

BOARD OF WATER SUPPLY

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Ms. Jamie Marincola
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Dear Ms. Marincola:

Subject: Honolulu Board of Water Supply Written Comments to the 2023 Draft Consent Order for the Red Hill Bulk Fuel Storage Facility and Pearl Harbor-Hickam Water System, Honolulu, Hawaii, EPA R-09-RCRA-2022-0970

The Honolulu Board of Water Supply (BWS) appreciates the opportunity to offer the following written comments to the above-referenced draft administrative consent order between the United States EPA (EPA), the United States Department of the Navy (Navy), and the Defense Logistics Agency (DLA) (the "2023 Consent Order"). The BWS supports strong regulatory action to address releases of fuel and other hazardous substances from the Red Hill Bulk Fuel Storage Facility (RHBFSS). However, we are extremely disappointed with the provisions of the proposed 2023 Consent Order, as it does nothing to address remediation of the Navy's damage to Oahu's irreplaceable sole source aquifer or the critical public health issues that have resulted from the numerous past releases at the facility. Further, it lacks important details, clear timelines, strict penalties, opportunities for meaningful stakeholder participation, and public transparency.

The contamination caused by releases from the RHBFSS, both of fuels and other hazardous materials such as aqueous film forming foam (AFFF) containing per- and polyfluoroalkyl substances (PFAS), poses imminent and substantial endangerment to public health and the environment. The BWS urges the EPA to take more resolute regulatory action to address the imminent peril to Oahu's irreplaceable drinking water resources posed by the ongoing fuel storage operations at the RHBFSS. While the Navy appears to be willing to negotiate limited commitments related to defueling and closure, its track record demonstrates an inability to satisfactorily meet such requirements. Accordingly, quick, decisive regulatory enforcement is needed to ensure that the Navy safely and expeditiously defuels, permanently closes the RHBFSS and addresses the impacts of the past releases. That is the only way we can ensure that

our critical drinking water resources are restored now and protected into the future. The proposed 2023 Consent Order simply does not go far enough.

Specifically, the BWS does not support the proposed 2023 Consent Order, as written, because it:

1. Does not contain clear deadlines for the Navy to complete the defueling of the RHBFSF or the permanent closure of the facility;
2. Does not impose significant mandatory penalties for Navy noncompliance;
3. Provides no meaningful opportunity for stakeholder and public input or any defined role for external subject matter experts (SMEs) like the BWS;
4. Does not even mention, let alone contain specific actions to address, the latest release of PFAS-containing AFFF concentrate liquid;
5. Lacks clarity with respect to potential congruence and/or conflict with the existing 2022 Hawaii Department of Health (DOH) emergency order and 2015 administrative order on consent (the "2015 AOC");
6. Fails to sufficiently address or require the Navy to investigate and remediate the full extent of the environmental damages caused by releases from the RHBFSF, including those to our drinking water resources; and
7. Does nothing to address the serious public health impacts that have resulted from the Navy's past releases.

Like the BWS, the EPA has a duty to protect human health and the environment, including Oahu's critical drinking water resources. Consistent with these obligations and our shared responsibility as environmental stewards, the EPA needs to take actions that will ensure that the Navy will defuel the RHBFSF safely and expeditiously, permanently close the facility in such a manner that it can *never* be used to store fuel or hazardous substances in the future, remediate environmental impacts from past release of fuels and other hazardous substances, and address the considerable public health effects caused by the releases. If the EPA decides to act by entering into a consent order or by issuing a unilateral enforcement order, it must ensure that any such order addresses these serious issues and does not just continue the same failed policies and oversight practices that led to the contamination of Oahu's irreplaceable sole-source groundwater aquifer. Alternatively, and preferably, unless the proposed 2023 Consent Order is significantly revised, the EPA could continue to work with DOH to ensure that this result is achieved under the existing agency directives, such as the DOH's emergency order. Only with permanent closure and effective remediation can we preserve the rights of present and future generations in the waters of Hawaii. Given the clear disconnect between the requirements (or lack thereof) of the proposed 2023

Consent Order and its stated objectives, the BWS respectfully requests that the EPA not adopt the order unless and until it is amended to address the serious deficiencies concerning details, timelines, penalties, stakeholder participation, and public transparency identified herein. The BWS' detailed comments on the 2023 Consent Order proposal are presented below.

Detailed Comments – Draft Consent Order

Section 4 – Findings of Fact

The Findings of Fact presented in the proposed 2023 Consent Order fail to address critical factors resulting from the crisis created by the Navy's operation of the RHBFSF and the numerous releases that have occurred over decades, information that is necessary to understand the magnitude of the issues that must be addressed and the appropriate measures to address such issues. It focuses largely on the Joint Base Pearl Harbor-Hickman (JBPHH) drinking water system, neglecting to give sufficient attention to the BWS water systems that serve the overwhelming majority of the people of Oahu and that draw from the same groundwater resources that have been impacted by the Navy's releases. Nor does it adequately catalog or describe the large number of historic known and suspected releases from the RHBFSF, including releases of PFAS-containing AFFF. Further, and most shockingly, there is no mention of the impacts that these numerous and persistent releases have had on public health. Finally, there is no finding of fact related to the Navy's compliance record under the 2015 AOC, which must be considered when determining the level of regulatory oversight required to ensure compliance with any new regulatory order. The proposed Findings of Facts must be amended to address these issues.

Specifically, the BWS has the following comments to the paragraphs and sections cited from the proposed 2023 Consent Order and italicized herein:

Paragraph (f) – *“The Waimalu and Moanalua Aquifers (‘Aquifer identification and classification for Oahu: Groundwater protection strategy for Hawaii,’ February 1990), which are underground sources of drinking water, are located near the Facility. The Waimalu Aquifer covers an area of 15,193 acres and the Moanalua Aquifer covers an area of 4,442 acres. The JBPHH System sources drinking water from these aquifers.”* This proposed Finding of Fact is misleading and should be clarified. The RHBFSF sits directly above Oahu's federally designated sole-source groundwater aquifer, the Southern Oahu Basal Aquifer, from which the BWS supplies approximately 77 percent of the total island-wide water supply. In 1987, the EPA determined that this aquifer is the “principal source of drinking water” for the island and that “[i]f contaminated, would create a significant hazard to public health.” Southern Oahu Basal Aquifer in the Peart Harbor Area at Oahu; Principal Source Aquifer Determination, 52 Fed. Reg. 45496, at 45497 (Nov. 30, 1987). The proposed Finding should be supplemented to provide this important, yet missing, factual context.

Paragraph (g) – *“Navy Well 2254-01 (‘Red Hill Shaft’) is generally located west and hydraulically downgradient from the 20 USTs.”* This proposed Finding of Fact is misleading and should be clarified. The common understanding that is shared by most SMEs is that Red Hill Shaft may be partially downgradient of the RHBFSF tank farm, but that there is a large component of groundwater flow that is toward the northwest, and therefore Red Hill Shaft is not solely hydraulically downgradient of the RHBFSF tank farm. The DOH’s most recent review of the Navy’s Conceptual Site Model (CSM) stated that “while it is true that previous studies did indicate a southwesterly flow direction, these studies did not benefit from the wealth of new, more precise and accurate groundwater elevation data that are currently available showing a **dominant groundwater gradient to the northwest**” (DOH, 2020) (emphasis added). The proposed Finding should be revised to make certain this well-documented cross-valley flow dynamic is clear.

Paragraph (u) – *“Following the January 2014 release, in September 2015, Navy, DLA, EPA, and DOH entered into an administrative order on consent in which Navy and DLA agreed to take steps to ensure that the groundwater resource in the vicinity of the Facility is protected and to ensure that the Facility is operated and maintained in an environmentally protective manner.”* This proposed Finding of Fact is misleading and contrary to the factual record. By any objective standard, the 2015 AOC failed. The people of Oahu are still coping with what the DOH aptly described as “a humanitarian and environmental disaster” caused by the May and November 2021 fuel releases from the Navy’s RHBFSF that resulted in the contamination of Oahu’s drinking water supply, the pollution of this island’s irreplaceable sole-source groundwater aquifer, and a vast public health crisis. The 2015 AOC certainly did not “ensure that the groundwater resource in the vicinity of the Facility is protected” or “ensure that the Facility is operated and maintained in an environmentally protective manner.” Although the BWS recognizes the EPA’s intent in entering into the 2015 AOC, the proposed Finding should be revised to include language making clear that such agreement was “intended” to ensure the protection of the environment. Further, the proposed 2023 Consent Order should include a factual finding regarding the Navy’s failure to meet many of the milestones included in the 2015 AOC and how this failure led to the ensuing environmental and public health disaster.

Paragraphs (v)-(y) – The proposed Findings of Fact regarding recent releases are incomplete. The EPA should include its understanding of the release types and volumes for each release incident and include, at a minimum, the initial and final release volumes reported by the Navy. The EPA should also describe the available facts concerning the reporting of these releases, including whether or not the Navy properly reported such releases or if the regulators were initially informed of the releases by a whistleblower. Regarding Paragraph (y), the BWS requests an explanation as to why this release is termed “accidental” while the other releases outlined are not labeled as such. Further, the Findings of Fact should include the nearly 80 known release

incidents—that is, at least 76 documented fuel release incidents from the RHBFSF acknowledged by the DOH during the emergency order evidentiary hearing, plus a release of “fuel and water mixture” during RHBFSF maintenance activities in April 2022 and the approximately 1,300-gallon release of PFAS-containing AFFF concentrate liquid in November 2022—and that such a figure likely under-represents the total number of releases from the RHBFSF, as releases from fuel storage infrastructure are often under-reported.

Finally, the November 29, 2022 PFAS-containing AFFF release and all other releases of AFFF or other PFAS-containing materials should be documented as releases, and known release dates and/or release volumes should be clearly identified.

Paragraph (cc) – *“On April 1, 2022, there was a release of approximately 30 gallons of a fuel and water mixture from a maintenance line connected to Tank #15 at the Facility. This release was contained and remediated quickly.”* This proposed Finding of Fact does not appear to be supported by evidence in the public record. The BWS requests that the EPA provide the relevant inventory records or other documentation associated with the reporting of this release volume, as well as any analyses confirming this calculation and/or documenting the Navy’s response.

Paragraph (ee) – *“The total amount released to the environment attributable to historical releases, including the January 2014, March 2020, June 2020, May 2021, July 2021, November 2021, and April 1, 2022 releases, is unknown.”* This proposed Finding of Fact is misleading and should be clarified. The factual record supports a finding that at least 76 fuel release incidents at the RHBFSF through 2021 and at least two releases at the facility in 2022 have been documented involving more than 175,000 total gallons of product. (Docket No. 21-UST-EA-02). The proposed Finding should be revised to include this information.

Paragraph (hh) – *“On April 4-8, 2022, inspectors from EPA’s National Enforcement Investigations Center, accompanied by EPA Region 9 credentialed inspectors, conducted an inspection of the JBPHH System. DOH also participated in the inspection. During this inspection, inspectors identified significant concerns, including concerns related to inadequate system maintenance, inadequate operations, maintenance and recordkeeping program, no operator safety training program, incorrect chemical storage, no written valve exercise program, no written flushing plan, no written cross connection control program, failure to issue a Tier 1 public notification of the fuel leak contamination of the Red Hill Shaft, insufficient coverage by qualified operators, an inadequate Emergency Response Plan, and an inadequate System Risk and Resilience Assessment.”* Given that the fuel will continue to be stored at the facility for at least some period, it is critical that the Navy have in place an adequate Emergency Response Plan and a System Risk and Resilience Assessment. The current version should be made available to the BWS and the public. Further, we do not understand why in Attachment A the EPA states that it “does not wish for the Navy to submit the Revised

System Risk and Resilience Assessment to EPA.” The proposed 2023 Consent Order needs to explain how the Navy will be required to address these identified risks.

Additional finding required – As noted above, the proposed 2023 Consent Order does not include any finding of fact related to the public health crisis that resulted from the Navy’s past releases. This is a critical issue both for understanding the totality of the problems to be addressed by a potential regulatory order and for assessing the adequacy of any proposed resolution. The BWS urges the EPA to include such a finding in any potential future consent order.

Section 5 – Conclusion of Law and Determinations

Paragraphs (a)(v)-(vi) – *“EPA has determined that Navy’s and DLA’s handling or disposal of solid waste may present an imminent and substantial endangerment to health or the environment” and “[t]he actions required by this 2023 Consent Order may be necessary to protect health and the environment.”* These proposed conclusions of law are wholly insufficient, and the EPA should welcome the opportunity to correct this deficiency. There is no doubt that the Navy’s operations at the RHBFSF do indeed present an imminent and substantial endangerment to health or the environment and that the EPA believes that the actions required by the proposed 2023 Consent Order are necessary to protect human health and the environment. The EPA’s staff has made this clear on the factual record (EPA Town Hall Meeting on January 18, 2023 and BWS Board Meeting, January 23, 2023). Otherwise, there would be no reason for the EPA to enter into a voluntary consent order in the first place. The EPA should replace the phrase “may present” with “presents” in Paragraph 5(a)(v), and the phrase “may be” with “are” in Paragraph 5(a)(vi). The BWS notes that these determinations pertain to the EPA and thus should not be objectionable to the Navy and/or DLA. Further, outside of negotiating an order on consent, the EPA can take another, more direct action to protect health and the environment. The EPA is authorized under the federal Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901 et seq. (RCRA), to take a unilateral enforcement action against any party that violates requirements for underground storage tanks. See 42 U.S.C. § 6991e. The EPA may take action against both federal facilities and facilities located in states with approved RCRA underground storage tank programs, such as Hawaii. *Id.*, 42 U.S.C. § 6991f.

Paragraph (b)(viii) – *“EPA has determined that state and local authorities have not acted sufficiently to address all measures covered under this 2023 Consent Order that are necessary to protect the health of such persons.”* This proposed conclusion of law is extremely misleading and must be clarified. For years the BWS, as a “local” authority, has been sounding the alarm concerning the imminent peril posed to our irreplaceable drinking water resources by the ongoing fuel storage operations at the RHBFSF, and for the past several months has been stressing the need for resolute action to defuel and permanently close the facility and restore our drinking water resources. Unfortunately, these pleas have largely gone unheeded. We do not

appreciate being lumped into this paragraph and respectfully request that the EPA revise this language accordingly to make clear that the BWS is not included in the broad brush of “local authorities” perceived as having “not acted sufficiently” to avert the Navy’s drinking water emergency and crisis. Further, the DOH’s emergency order addresses the measures that the Navy must take to defuel and close the RHBFSF and the proposed 2023 Consent Order does not explain or support a finding that this order is legally deficient. This conclusion of law needs to be amended to adequately address the DOH’s emergency order as well.

Section 6 – Work to Be Performed

Please refer to the comments provided below addressing proposed 2023 Consent Order Attachment A, Statement of Work.

Section 7 – EPA’s Approval of Deliverables

In its current form, this section contemplates a multistep process for Navy deliverable submittal, the EPA approval/modification/denial, Navy opportunity to cure, and possible dispute resolution. This type of prolonged and convoluted submittal and review procedure is neither warranted nor appropriate here. Time is of the essence to defuel and permanently close the RHBFSF. If the 2015 AOC taught us anything, it is that the Navy will not meet regulatory deadlines and that Navy deliverables will often be incomplete and inadequate. The deliverable submittal and review process under the proposed 2023 Consent Order should be revised to streamline the process.

Section 10 – Sampling, Access and Document Availability

Paragraph (a) – *“All results of sampling, testing, modeling or other data generated (including raw or unvalidated data, which shall be made available if requested) by Navy and DLA, or on Navy’s and DLA’s behalf, during implementation of the 2023 Consent Order, shall be submitted to EPA within seven (7) days of Navy’s and DLA’s receipt of the data. Data shall be provided in the same format that is provided to the Navy and DLA unless a different format is otherwise agreed to by the Navy.”* Under the 2015 AOC and since the more recent releases, the BWS has not been provided timely or complete access to electronic versions of the Navy’s monitoring data. Obtaining this form of the data (as electronic data deliverables, or “EDDs”) is critical to the BWS, as it is the only way that we can quickly and effectively assess potential changes in the nature and extent of groundwater contamination in the aquifer. While Navy has recently made available online copies of certain laboratory reports regarding PFAS testing done in response to the November 29, 2022 AFFF release, it does not exonerate the Navy from its failure to make available data collected under the 2015 AOC and in response to the May and November 2021 fuel releases. The BWS reiterates our long-standing request that all Navy data should be available as an EDD, both to the regulators and the public, and that EDDs should not have to be requested for the Navy to timely provide

them. Based on our decades of experience, we assume that the laboratories that are running tests on the Navy's samples provide the Navy with the EDD. This paragraph should be modified to make clear that EDDs will be generally available for all of the Navy's RHBFSF characterization work.

Regarding the analytical detection limits, the BWS strongly urges the EPA to explicitly require that the Navy concurrently use standard EPA test methods in addition to validated modified methods that enable reporting to the lowest detection limits possible rather than detection limits just below the DOH's environmental action levels (EALs), as has been done for much of the previous monitoring. Such a requirement would have multiple benefits. First, more information would be provided on changes in concentrations of constituents in different monitoring locations, which would greatly enhance understanding the nature and extent of contamination as well as characteristics of groundwater flow. The lowest possible detection limits would also provide an early warning of contamination movement in the aquifer and allow the BWS to make critical decisions regarding drinking water well use. Per the proposed 2023 Consent Order Statement of Work (SOW) regarding the sample analysis of the drinking water system, the EPA is requiring these lower detection limits for samples taken from the Navy's water distribution system. These same detection limits should be extended to the samples collected from the Navy's Red Hill monitoring well network.

Paragraph (d)(i) – *“For any document, record, or information submitted to EPA, Navy and DLA may assert generally or specifically a claim that the document, record, or information, or portions thereof, is protected from public disclosure under federal law or judicially recognized privilege (e.g., documents exempt from disclosure under applicable laws such as the Freedom of Information Act, Procurement Integrity Act, Privacy Act, etc.)”* The BWS recognizes that certain information generated by the Navy may be legally protected from disclosure. However, we historically have found that the Navy often claims such protection for information that has already been disclosed or that does not fall within the claimed disclosure exemption. For example, a claim that raw data from testing of water samples is either security-sensitive information or propriety in nature should never have been permitted and can no longer be sustained. Accordingly, we ask that this paragraph be amended to require the Navy to state with specificity and with factual support a justification for any claim that a document or a portion thereof is protected from public disclosure. We further ask that the EPA commit to reviewing each such claimed privilege or protection and providing a clear determination on any such withholding, including an explanation of the privilege that protects any document or portion thereof withheld from disclosure.

Section 14 – Dispute Resolution

The Dispute Resolution section included in the proposed 2023 Consent Order outlines a lengthy and complex process for resolving any dispute and establishes that this is the exclusive remedy for the parties to address any issues that arise regarding

implementation and execution of the required work. While the BWS understands the intent of this section, we are very concerned about the length of time it would take to complete this process. Given the real and imminent danger to public health and the environment posed by the Navy's method for addressing defueling, closure and remediation, it is critical that the EPA retain the authority to address disputes in emergency situations through a different and much more expedited process. We ask that this section be modified to include such a provision.

Section 15 – Penalties

Paragraph (a) – *“EPA may assess a stipulated penalty against Navy, DLA, or, where both are responsible, collectively against the Navy and DLA, in an amount not to exceed \$5,000 for the first week (or part thereof) and \$10,000 for each additional week (or part thereof) for which failure set forth in this Subparagraph (a) occurs.”* It is apparent based on the Navy's past conduct and history of violations that, in order to safeguard human health and the environment, the Navy must be subject to significant, mandatory penalties for noncompliance with an administrative order. Accordingly, the permissive language indicating that the EPA “may” assess penalties on the Navy for noncompliance should be revised to “shall,” absent clear and compelling circumstances. Moreover, the BWS believes that the penalty amounts are much too low and do not provide the incentive necessary to motivate the Navy and/or the DLA to ensure compliance. The EPA has the regulatory authority to issue significantly higher civil penalties. RCRA authorizes the agency to issue a monetary penalty for these types of violations of up to “\$10,000 for each tank for each day of violation.” 42 U.S.C. § 6991e(d)(2). As proposed, the Navy and DLA could be out of compliance with their obligations under this order and only be subject to about a half-million dollars per year as a fine. This penalty amount is much, much lower than the costs associated with defueling and closure, which have cost estimates that are publicly available in the \$100 million to \$500 million range. These fines need to be significantly increased.

Additional Sections to Be Added – Addressing Public Health Issues

As the EPA is aware, the numerous releases of jet fuel and other hazardous substances from the RHBFSF have resulted in significant public health impacts. The release in late November 2021 contaminated the drinking water of approximately 93,000 users of the Navy's water drinking system. Many of the impacted individuals, including children, continue to report serious ongoing health conditions. To ensure that the Navy adequately addresses these issues, the proposed 2023 Consent Order should require that the Navy fund a long-term health study of the impacts, both acute and chronic, and provide funding to address any and all health conditions experienced by military and non-military water users that arose from the contamination. Without such a provision, the proposed 2023 Consent Order fails to address perhaps the most serious facet of the problem the Navy has caused for the people of Oahu. The EPA should not enter into such a deficient agreement.

Attachment A – Statement of Work for the 2023 Administrative Consent Order

The SOW for the proposed 2023 Consent Order as provided in Attachment A sets forth the tasks and requirements to be undertaken by the Navy, as owner and operator of the RHBFSF and JBPHH systems, and DLA, as owner of the fuel, with oversight by the EPA. This SOW very briefly outlines various work topics, including: project coordination with DOH, expert subject matter involvement, facility maintenance and release detection, bulk fuel storage tank tightness testing, soil vapor monitoring, facility defueling plan, phase 1 and 2 closure plan, drinking water protection, emergency response plan, complaint investigation procedures, plan for establishment of a surveillance and response system, and a table listing the schedule of submittals and deliverables. Generally, the SOW lacks important details, a clear and enforceable schedule, and important input steps for public involvement. This is not an effective way to protect our critical water resources, and, if the EPA chooses to go forward with an order on consent, it needs to significantly modify the SOW.

Section 2.2 – External Subject Matter Expert Involvement

The SOW states, without more, that “[i]t is the intent of the Parties to seek technical input from subject matter experts independent of the Parties.” Given our position as the largest municipal drinking water utility in Hawaii and our important role in safeguarding Oahu’s groundwater from the Navy’s numerous releases from the RHBFSF, it is incredibly disappointing that the proposed 2023 Consent Order does not mention, recognize, or provide a meaningful role for the BWS in the facility defueling, closure or cleanup process. At the outset, the SOW should expressly recognize the BWS as an important SME whose input shall be sought and incorporated in connection with this process. The SOW should also be revised to require that all Navy deliverables, sampling data, and technical analyses be provided to the BWS in a timely fashion. Our understanding, based on numerous public statements, is that the EPA, the Navy, and the DLA all welcome the BWS’ input into the defueling and closure process. Accordingly, the parties to the proposed 2023 Consent Order should make those intentions clear in the body of the document and make a specific commitment regarding the BWS’ role.

Section 2.3 – Community Involvement

The SOW requires the Navy and DLA to provide quarterly public updates and maintain a publicly available website regarding the work performed pursuant to the proposed 2023 Consent Order. Quarterly updates are too infrequent to provide meaningful assurance of progress in defueling and the other requirements to eliminate the imminent threat of releases, addressing public health concerns, and investigating existing contamination in the aquifer. Moreover, these community-involvement obligations

merely require a flow of information to the public and the opportunity for some public interaction; they fall far short of ensuring that important public feedback is considered by decisionmakers and incorporated into actual deliverables. The SOW should be modified to require the Navy to solicit feedback from the public on formal deliverables and respond to all public questions and comments. These updates should be provided at a minimum on a weekly basis, and, during the actual defueling, daily briefings should be held with the public, followed by daily written defueling reports posted on the Navy's Red Hill website.

Section 3.2.1 – Bulk Fuel Storage Tank Tightness Testing.

Per the SOW, the Navy and DLA are required to conduct semi-annual tank tightness testing of each UST at the RHBFSF that contains fuel. **The BWS is concerned about the usefulness and potential adverse impacts of future Tank Tightness Tests.** While on the surface it may seem that continued tank tightness tests may be useful, a careful look reveals that the benefits of tank tightness tests are marginal and give the public a very false sense of security. The problems with tank tightness testing have been well documented, and even leaking tanks can pass these "tightness" tests. History shows that every time the Navy attempts to do something that is non-routine, there is an increased probability of an additional release from a different cause (like the blowout of a dresser coupling that resulted in the May 2021 fuel release). The BWS notes that the tank tightness test of Tank 12 in 2021 led to the May 2021 release incident, and reportedly it was fuel released in May 2021 that contributed to and was released into the environment during the November 2021 incident. During recent administrative proceedings, the Navy championed the efficacy of its automated fuel handling equipment (AFHE). With such touted leak detection accuracy of the existing AFHE system and automated tank gauging systems, the additional and marginally effective tank tightness tests do not appear necessary or appropriate. During the next several months, no new fuel will be brought into the RHBFSF and the Navy can certainly minimize fuel movements between the tanks. This will eliminate any fuel evolutions within the now-stagnant tanks and remove the need for long settling times to improve gauging accuracy. In this manner, the Navy can be assured of even greater reliability for its existing AFHE system and automated tank gauging systems.

Moreover, the timelines required by the SOW to report tank testing results are such that a leaking tank can go over two months before being reported to the EPA, let alone the BWS and the general public. This effectively implies that even after the proposed semi-annual tank tightness test, the BWS and other stakeholders may not know if an RHBFSF tank has leaked for over two months after the tank tightness test has been performed (i.e., 45 days + 21 days + time to notify the public). And since tank tightness tests are to be performed semi-annually, such a detected leak could have been initiated in that tank three months earlier (i.e., average of the six-month testing interval). With such large inherent delay periods, such semi-annual tests are only marginally beneficial.

This is especially true for a defueling plan that is only supposed to last for the next 12 to 18 months.

Section 4.0 – Facility Defueling

The proposed 2023 Consent Order references the dates that the Navy Defueling Plan and its supplements (1A and 1B) were submitted to the EPA (June 30, September 7, and September 28, 2022). The DOH disapproved this plan on July 22, 2022, as we noted in our comment letter dated August 18, 2022 (Lau, 2022c). Our current understanding is that a final Defueling Plan has yet to be approved by either the EPA or the DOH. The BWS requests that if an approval was issued, a copy of this approval letter be made available to the BWS and the general public. If the Defueling Plan has not been approved, the SOW should be revised to indicate such and require that an approved Defueling Plan be secured by the Navy and DLA by March 1, 2023.

The BWS is concerned that the long timeline for defueling in the current Defueling Plan is driven by logistics rather than prioritizing the repairs and upgrades necessary for a *one-time*, safe defueling to protect human health and the environment. Any Navy repairs that significantly impact the timeline should be fully justified, such that the public understands the necessity and that the Navy has fully considered alternatives.

The BWS agrees that safety should be the primary concern regarding the defueling process. However, the BWS is also concerned that the longer the Navy waits (and delays the defueling process), the longer our irreplaceable drinking water resources remain exposed to considerable risks from both sudden, catastrophic fuel releases and slow, chronic fuel releases from the RHBFSF as identified in the ABS risk assessment report (ABS, 2018). The BWS is committed to seeing the RHBFSF both safely and expeditiously defueled. The people of Oahu cannot abide by the Navy prolonging the defueling process, considering this serious threat to our drinking water resources. We all deserve, and the DOH's emergency order requires, the Navy to defuel the RHBFSF at the earliest date by which it is safe to do so.

Further, the SOW should require that the Defueling Plan be released in an unredacted form unless the Navy can substantiate a legitimate privilege or protection. Since the RHBFSF storage tanks will be emptied and the facility *permanently closed*, the BWS cannot understand why some information regarding the condition of the piping and valves is still being redacted. For instance, the Navy has not yet provided the public information, photographs, or descriptions as to what damage was done to the piping, valves, coupling, and pipe supports during the May 6, 2021 fuel release incident.

Section 4.2 - Third-Party Quality Assurance Plan for Evaluating Repairs for Defueling

This section indicates that the Navy and/or DLA submitted an Independent Third-Party Quality Validation Plan to EPA on November 1, 2022 that, provided an eight-step process and defined roles and responsibilities for evaluation of the adequacy of repairs

made to the RHBFSF in preparation for defueling. The BWS asks that this Validation Plan be made available to the public and shared with the BWS immediately.

Section 4.3 – Defueling Preparedness Report

This section of the proposed 2023 Consent Order SOW references an “approved Defueling Plan.” The BWS again requests clarification of whether an approved defueling plan exists and, if so, when was it approved by the EPA (and DOH). Further, this section refers to a deliverable that the Navy is to submit when it certifies that the facility is ready for defueling and that the EPA “projects” the submittal date of January 11, 2024. The BWS reiterates its request that all fuel be removed from the RHBFSF by no later than the end of calendar year 2023. Therefore, the submittal date of the “Defueling Preparedness Report” should be revised to require submittal to the EPA by June 1, 2023, and to require all fuel be removed from the RHBFSF by December 31, 2023. In addition, this deliverable seems to be duplicative as related to an approved defueling plan, and therefore it seems likely to just delay the ultimate defueling of the RHBFSF even further.

Section 5.2.1 – Interim Phase I Closure Report(s)

Interim Closure reports are required by the SOW when each tank (or multiple tanks) is emptied. The BWS requests that these Interim Closure Reports be required to be simultaneously provided to the DOH, the BWS, and the general public, or forwarded to interested parties as soon as they are received by the EPA.

As detailed in the separate BWS comments letter on the Navy’s Closure Plan (Lau, 2023), the BWS strongly urges the regulators to require the Navy to complete the defueling and closure process at the RHBFSF much sooner than currently scheduled, and that the alternative of tank steel removal and filling with an inert material (ALT 4), including removal of all pipelines from the pump house to the upper tank farm, be selected and implemented at the RHBFSF. It should be noted that the DOH issued a letter on January 10, 2023 that states that the Navy’s Closure Plan submitted on November 1, 2022 “did not comply with the requirements of the May 6, 2022 Emergency Order” (DOH, 2023). Further, the DOH has stated that it does not expect to receive the next version of the Closure Plan until April 2023. The Navy’s continued failure to prepare adequate defueling and/or closure plans underscores the need for strict regulatory oversight and the problems that will likely result if the proposed 2023 Consent Order is finalized in its current form.

Section 5.3 – Phase 2 Closure

Phase 2 Closure is defined by the 2023 Consent Order as being consistent with HAR Sec. 11-280.1-71 and -72, as well as HAR Chapter 11.280.1, Subchapter 6: conducting a site assessment of any necessary release response for the soil, groundwater, and soil

vapor that may have not been contaminated by the Facility Subject to Closure. The SOW is then quite unclear concerning Phase 2 Closure, stating that Phase 2 Closure will either be addressed under the 2015 AOC or “another EPA-approved enforcement instrument.” The SOW needs to be clearer on how remediation at the facility will be conducted. Further, the BWS insists that Phase 2 Closure include a remedy for the vadose zone under and surrounding the RHBFSF tanks that is an active remedial technique(s) and not limited to monitored natural attenuation (MNA) that the Navy recommended in its Investigation and Remediation of Releases (IRR) Report (NAVFAC, 2020). The EPA and DOH reviewed the Navy IRR Report and found the IRR “unreliable” and “non-conservative” to inform groundwater remedy and aquifer protection decisions (DOH, 2021). Further, the DOH stated that “remedies that might be applicable, such as cutoff tunnels, surfactants, and a range of others are discarded by the IRR or simply not considered” (DOH, 2021). The DOH also indicated that the IRR assumes that there are no aquifer impacts now, or in the past, to the northwest of the RHBFSF, and that Red Hill Shaft, when pumping, creates sufficient drawdown to capture impacted groundwater within the RHBFSF tank farm. Quite simply, the degree of degradation has been overestimated by the Navy (and the extent of the contamination likewise underestimated), and the historic releases will continue to pollute groundwater wells after tank defueling and closure have taken place. Since the 2015 AOC has been inadequate in addressing investigation and remediation, the 2023 Consent Order should not rely on the 2015 AOC and should outline specific active investigation and remedial steps for the Navy to follow immediately to address historic and current vadose zone and ground water contamination.

Section 6 – Drinking Water Protection/Section 6.1 Source Water Protection Plan (SWPP)

The Source Water Protection section of the SOW is too focused on the portion of the aquifer underlying the RHBFSF and efforts to safeguard the Navy’s drinking water system. There is no mention of protecting the entire sole-source aquifer or BWS water sources in the area. The Navy should be required to expand its SWPP to include the early detection of contaminants in the likely event that they migrate from the RHBFSF. While the Navy has been more diligent regarding the installation of monitoring wells recently, the sentinel monitoring well network remains woefully inadequate. The SOW should include the requirement that sentinel well installation begin immediately off-site and that the monitoring wells continue to be installed on a continuous basis until the EPA, DOH, BWS, and the public are satisfied that the monitoring well network is sufficient to define the contamination and provide an early warning to the BWS and other water users for protection of their drinking water supplies.

The SWPP requirement also lacks any true deadlines. The Navy is to submit the SWPP for approval “within 30 days after the Navy accepts the contractor’s work product.” If the Navy decides not to accept the SWPP then, according to the SOW, it will not be required to be submitted to the EPA. This section needs to be corrected to

make clear that the Navy is required to submit the SWPP document within 45 days of signing the 2023 Consent Order. Additionally, the SWPP should be expanded, as discussed above, to include wellhead protection requirements for all municipal drinking water wells within the area, not just Navy sources.

The SWPP should include a provision that the BWS can enter any Navy water source facility and collect a water sample and analyze the sample for those parameters that the BWS feels are appropriate. Further, the BWS should be allowed to specify the frequency of sampling (weekly, monthly, quarterly, etc.). This requirement is necessary for all Navy sources, including and not limited to Red Hill Shaft. Previous requests for access by the BWS to the Navy have been denied, and the BWS seeks the EPA's assistance facilitating such access to any Navy drinking water supply or monitoring well.

Section 7 0 Schedule of Submittals and Deliverables

Overall, the schedule for submittals and deliverables is too extenuated and the proposed 2023 Consent Order is fatally flawed in that there are no real immediate consequences for the Navy's failure to meet the prescribed timelines. Specifically, and as previously noted, the timelines required in the schedule of submittals and deliverable to report tank testing results are not appropriate.

We further note that the schedule lists that a revised third-party QA plan for evaluating repairs for defueling was due November 1, 2022, and that a Defueling Preparedness report was due on January 11, 2023. The BWS asks that these reports be made public and shared with BWS immediately. It is difficult to evaluate the potential impact of the proposed 2023 Consent Order without having the full suite of documents upon which the EPA appears to be relying.

Appendix A – Drinking Water Long-Term Monitoring Plan, Joint Base Pearl Harbor-Hickam Public Water System #HI0000360 and Aliamanu Military Reservation PWS #HI0000337, Oahu, Hawaii (June 2022)

The Drinking Water Long-Term Monitoring Plan describes the actions to be taken by the Navy relative to the JBPHH drinking water system. Specifically, Table 5 (“Long Term Monitoring Contaminants and Course of Action (COA) for Exceedance Detects”) documents the contaminants that will be sampled for and the screening levels to be used when evaluating sample results. The BWS recommends that rather than compare sampling results to the EALs, the EPA should require that the Navy compare sample results to the EPA regional screening levels (RSLs) for the analytes and the “Incident Specific Parameter,” where an exceedance requires remedial action be set at either the EPA maximum contaminant level (MCL) or the EPA RSL, whichever is lower. The EPA RSLs for the contaminants should be added to Table 5.

The contaminants that are reported is a narrow list and should be expanded. All drinking water and groundwater sample analyses should include comparing to and reporting all polycyclic aromatic hydrocarbons (PAHs) with EPA RSLs. Additionally, the analysis should also include PFAS and the results should be compared to the EPA MCL (to be established imminently), the EPA Health Advisory levels, and the recently established DOH PFAS EALs. PFAS was detected in samples taken in 2020 and 2021 in the Navy's water distribution system and, on November 29, 2022, the Navy released 1,300 gallons of PFAS-containing AFFF concentrate liquid. It is critical that the regulatory agencies, the BWS and the public be made aware of any exceedance of standards or guidance levels, and the proposed 2023 Consent Order should require the Navy to post such sampling results immediately on its website.

The BWS has noted many times in previous letters that the DOH EAL relative to TPH (JP-5) as 266 micrograms per liter ($\mu\text{g/L}$) is excessive (Lau 2018a, 2018b, 2019, 2022a, and 2022b). Further, given the uncertainty in the protectiveness of the EALs regarding toxicity, as well as taste and odor, the TPH screening level should be set at the lowest possible detection limit (e.g., 50 $\mu\text{g/L}$ for TPH), and any exceedance should require immediate remedial action by the Navy. As noted above, analysis of water samples using the lowest possible detection limits for constituents (including hydrocarbons, PAHs, and PFAS) has not been the Navy's practice to date, but doing so is extremely important to provide an early warning of threats to drinking water as well as meaningful data to understand movement of contaminants within the complex aquifer. It should be a shared goal to avoid exposing people to contaminated water in the first place.

Section 5. Drinking Water Long Term Monitoring Operations

Per the Drinking Water System Long-Term Monitoring Plan, the Navy intends to test 5% or a minimum of five homes/buildings per month for each zone so that by the end of the first three months it will have tested 15% of the homes/buildings per zone. Then, over the next 4 to 24 months, it will test four times at 10% each time (minimum number not specified) to reach 40% of homes tested in each zone. Whether this is adequate depends on the variability in levels among homes. The EPA and DOH should establish whether the previous sampling has been sufficiently representative to assess variability and substantiate the proposed testing strategy as adequately representative. The BWS requests that the EPA and DOH provide a report with this analysis that substantiates that the level of testing to be conducted is sufficient to protect public health.

Summary Comments – Draft Consent Order

The BWS takes seriously its obligation to protect Oahu's drinking water resources; our sole-source groundwater aquifer is one of a kind and cannot be replaced. As an island community, we must be vigilant in protecting this resource because there is no viable alternative from which to replenish our drinking water supplies. If yet another regulatory order is to govern the defueling and permanent closure of the RHBFSF, it must do more

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than continue the status quo. If the EPA proceeds with this process, the proposed 2023 Consent Order must be revised to include clear deadlines, more details, and strong penalties for noncompliance. It must mandate immediate, active remediation of the vadose zone and groundwater in the vicinity of the RHBFSF. It must require that the Navy address the serious impacts to public health that arose from the contamination. And it must be completely transparent with stakeholders and the public. The people of Oahu deserve, and the law requires, protection of our drinking water so that we can all enjoy a clean and healthful environment.

If you have any questions, please contact Mr. Erwin Kawata, Deputy Manager at (808) 748-5066.

Very truly yours,



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