REGION 9
SAN FRANCISCO, CA 94105

July 19, 2024

Karnig Ohannessian
Deputy Assistant Secretary (Environmental and Mission Readiness)
Department of the Navy
1000 Navy Pentagon
Washington, DC 203520
(Sent via Electronic Mail)

Subject: **Analysis of AFFF Retention Line Fluids**

Dear Deputy Assistant Secretary Ohannessian:

Thank you for your June 21, 2024, letter to the U.S. Environmental Protection Agency (EPA) and Hawai'i Department of Health (DOH). The Navy agreed to increase groundwater and source water sampling of per- and polyfluoroalkyl substances (PFAS) at and around the Red Hill Bulk Fuel Storage Facility (RHBFSF). Navy did not, however, agree with the request for PFAS analysis of fluids collected from the aqueous film-forming foam (AFFF) retention line and FRAC tanks because of concerns that samples could contain PFAS from sources other than the November 2021 release. EPA acknowledges these concerns but reiterates our request that Navy analyze aqueous samples from at least three, and potentially up to eight, aliquots capable of being analyzed pursuant to EPA Method 1633 for PFAS.

Fuel released during the May 2021 release from the RHBFSF came to be present in the AFFF retention line after it was unknowingly transferred from the AFFF sump to the retention line. In addition to JP-5, the AFFF sump could have transferred materials from the May 2021 release response into the AFFF retention line. These fluids sat for approximately 6 months until being released near Adit 3. The November 2021 release fluids, therefore, could have included a mix of fuel, liquids related to cleanup of the May 2021 release, and anything present in the AFFF retention line prior to May 2021.

Although residual fluids sat in the AFFF retention line piping for two years and three months after the November 2021 release, laboratory analysis would still provide useful information about the composition of AFFF retention line fluids at the time of the release. EPA, DOH, and Navy could use this information to guide the forthcoming PFAS remedial investigation and the ongoing petroleum investigation. September 2023 waste characterization samples collected from the AFFF retention line suggest that material with a modern AFFF formulation may have been present in addition to fuel.

In February 2024, Joint Task Force Red Hill (JTF-RH) discovered an estimated 300 to 400 gallons of fluid remaining in the AFFF retention line while preparing for EPA's Interim Defueling Completion Inspection. EPA requested that the Navy collect aliquots of fluids from different line segments, so that samples could later be analyzed to help EPA and DOH better understand the chemical composition of the November 2021 release. JTF-RH collected the aliquots, as requested, on February 7-8, 2024, in three types of containers (HDPE bottles, amber glass jars, and VOA vials). The amber glass jars have caps with Teflon liners, so PFAS analysis should only be run on samples from the HDPE bottles. The other containers were intended for separate analyses, and DOH has shared results from analysis of fuel samples that lessen the need for new data on petroleum-related constituents and fuel additives.

Regarding concerns that fluids in the AFFF retention line may have been affected during sample extraction, or prior to extraction by degradation of polyvinyl chloride piping, EPA did specify in our original February 6, 2024, request letter that Navy follow specific PFAS sampling protocols, avoid the use of buffers and preservatives, and immediately chill aliquots to 4 degrees Celsius. This guidance was designed to best preserve fluids in the state they were in when collected from the source, and JTF-RH reported to EPA that AECOM, the Navy's contractor, collected aliquots, placed them into containers, and chilled them as directed by EPA.

Regarding concerns about approved methods for analyzing PFAS in fuel samples, EPA recommends that Navy analyze, via EPA method 1633, the three aqueous-phase aliquots from AFFF retention line segment 2B (S02B-DRUM01-LA01N-2402), segment 3B (S03B-LINE-LA01N-2402), and segment 5 (S05A-LINE-LA01N-2402). If sampling volumes allow the laboratory to satisfy requirements of EPA method 1633, EPA also recommends that Navy analyze five mixed-phase aliquots from AFFF retention line segments 2A, 2C, 3A, 4/5 and 5 that may contain aqueous components. These eight aliquots are currently being stored under Navy chain of custody at the Eurofins lab in Sacramento, California.

If you have any questions regarding this letter, please contact me.

Sincerely,

/s/

Claire Trombadore, Director
Land, Chemicals, and Redevelopment Division

cc: RADM Stephen Barnett, Commander, Navy Closure Task Force – Red Hill
RADM Marc Williams, Deputy Commander, Navy Closure Task Force – Red Hill
Kathleen Ho, Deputy Director for Environmental Health, Hawaii Department of Health