, the Draft EA states that "the GAC media needs to be backwashed to remove fine, inert particles" and that "[t]he waste water generated by backwashing the GAC media would be conveyed to the City and County of Honolulu's sanitary sewer system" (p. 2-8). Additionally, the Draft EA states that "elevated concentrations of total petroleum hydrocarbons diesel range organics were reported by the laboratory" that was involved in monitoring events for one of the basal aquifer wells in the Red Hill Facility (p. 3-13). The GAC media used to treat the water may entrain these constituents, among others, throughout its lifetime. The backwash may then mobilize these constituents and transport them to the wastewater system. Identifying what potential constituents may be flowing into the sanitary sewer system may help the City and County of Honolulu appropriately treat the entering backwash water and reduce the public's exposure to these constituents. We also recommend coordination with the City and County of Honolulu, the HDOH, and the EPA to ensure the backwash effluent entering wastewater is compliant all applicable pretreatment standards and requirements.

The GAC treatment may have the co-benefit of reducing the concentration of PFAS in the treated water to safe drinking levels as well as reducing TPH. The EPA notes that groundwater sampling near the Red Hill Shaft found PFAS in the basal groundwater aquifer at levels exceeding the applicable Maximum Contaminant Levels for PFOS and PFOA. There may be a GAC treatment optimization that maximizes PFAS removal and TPH. Additionally, in Section 2.3.2.4, the Draft EA states that “additional enhanced treatment technologies such as anion exchange or high-pressure membrane treatment” may be used in addition to the GAC treatment, and that “the proposed permanent water treatment facility has been designed to accommodate potential future enhanced treatment technologies within the existing site footprint” (p. 2-8). However, the conditions or thresholds that would necessitate additional treatment are not discussed. Disclosing these conditions or thresholds may help the public understand the limitations of the GAC treatment and may inform what data or sampling efforts are needed to make a decision regarding enhanced treatment.

***Recommendations for the Final EA:*** The EPA recommends the Navy describe current and future monitoring, and identify other potential constituents that may be present in the backwash that would enter the wastewater system, including pollutants such as TPH and PFAS. Describe the coordination with the local sanitary sewer operators, and describe the potential mitigating actions that would likely be employed to ensure the backwash water entering the sanitary sewer system is safe. Identify any applicable treatment system for the disposed backwash, a monitoring plan for regularly sampling for the presence of harmful pollutants, including TPH and PFAS, and how information regarding ongoing sampling would be communicated to the public. Discuss the type of wastewater treatment being considered for the backwash to demonstrate its effectiveness to remove the pollutants identified, as well as the conditions or thresholds that would necessitate enhanced treatment and data or sampling needs that would support the decision for enhanced treatment. Consider GAC treatment options that could meet the maximum contaminant level goal for PFAS and optimize removal of all contaminants. Further, please provide additional description of why the packed tower aerator alternative was not further considered, given the ability of that alternative to address potential TPH in drinking water.

#### **Mitigation of Stormwater Runoff Due to Increased Impervious Surfaces**

The project area is sited adjacent to Halawa Stream which flows into the water of Pearl Harbor. Section 3.2.3.2 of the document states that the Preferred Alternative would increase impervious surfaces, involve substantial earthwork during construction (grading, clearing, and grubbing of the project site to create a level building pad), and increase stormwater runoff. Earthwork activities would occur proximate to the channel of Halawa Stream and could result in impacts to the stream and downstream waters and ecosystems if erosion and stormwater are not properly managed (p. 5-9). We appreciate that the description of the Proposed Action mentions that it would limit stormwater discharge to pre-development levels. However, it is unclear based on the following statement what the specific features are for mitigating stormwater discharge: “[l]ow Impact Development features would be implemented to match the existing stormwater discharge rate to offsite areas, and the existing drainage patterns would be maintained to the extent possible” (p. 3-11). We note that should the project design disturb

greater than 1 acre, a Hawai'i Construction General National Pollutant Discharge Elimination System (NPDES) Permit would be required.

***Recommendations for the Final EA:*** In the Final EA, please disclose the specific features that are distinct from standard operating procedures/best management practices that will be implemented to mitigate stormwater discharge. We recommend consulting the EPA *Bioretention Design Handbook*,<sup>1</sup> which includes information about the latest approaches and lessons learned for bioretention design, construction, inspection, and operation and maintenance. Include the development of maintenance contracts in the mitigation measures to ensure these features are maintained for maximum effectiveness. Confirm in the Final EA if a Hawai'i Construction General NPDES Permit will be needed.

### **Utilities and Infrastructure**

Table 3, located within Appendix C of the Draft EA, states that “the Proposed Action would construct a new 24-inch raw water transmission line to convey water from the Red Hill Shaft Pump Station to the permanent water treatment facility” and that “[a] new 24-inch finished water line would convey the treated water from the permanent water treatment facility to the Navy’s existing drinking water distribution main” (p. 13, Appendix C). The locations of these transmission lines are not indicated in any figures, nor are their locations specified in the Draft EA. As such, it is unclear where these water mains would be located. The EPA understands that utility line locations and points of connection are not shown due to operational security guidelines, as stated in Table 3. A brief, general clarification that the transmission lines are, or are not, within the base boundary may be helpful for the public to understand extent and bounds of the water utilities while maintaining operational security.

***Recommendations for the Final EA:*** The EPA recommends clarifying whether the water transmission lines are anticipated to be constructed within the base boundary. Provide further description of the locations of the new water transmission locations, while complying with operational security guidelines.

### **Documenting Operator Training for Potential Chemical and Contaminant Spills**

The Draft EA identifies several measures to monitor and decrease the potential risk of a chemical spill during operation of the water treatment facility, including operator training, on-line instrumentation for monitoring, and remotely operated alarms and valves to prevent contaminated water from entering the Navy water distribution system. However, there is a lack of detail in the Draft EA regarding the required operator training to perform these process control functions and the use of spill response materials (spill kits) during typical operations.

***Recommendations for the Final EA:*** We recommend identifying specific operator training guidelines for the handling of potential chemical and contaminant spills, as well as other kinds of contamination prevention measures for contractors in the Final EA. The EPA recommends compiling measures in a stand-alone list that can be shared with contractors, to ensure the safety of workers and implement strategies that decrease the risk of potential chemical spills.

---

<sup>1</sup> Available at [https://www.epa.gov/system/files/documents/2023-11/bioretentiondesignhandbook\\_plainnov2023.pdf](https://www.epa.gov/system/files/documents/2023-11/bioretentiondesignhandbook_plainnov2023.pdf)

Thank you for the opportunity to review this Draft EA. We would appreciate receiving an electronic copy of the Final once it is made public. The EPA Region 9's Red Hill team is available to assist with technical support; please reach out to Luis Garcia-Bakarich from our Drinking Water Office for coordination ([garcia-bakarich.luis@epa.gov](mailto:garcia-bakarich.luis@epa.gov); 415-972-3237). If you have any questions about this letter, please contact me at 415-972-3629, or contact Laney Gordon, the lead reviewer for this project, at [gordon.laney@epa.gov](mailto:gordon.laney@epa.gov).

Sincerely,

/s/

Francisco Dóñez

Manager

Environmental Review Section 2

cc: Gaudencio C. Lopez, P.E.  
Environmental Management Division, Safe Drinking Water Branch Chief, Hawai'i Department of Health

Joan Corrigan  
Section Supervisor, Hawai'i Department of Health

Jeffrey Tsai  
Emergency Response, Hawai'i Department of Health

Haku Milles  
Department of Design and Construction Director, City and County of Honolulu

Debra Mendes  
Office of Planning and Sustainable Development Program Manager, State of Hawai'i

Dayna Yoshizaki  
Environmental Director, NAVFAC Hawai'i Environmental Division

Wendy Dauberman  
Environmental Program Manager, NAVFAC PAC Environmental Division EV21