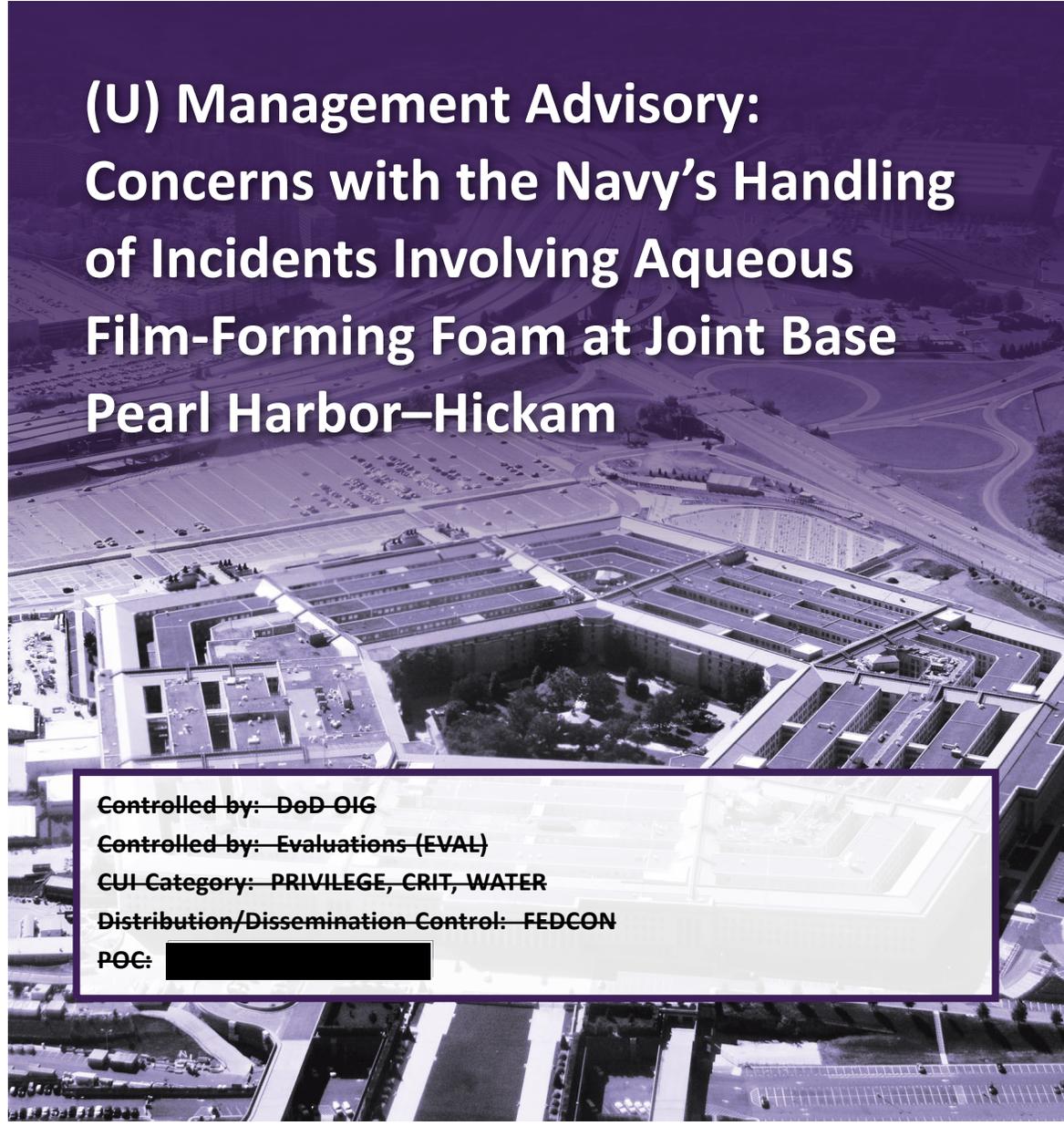


CUI

# INSPECTOR GENERAL

*U.S. Department of Defense*

NOVEMBER 8, 2024



## (U) Management Advisory: Concerns with the Navy's Handling of Incidents Involving Aqueous Film-Forming Foam at Joint Base Pearl Harbor–Hickam

~~Controlled by: DoD OIG~~

~~Controlled by: Evaluations (EVAL)~~

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~~POC:~~ [REDACTED]

INDEPENDENCE ★ INTEGRITY ★ EXCELLENCE ★ TRANSPARENCY

CUI





**OFFICE OF INSPECTOR GENERAL**  
**DEPARTMENT OF DEFENSE**  
4800 MARK CENTER DRIVE  
ALEXANDRIA, VIRGINIA 22350-1500

November 8, 2024

MEMORANDUM FOR SECRETARY OF THE NAVY  
UNDER SECRETARY OF DEFENSE FOR ACQUISITION AND SUSTAINMENT  
DIRECTOR, DEFENSE LOGISTICS AGENCY

SUBJECT: (U) Management Advisory: Concerns with the Navy's Handling of Incidents  
Involving Aqueous Film-Forming Foam at Joint Base Pearl Harbor-Hickam  
(Report No. DODIG-2025-013)

(U) This final management advisory identifies concerns found during the DoD Office of Inspector General's evaluation of the DoD's management of the operation, maintenance, safety, and oversight of the Navy's Defense Fuel Support Point Joint Base Pearl Harbor-Hickam. We previously provided copies of the draft advisory and requested written comments on the recommendations. We considered management's comments on the draft advisory when preparing the final advisory. These comments are included in the advisory.

(U) This advisory also contains recommendations that are considered unresolved because the Assistant Secretary of the Navy (Energy, Installations, and Environment) did not fully address Recommendation 1. Therefore, the recommendation remains open. We will track this recommendation until management has agreed to take actions that we determine to be sufficient to meet the intent of the recommendation, and management officials submit adequate documentation showing that all agreed-upon actions are completed.

(U) DoD Instruction 7650.03 requires that recommendations be resolved promptly. Therefore, within 30 days please provide us your response concerning specific actions in process or alternative corrective actions proposed on the unresolved recommendation. Send your response to either [REDACTED] if unclassified or [REDACTED] if classified SECRET.

(U) The Assistant Secretary of the Navy (Energy, Installations, and Environment), responding for the Secretary of the Navy, addressed Recommendation 2; therefore, we consider the recommendation resolved and open. We will close the recommendations when you provide us documentation showing that all agreed-upon actions to implement the recommendations are completed. Therefore, please provide us your response within 90 days concerning specific actions in process or completed on the recommendations. Send your response to either [REDACTED] if unclassified or [REDACTED] if classified SECRET.

(U) If you have any questions, please contact [REDACTED]  
[REDACTED] We appreciate the cooperation and assistance received during  
the evaluation.

FOR THE INSPECTOR GENERAL:

A handwritten signature in black ink, appearing to read 'Randolph R. Stone', with a stylized flourish extending to the right.

Randolph R. Stone  
Assistant Inspector General for Evaluations  
Space, Intelligence, Engineering, and Oversight

**cc:**

SECRETARY OF DEFENSE  
UNDER SECRETARY OF DEFENSE FOR PERSONNEL AND READINESS  
COMMANDANT OF THE MARINE CORPS  
CHIEF OF NAVAL OPERATIONS  
COMMANDER, U.S. INDO-PACIFIC COMMAND  
DIRECTOR, JOINT STAFF  
DIRECTOR, DEFENSE HEALTH AGENCY  
INSPECTOR GENERAL, DEPARTMENT OF THE ARMY  
NAVAL INSPECTOR GENERAL  
INSPECTOR GENERAL, DEPARTMENT OF THE AIR FORCE  
COMMANDER, NAVY INSTALLATIONS COMMAND  
COMMANDER, NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND  
COMMANDER, NAVAL SUPPLY SYSTEMS COMMAND  
AUDITOR GENERAL, DEPARTMENT OF THE ARMY  
AUDITOR GENERAL, DEPARTMENT OF THE NAVY  
AUDITOR GENERAL, DEPARTMENT OF THE AIR FORCE



## (U) Executive Summary

(U) During an evaluation of the DoD's management of the operation, maintenance, safety, and oversight of the Navy's Defense Fuel Support Point (DFSP) Joint Base Pearl Harbor-Hickam (JBPHH), we identified concerns with Navy officials' handling of incidents involving aqueous film-forming foam (AFFF).<sup>1</sup> Specifically, we identified four incidents involving AFFF in December 2019, September 2020, October 2021, and November 2022. However, Navy officials could not provide us with evidence indicating that they carried out required incident response actions, including reporting, and properly cleaned up areas affected by the December 2019, September 2020, and October 2021 incidents involving AFFF.

~~(U)~~ We recommend that the Secretary of the Navy direct the Commander, Navy Region Hawaii, in coordination with the Under Secretary of Defense for Acquisition and Sustainment, to conduct a comprehensive review of the Navy's response to AFFF incidents at DFSP JBPHH, including the incidents discussed in this management advisory, and implement corrective actions as appropriate. The Assistant Secretary of the Navy (Energy, Installations, and Environment), responding on behalf of the Secretary of the Navy, agreed to the recommendation. However, comments from the Assistant Secretary of the Navy (Energy, Installations, and Environment) did not fully address the recommendation. Specifically, the Assistant Secretary of the Navy (Energy, Installations, and Environment) stated that Navy officials would not include the September 2020 AFFF incident in the review because Navy officials did not believe the incident constituted a release to the environment. Because the Comprehensive Environmental Response, Compensation, and Liability Act definition of "environment" includes "the navigable waters, the waters of the contiguous zone, and the ocean waters, and any other surface water, ground water, drinking water supply, land surface or subsurface strata, or ambient air," [REDACTED]

[REDACTED]  
we concluded that the September 2020 AFFF incident was a release to the environment. Therefore, we consider the recommendation unresolved. We request that the Secretary of the Navy provide additional comments in response to this advisory within 30 days describing how the Navy can incorporate the September 2020 AFFF incident within the review and ensure that the information is coordinated with the Navy's Environmental Restoration program for implementation of corrective actions, as appropriate.

(U) Additionally, we recommend that the Secretary of the Navy direct the Assistant Secretary of the Navy (Energy, Installations, and Environment), in coordination with the Under Secretary of Defense for Acquisition and Sustainment and the Commander, Navy

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<sup>1</sup> (U) This management advisory contains information that has been redacted because it was identified by the Department of Defense as Controlled Unclassified Information (CUI) that is not releasable to the public. CUI is Government-created or owned unclassified information that allows for, or requires, safeguarding and dissemination controls in accordance with laws, regulations, or Government-wide policies.

(U) Installations Command, to determine whether a broader review of AFFF incident response and reporting at all Navy facilities is warranted based on this management advisory; conduct the review, if warranted; and implement corrective actions as appropriate. The Assistant Secretary of the Navy (Energy, Installations, and Environment), responding on behalf of the Secretary of the Navy, agreed to the recommendation. Comments from the Assistant Secretary of the Navy (Energy, Installations, and Environment) fully addressed the recommendation; therefore, we consider the recommendation resolved and open.

# (U) Introduction

## (U) Background

(U) On December 20, 2021, we announced an evaluation of the Navy’s Defense Fuel Support Point (DFSP) Joint Base Pearl Harbor–Hickam (JBPHH).<sup>2</sup> During this evaluation we received information from DoD officials regarding incidents involving aqueous film-forming foam (AFFF) at DFSP JBPHH. Specifically, this advisory identifies concerns with Navy officials’ handling of incidents involving AFFF at DFSP JBPHH.

### ***(U) Description of DFSP JBPHH and Its AFFF Infrastructure***

(U) On October 1, 2010, the DoD combined Naval Station Pearl Harbor and Hickam Air Force Base to form JBPHH. Accordingly, JBPHH became a Navy-led installation where the Navy owns and operates the DFSP JBPHH. DFSP JBPHH consists of the interconnected fuel systems at Naval Station Pearl Harbor, Hickam AFB, and the Red Hill Bulk Fuel Storage Facility (BFSF). The Navy built two AFFF fire suppression systems. Specifically, Navy officials built one AFFF fire suppression system at Naval Station Pearl Harbor in 1988 and another at the Red Hill BFSF in 2019.<sup>3</sup>

(U) The Commander, Navy Installations Command (CNIC) is the real property owner on JBPHH and is responsible for the physical infrastructure on JBPHH.<sup>4</sup> The Commander, Navy Region Hawaii (CNRH) is the regional CNIC command responsible for Navy installations in Hawaii, including JBPHH.<sup>5</sup> The CNRH acts on behalf of the CNIC and is responsible for environmental compliance at JBPHH. Naval Supply Systems Command Fleet Logistics Center Pearl Harbor (NAVSUP FLC PH) is a tenant command on JBPHH that operates DFSP JBPHH.

<sup>2</sup> (U) DoD OIG Project No. D2022-DEV0SR-0051.000, “Evaluation of the Operation, Maintenance, Safety, and Oversight of the Navy’s Red Hill Bulk Fuel Storage Facility,” December 20, 2021.

(U) On May 6, 2021, a fuel incident occurred at DFSP JBPHH, specifically at the Red Hill Bulk Fuel Storage Facility (BFSF). During the May 2021 fuel incident, approximately 19,000 gallons of fuel was pumped into an overhead pipeline where it remained until November 2021. On November 20, 2021, the fuel was released from the overhead pipeline and some of the fuel contaminated the JBPHH Community Water System. We address the extent to which DoD officials managed the operation, maintenance, safety, and oversight of DFSP JBPHH, including the Red Hill BFSF; and protected the environment, in compliance with Federal and state regulations and DoD policy in DODIG-2025-011. We address the extent to which DoD officials protected the JBPHH Community Water System, in compliance with Federal and state regulations and DoD policy in DODIG-2025-012.

<sup>3</sup> ~~(CU)~~ A fixed fire suppression system is a permanently installed system designed for use on the specific fire hazards it is expected to control or extinguish, such as a fire involving flammable liquids like fuel. [REDACTED]

[REDACTED] See DODIG-2025-011 Appendix B for details on DFSP JBPHH infrastructure, including descriptions of the underground pump house, harbor tunnel, upper tank farm, and the AFFF fire protection system at Red Hill BFSF.

<sup>4</sup> (U) CNIC is a Navy command responsible for Navy installations worldwide. Throughout this report, we use the term “CNIC” when we refer to the Navy command, and we use the term “CNIC Commanding Officer” to refer to the Commander of CNIC. See DODIG-2025-011 and DODIG-2025-012 for more description of organizations, roles, and responsibilities at JBPHH.

(U) DoD Directive (DoDD) 4165.06, “Real Property,” July 19, 2022.

(U) According to DoDD 4165.06, DoD real property is “lands and improvement to land (e.g., buildings, structures, and linear structures).”

<sup>5</sup> (U) Throughout this report, we use the term “CNRH” when we refer to the regional command, and we use the term “CNRH Commanding Officer” to refer to the commander of the regional command.

## ***(U) Description of AFFF Containing PFAS***

(U) AFFF is a fire suppressant used at military installations, civilian airports, and local fire departments to fight petroleum-based fires. When AFFF is applied to petroleum-based fires, it forms a film that restricts oxygen to the fire and extinguishes the flames.<sup>6</sup> AFFF concentrate contains perfluoroalkyl and polyfluoroalkyl substances (PFAS).<sup>7</sup> PFAS are fire-resistant artificially made chemicals used in a wide variety of commercial and industrial products to repel oil, grease, and water. Additionally, because PFAS do not break down easily in the environment, they can remain in the ground and eventually get into sources of food and drinking water.<sup>8</sup>

## ***(U) DoD Efforts to Address AFFF Containing PFAS***

(U) In DODIG-2021-105, we reported that DoD officials took steps to identify, mitigate, and remediate PFAS from AFFF use at DoD installations.<sup>9</sup> Specifically, we determined that DoD officials took actions, such as implementing strict reporting and record keeping requirements, intended to reduce the risk from AFFF that contains PFAS.<sup>10</sup> We found that DoD officials began to consolidate efforts in 2016 to identify, mitigate, and remediate PFAS-containing AFFF.<sup>11</sup> Beginning in 2019, DoD PFAS Task Force officials further consolidated these efforts and issued various policies promulgated throughout the DoD. In DODIG-2021-105, we reported that DoD officials continued to report the status of their efforts to respond to PFAS concerns through public reports on the defense.gov website and Service-specific websites, status reports to Congress, and direct communication with community stakeholders near military

<sup>6</sup> (U) AFFF is a foam made at the time of use by mixing air, water, and a concentrated formula, which we refer to as AFFF concentrate.

<sup>7</sup> (U) According to the U.S. Environmental Protection Agency (EPA) website, the EPA designated two PFAS as hazardous substances in May 2024. Hazardous substances are materials that pose an unacceptable health hazard or harm to the environment at certain levels. When the EPA gives a chemical or other substance a “hazardous substance” designation, any party responsible for the release of that hazardous substance at unacceptable risk levels is liable to pay for and perform cleanup response actions. Before May 2024, these two PFAS were categorized as contaminants. A “contaminant” is defined as any substance, which, after release into the environment and upon exposure, will or may reasonably be anticipated to cause adverse health effects. <https://www.epa.gov/superfund/designation-perfluorooctanoic-acid-pfoa-and-perfluorooctanesulfonic-acid-pfos-cercla>

<sup>8</sup> (U) The chemical bonds in PFAS are the strongest in nature and do not break down easily. For example, when AFFF or AFFF concentrate is released, the PFAS in the AFFF can make their way into the ground and affect the groundwater. As a result, PFAS may eventually reach and affect sources of drinking water. According to the EPA, “[c]urrent scientific research suggests that exposure to certain PFAS may lead to adverse health outcomes,” such as reproductive effects, developmental delays, increased risk of some cancers, reduced ability to fight infections, increased cholesterol, and hormonal effects, and “most people in the United States have been exposed to some PFAS.” However, research is still ongoing to determine how different levels of exposure to different PFAS can lead to a variety of health effects.”

(U) According to the EPA website, on April 25, 2024, the EPA finalized legally enforceable levels, called “Maximum Contaminant Levels”, for six PFAS in drinking water.

<sup>9</sup> (U) DODIG-2021-105, “Evaluation of the Department of Defense’s Actions to Control Contaminant Effects from Perfluoroalkyl and Polyfluoroalkyl Substances at Department of Defense Installations,” July 22, 2021.

<sup>10</sup> (U) See DODIG-2021-105 for a discussion of our findings and recommendations, and for a description of additional actions taken by DoD officials to reduce the risks from PFAS.

<sup>11</sup> (U) For example, in June 2016, the Deputy Assistant Secretary of the Navy (Environment) issued a memorandum describing the Navy’s actions to identify, evaluate, and remediate contamination resulting from activities using AFFF.

(U) Deputy Assistant Secretary of the Navy (Environment), “Perfluorinated Compounds/Perfluoroalkyl Substances (PFC/PFAS)– Identification of Potential Areas of Concern (AOCs),” June 20, 2016.

(U) This management advisory addresses AFFF incidents at JBPHH that occurred after DoD officials began to consolidate their efforts in 2016.

(U) installations. However, we made recommendations for the DoD to improve their policy and require DoD officials to proactively address contaminants, such as PFAS. As of July 2024, three of the five recommendations remained open.<sup>12</sup>

### ***(U) Relevant Incident Response, Reporting, and Cleanup Requirements for AFFF and Fuel Incidents***

(U) In this management advisory, we discuss incidents involving AFFF at JBPHH. In this section, we explain that DoD policies to address AFFF containing PFAS have changed over time. Additionally, one incident involving AFFF we discuss also involved fuel. Therefore, we also discuss the requirements for fuel incident response and reporting. Overall, Navy officials are required to identify, evaluate, and respond to incidents involving AFFF and fuel; report incidents to the appropriate officials; and maintain data and documentation for incidents that require environmental cleanup.

### ***(U) Relevant Incident Response, Reporting, and Cleanup Requirements for AFFF Incidents***

(U) Navy officials are required to report releases of AFFF to the DoD chain of command in accordance with:

- (U) CNIC Instruction 5214.1B;<sup>13</sup>
- (U) a January 13, 2020 Assistant Secretary of Defense (Sustainment) (ASD[S]) memorandum;<sup>14</sup>
- (U) section 318 of the Fiscal Year 2021 National Defense Authorization Act;<sup>15</sup> and
- (U) an April 7, 2022 Assistant Secretary of Defense (Energy, Installations, and Environment) (ASD[EI&E]) memorandum.<sup>16</sup>

(U) Additionally, on October 13, 2021, a Naval Administrative Message consolidated the following requirements for Navy officials to report AFFF incidents.

<sup>12</sup> (U) In DODIG-2021-105, we made a total of five recommendations to the Under Secretary of Defense for Acquisition and Sustainment, Assistant Secretary of Defense (Readiness), and Deputy Assistant Secretary of Defense (Environment and Energy Resilience). See DODIG-2021-105 for a discussion of our findings and recommendations.

<sup>13</sup> (U) CNIC Instruction 5214.1B, "Commander's Critical Information Requirements and Significant Event Reporting," January 22, 2019. (U) Additionally, the CNRH issued CNRH Instruction 5214.1A and included the same requirement for Navy officials to report any release of AFFF at Navy sites to the Navy chain of command.

(U) CNRH Instruction 5214.1A, "Commander's Critical Information Requirements and Significant Event Reporting," June 17, 2022.

(U) CNIC Instruction 5214.1B was not superseded until October 2022.

(U) CNIC Instruction 5214.1C, "Commander's Critical Information Requirements and Significant Event Reporting," October 17, 2022.

<sup>14</sup> (U) ASD(S) memorandum, "Aqueous Film Forming Foam Usage and Spill Reporting," January 13, 2020.

(U) This memorandum was superseded by the ASD(EI&E) April 7, 2022 memorandum.

(U) Assistant Secretary of Defense (Energy, Installations, and Environment) memorandum, "Response and Reporting of Aqueous Film Forming Foam Usage, and Accidental Releases/Spills on Military Installations and National Guard Facilities," April 7, 2022.

<sup>15</sup> (U) Public Law 116-283, "William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021."

<sup>16</sup> (U) ASD(EI&E) memorandum, "Response and Reporting of Aqueous Film Forming Foam Usage, and Accidental Releases/Spills on Military Installations and National Guard Facilities," April 7, 2022.

- (U) “AFFF release response and reporting applies to both unintended/accidental releases at Navy installations, and the use of AFFF pursuant to emergency responses whether on or off installation.”
- (U) “Following an accidental or unintended release onboard a Navy installation, the installation will initiate a root cause analysis to identify underlying reasons(s) for the release (if not known at the time of the initial release report). ... Initial AFFF release reports will be made immediately upon discovery to the installation Command Duty Officer (CDO), then promptly relayed to the CNIC Regional Operations Center (ROC) to meet the requirements in [CNIC Instruction 5214.1B].”
- (U) “CNIC will transmit an annual AFFF release report and reports of significant releases” to the Office of the Deputy Assistant Secretary of Defense for Environment and Energy Resilience (ODASD[E&ER]) to the chain of command, and CNIC must facilitate all other reporting.
- (U) For a “significant” release of “more than 10 gallons of AFFF concentrate, or more than 300 gallons of AFFF mixed foam, or any other situation that may receive media attention,” Navy officials must report to the ODASD(E&ER) “within 24 hours of the initial release.” Additionally, Navy officials must submit an action plan to CNIC “no later than 30 days after the initial release notification,” and CNIC must forward the action plan to the ODASD(E&ER) “within 45 days of the initial release report.”<sup>17</sup>

(U) Therefore, Navy officials are required to submit a Commander’s Critical Information Requirements (CCIR) report for AFFF incidents in accordance with CNIC Instruction 5214.1B. Navy officials must prepare a CCIR report for AFFF incidents describing 10 elements of the incident, including location, date and time, description of the incident and incident response actions, and submit it to the required Navy chain of command, including the CNIC Regional Operations Center. CNIC is required to transmit an annual AFFF release report and reports of significant releases to the ODASD(E&ER).

(U) On May 8, 2024, the EPA designated two PFAS as hazardous substances and implemented reporting requirements for future releases of the two PFAS.<sup>18</sup>

(U) Furthermore, Navy officials are required to clean up AFFF releases. According to the DoD PFAS Task Force website, the DoD:

(U) conducts investigations and takes action under the federal cleanup law - the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, also known as “Superfund” - at active military installations

<sup>17</sup> (U) Naval Administrative Message 227/21, “Aqueous Film Forming Foam (AFFF) Usage and Spill Response and Reporting,” October 13, 2021.

(U) The Naval Administrative Message referenced public law, DoD policy, and Navy policy from as early as 2016 relevant to AFFF release reporting. Additionally, the message states that the “requirements cited in this [message] are in addition to, and do not supersede, any other applicable operational or environmental reporting triggered due to an AFFF release.”

<sup>18</sup> (U) The reporting rule went into effect on July 8, 2024.

(U) ... where there are known or suspected DoD PFAS releases. Following CERCLA, [the] DoD fully investigates releases and determines the appropriate cleanup actions based on risk.<sup>19</sup>

(U) The CERCLA established a separate DoD Defense Environmental Restoration Program for environmental cleanup at DoD installations. DoD Instruction (DoDI) 4715.07 provides procedures for implementing the Defense Environmental Restoration Program and requires all DoD organizations to “identify, evaluate and, where appropriate, respond to a release or threat of a release into the environment from DoD activities or DoD facilities involving ... contaminants ... .”<sup>20</sup> DoDI 4715.07 also requires DoD officials to collect and maintain data and documentation of actions taken in response to releases that require environmental cleanup.

### ***(U) Relevant Incident Response, Reporting, and Cleanup Requirements for Fuel Incidents***

(U) Navy officials are required to report releases of fuel. Federal and state laws and DoD policies require DoD officials, including Navy officials at JBPHH, to prepare and implement incident response plans for incidents involving fuel.<sup>21</sup> As discussed in DODIG-2025-011, DoD officials prepared incident response plans for JBPHH, including the CNRH Integrated Contingency Plan (ICP).<sup>22</sup> According to the CNRH ICP, Navy officials must report fuel releases to the Navy chain of command and to regulatory authorities, such as the Hawaii Department of Health (DOH). Notification requirements depend on the fuel release. For example, the CNRH ICP states that Navy officials must immediately notify the Hawaii State Emergency Response Commission via the Hawaii DOH for any fuel release in quantities equal to or exceeding the criteria in Hawaii Administrative Rules (HAR) Chapter 11-451, which establishes the reportable quantities that prompt notifications.<sup>23</sup> Specifically, HAR 11-451 requires Navy officials to report “releases of mixtures” when the mixture contains another reportable substance, such as fuel, that “are subject to the notification requirements.”

<sup>19</sup> (U) DoD Task Force PFAS 101 website is at <https://www.acq.osd.mil/eie/eer/ecc/pfas/pfas101/cercla.html>.

(U) Public Law 96-510, codified in 42 U.S.C. § 9601 et seq., <https://www.congress.gov/bill/96th-congress/house-bill/7020>.

(U) The CERCLA, commonly known as Superfund, was enacted by Congress on December 11, 1980, and was amended in 1986. The law created a tax on chemical and petroleum industries and provided broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. The 1986 amendment included the establishment of a separate DoD Defense Environmental Restoration Program.

<sup>20</sup> (U) DoD Instruction (DoDI) 4715.07, “Defense Environmental Restoration Program,” May 21, 2013 (Incorporating Change 2, August 31, 2018).

<sup>21</sup> (U) For example, Office of the Chief of Naval Operations Manual 5090.1 (OPNAV M-5090.1) requires Navy officials to prepare for, and respond to, fuel incidents at Navy shore facilities. OPNAV M-5090.1 states that all “Navy facilities must maintain [incident response] plans to combat releases of ... oil and minimize hazards to human health and the environment.”

(U) OPNAV Manual 5090.1, “Environmental Readiness Program Manual,” September 3, 2019 (revised June 25, 2021).

<sup>22</sup> (U) CNRH, “Integrated Contingency Plan (ICP),” August 2018.

<sup>23</sup> (U) HAR, Chapter 11-451, “State Contingency Plan,” November 14, 1997.

(U) Additionally, Navy officials are required to submit a CCIR report for fuel incidents in accordance with CNIC Instruction 5214.1B. Furthermore, according to Naval Operations Manual 5090.1 (OPNAV M-5090.1), Navy officials who are responsible for a fuel incident or who discover a fuel release must prepare an Oil Spill Report describing 21 elements of the incident, including location, date and time, amount of fuel spilled and recovered, and description of the incident and incident response actions.<sup>24</sup> Furthermore, Navy officials must update the report as soon as they become aware of new information concerning the incident. Navy officials must address the report to the Navy On-Scene Coordinator and the Navy activity's chain of command and must provide a copy to a list of Navy officials, including headquarters officials in Washington, D.C., at the Operations Navy command, CNIC, and Navy Judge Advocate General. See DODIG-2025-011 for more information about this reporting requirement.

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<sup>24</sup> (U) OPNAV M-5090.1, "Environmental Readiness Program Manual," June 25, 2021.

(U) The previous version of OPNAV M-5090.1 was dated September 3, 2019. When we refer to requirements in the OPNAV M-5090.1 in this report, we verified that the requirements were included in both versions of OPNAV M-5090.1.

## (U) Finding

### (U) Navy Officials Did Not Provide Evidence of Sufficient Incident Response, Reporting, and Cleanup of Incidents Involving AFFF at DFSP JBPHH

(U) During our evaluation of the operation, maintenance, safety, and oversight of DFSP JBPHH, we identified that DFSP JBPHH had several incidents involving the release of AFFF concentrate and AFFF mixed foam over the past 5 years.<sup>25</sup> One of these incidents involving AFFF also involved fuel. Based on our review of Navy documentation of the December 2019, September 2020, October 2021, and November 2022 incidents involving AFFF, we determined that Navy officials responded to these incidents by identifying the source of the AFFF releases and stopping the releases. However, Navy officials could not provide us with evidence that they completed the required incident response actions, including reporting, or properly cleaned up the areas affected by the December 2019, September 2020, and October 2021 incidents.

### (U) Navy Officials Responded to Multiple Incidents Involving AFFF at DFSP JBPHH Since 2019

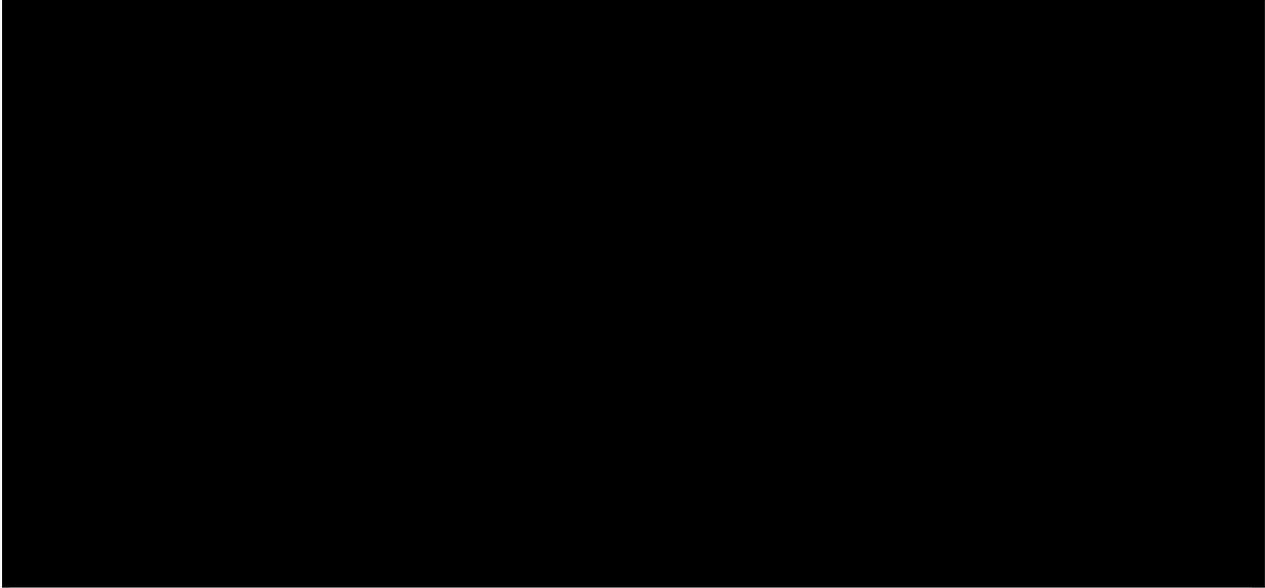
(U) In the following sections, we describe incidents involving AFFF that occurred at Naval Station Pearl Harbor in:

- ~~(CUI)~~ December 2019 near an AFFF fire protection system [REDACTED]
- ~~(CUI)~~ September 2020 near an entrance to the Red Hill BFSF, [REDACTED]; and
- (U) October 2021 at the Fuel Oil Recovery Facility (FORFAC).<sup>26</sup>

(U) The October 2021 incident at the FORFAC also involved fuel. Additionally, Figure 1 shows where the December 2019, September 2020, and October 2021 incidents involving AFFF occurred at Naval Station Pearl Harbor. Furthermore, we discuss an AFFF incident that occurred in November 2022 at the Red Hill BFSF.

<sup>25</sup> (U) Navy officials provided us with evidence of five AFFF incidents before the November 2022 AFFF incident, including two AFFF incidents for which the Navy stated the date was unknown. The documentation we received included very few details of the two incidents. Therefore, we did not include them in this management advisory.

<sup>26</sup> ~~(CUI)~~ In DODIG-2025-011, we explain that the Red Hill BFSF is accessed by six entrances called adits. An adit is a horizontal passage leading into an underground facility or tunnel for the purpose of access or drainage. [REDACTED]



(U) Figure 1. Incidents Involving AFFF at Naval Station Pearl Harbor  
(U) Source: NAVSUP FLC PH, labels edited by the DoD OIG.

(~~CUI~~) Note: This figure shows the locations of the December 2019 AFFF incident [REDACTED] and the September 2020 AFFF incident in the Red Hill BFSF [REDACTED]. Additionally, this figure shows the location of the October 2021 water pipeline break [REDACTED]. Furthermore, this figure shows the location of the October 2021 AFFF and fuel incident at the FORFAC that occurred after water from the water pipeline break flowed downhill into the FORFAC secondary containment and combined with the fuel mixture already present at the FORFAC. The November 2022 incident is not pictured.

### ***(U) December 2019 AFFF Incident at Naval Station Pearl Harbor***

(~~CUI~~) On December 7, 2019, Navy officials and contractors with the Naval Facilities Engineering Systems Command (NAVFAC) Hawaii responded to an AFFF incident [REDACTED] near the FORFAC [REDACTED] AFFF.<sup>27</sup> Navy documentation on this incident states that that there was a release of approximately 1,500 gallons of AFFF concentrate and water mixture, or mixed foam, onto the ground [REDACTED].<sup>28</sup> However, the documentation we reviewed did not describe the cleanup actions taken by Navy officials.<sup>29</sup>

<sup>27</sup> (U) The FORFAC processes waste fuel, such as fuel that no longer meets military specifications, and water for reuse, sale, or disposal.

<sup>28</sup> (U) AFFF is made at the time of use by mixing air, water, and foam concentrate (concentrated formula) with suitably designed equipment, such as mixing equipment installed on firefighting vehicles or in aircraft hangars. The AFFF used by the military is either a mixture of 3 percent or 6 percent AFFF foam concentrate diluted with water, which constitutes 97 percent or 94 percent of the overall solution. Therefore, the release of undiluted AFFF foam concentrate that contains PFAS would result in the release of more PFAS than a release of the same volume of mixed and diluted AFFF. See DODIG-2021-105 for more details on PFAS.

<sup>29</sup> (U) DoDI 4715.07 requires DoD officials to collect and maintain data and documentation of remediation actions taken in response to releases that require environmental restoration.

***(U) September 2020 AFFF Incident in the Red Hill BFSF near Naval Station Pearl Harbor***

(~~CUI~~) On September 29, 2020, Navy officials responded to a fire alarm [REDACTED] and found the release of approximately 5,000 gallons of AFFF mixed foam [REDACTED]

[REDACTED]<sup>30</sup> [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

[REDACTED] Navy documentation on this incident states that Navy officials restored the system to normal operations and recovered the entire volume of the release by pumping it into a tank for disposal after rinsing the [REDACTED] floor three times with water.

(~~CUI~~) According to Navy documentation we reviewed, uncontaminated groundwater routinely infiltrates the Red Hill BFSF tunnel [REDACTED], accumulates in the sump pit [REDACTED] [REDACTED] Navy documentation of this incident states that, on October 1, 2020, uncontaminated groundwater was accumulating in the Red Hill BFSF tunnel near the AFFF incident and Navy officials were concerned that potential residual AFFF contamination might contaminate the accumulating groundwater. According to the Navy documentation, due to the concern of potential residual AFFF contamination in the Red Hill BFSF [REDACTED], Navy officials were keeping the groundwater infiltrating the tunnel contained in the [REDACTED] sump pit [REDACTED]

[REDACTED] However, the groundwater was infiltrating the tunnel at a fast rate and the sump pit could reach capacity in a few days. [REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

[REDACTED] The documentation we reviewed did not describe additional cleanup actions taken by Navy officials.

<sup>30</sup> (U) NAVFAC Hawaii, "Preliminary Assessment Potential Per- and Polyfluoroalkyl Substances National Priorities List Sites: Joint Base Pearl Harbor-Hickam Oahu HI," December 2023.

(U) Based on our review of documentation provided by the Navy, we could not determine the exact location of or the cause of the incident. Additionally, Navy officials we interviewed could not provide us any more information about the incident.

<sup>31</sup> (U) As discussed in DODIG-2025-011, NAVFAC Hawaii provides engineering services at JBPHH.

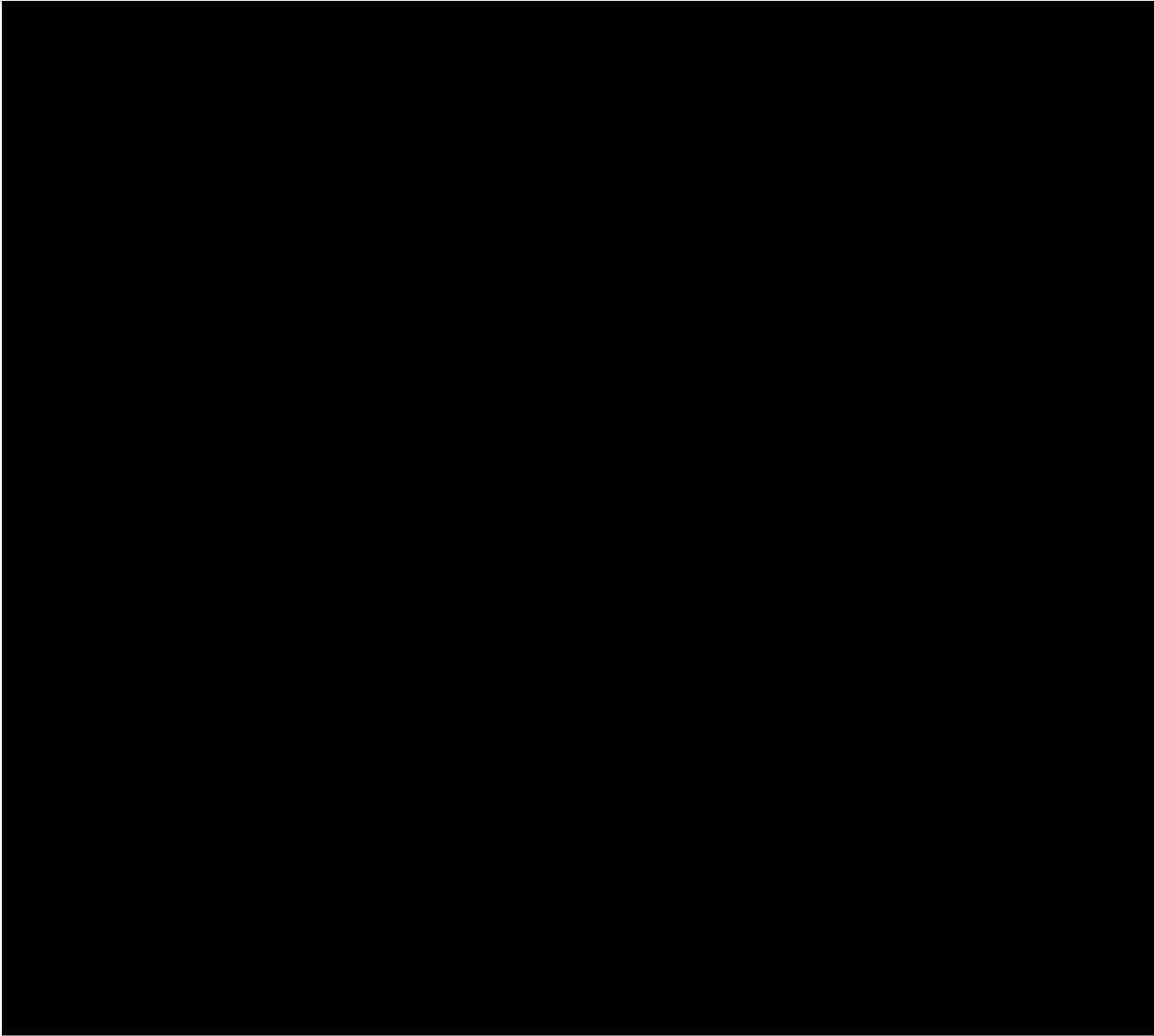
### ***(U) October 2021 AFFF and Fuel Incident in the FORFAC at Naval Station Pearl Harbor***

~~(CUI)~~ On October 26, 2021, a water pipeline [REDACTED] ruptured at 2:42 p.m. and released water until Navy officials stopped the release at 2:52 p.m. Navy officials estimated that approximately 300,000 gallons of water were released from the ruptured pipeline, flowed downhill into the FORFAC secondary containment, and combined with approximately 2,000 to 3,000 gallons of fuel mixture already present at the FORFAC.<sup>32</sup> Navy documentation on this incident states that, at the time of the incident, Navy officials believed that residual AFFF could have been absorbed in the soil [REDACTED] from the December 2019 AFFF incident and mixed with the water as it flowed downhill, as shown in Figure 2. Specifically, one document we reviewed stated that “[a] foam-like substance was observed as the water poured down the hill.” Although there was evidence of AFFF in the fuel and water mixture in the FORFAC, Navy officials did not immediately test to confirm if the foam present in the fuel and water mixture was AFFF.<sup>33</sup>

<sup>32</sup> (U) Secondary containment is a release prevention or release detection system for a tank or piping. There are various types of secondary containment methods, including structures or equipment, to prevent a release of oil and hazardous substances from its primary containment tank or piping. Secondary containment can include sufficiently impervious dikes, berms, or retaining walls; curbing; and retention sump pits.

<sup>33</sup> ~~(CUI)~~ Based on our review of documentation provided by the Navy, we could not determine why Navy officials did not test for PFAS during the incident. [REDACTED]

(U) Perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) are the two types of PFAS that were made in the greatest quantities in the United States and are the most well-studied types of PFAS. Additionally, PFOS and PFOA are the two PFAS the EPA designated as CERCLA hazardous substances in May 2024.



(CUI) Figure 2. Evidence of AFFF [redacted] During the October 2021 AFFF and Fuel Incident at Naval Station Pearl Harbor  
(U) Source: NAVSUP FLC PH.

(CUI) On October 29, 2021, Navy officials began draining the fuel, AFFF, and water mixture from the FORFAC into remediation tanks.<sup>34</sup> According to documentation on this incident, on October 29, 2021, Navy officials discovered that the fuel, AFFF, and water mixture was not fully contained [redacted]. A Navy official estimated that 100,000 gallons of the fuel, AFFF, and water mixture were potentially released into the environment. Documentation we reviewed also supports that at least 100,000 gallons of the fuel, AFFF, and water mixture were potentially released into the environment.

<sup>34</sup> (CUI) [redacted]

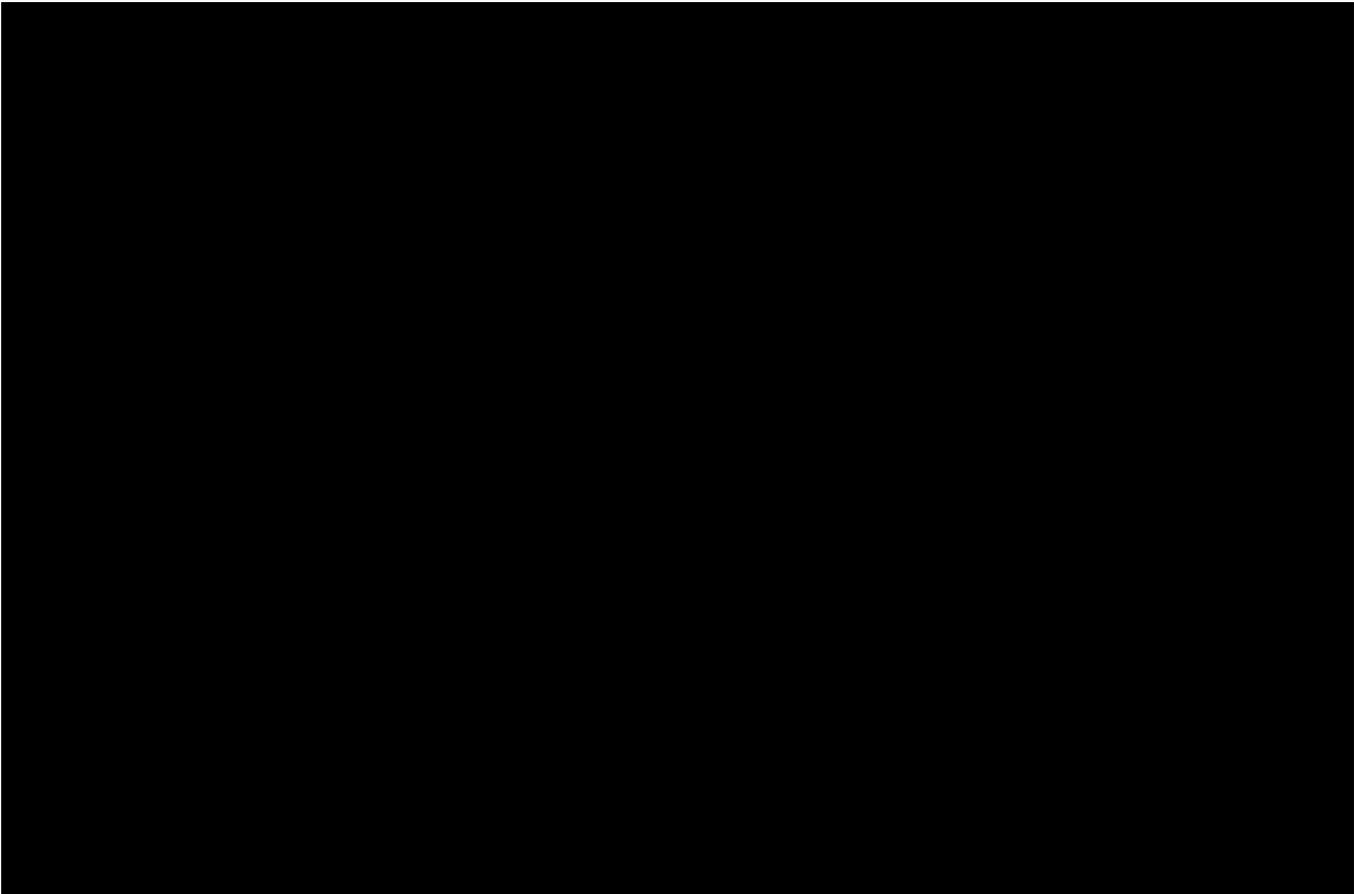
(U) On January 31, 2022 and February 1, 2022, Navy officials collected soil and water samples from the incident to test them for PFAS. In February 2022, Navy officials received results confirming the presence of PFAS in the soil and water samples. See Figure 3 for a depiction of the path of the water released from the ruptured pipeline. See Figure 4 for a depiction of the fuel, AFFF, and water mixture within the FORFAC and remediation tanks.



(U) Figure 3. Path of Water Flow from the October 2021 Water Pipeline Rupture at Naval Station Pearl Harbor  
(U) Source: NAVSUP FLC PH, modified by the DoD OIG.

(~~CUI~~) Note: The FORFAC processes waste fuel, such as fuel that no longer meets military specifications, and water for reuse, sale, or disposal.

This figure shows the path of the water in blue as it flowed downhill, where it picked up the foam shown in Figure 2, flooded the FORFAC secondary containment, and mixed with fuel already present



(U) Figure 4. October 2021 AFFF and Fuel Incident and Cleanup at Naval Station Pearl Harbor  
(U) Source: NAVSUP FLC PH, modified by the DoD OIG.

(CUI)

***(U) November 2022 AFFF Incident at the Red Hill BFSF***

(CUI) On November 29, 2022, 1,300 gallons of AFFF concentrate was released on the concrete floor inside the Red Hill BFSF [REDACTED] between 12:11 p.m. and 12:21 p.m. during maintenance activities on the Red Hill BFSF fire protection system.<sup>35</sup> The AFFF concentrate pooled on the floor inside the Red Hill BFSF near the [REDACTED] door, where a NAVSUP FLC PH official identified and reported the release. The AFFF then seeped under the [REDACTED] door onto a paved access road and into the soil.<sup>36</sup> According to a U.S. Environmental Protection Agency (EPA) Region 9 investigation report of the incident, Navy and U.S. Army Corps of Engineers officials investigated the incident [REDACTED]

<sup>35</sup> (U) EPA Region 9, "Aqueous Film Forming Foam Investigation Report, Red Hill Bulk Fuel Storage Facility," October 2023.

(U) See DODIG-2025-011 for more information about the Red Hill BFSF fire protection system.

<sup>36</sup> (U) October 2023 EPA Region 9 Aqueous Film Forming Foam Investigation Report.

(CUI) [REDACTED].<sup>37</sup> Navy officials excavated contaminated soil, asphalt, and concrete and, as of June 2024, were conducting ongoing CERCLA investigations of the contamination caused by the incident. [REDACTED]

***(U) Concerns with Navy Officials’ Handling of Incidents Involving AFFF at DFSP JBPHH***

(U) We identified concerns with Navy officials’ handling of incidents involving AFFF at DFSP JBPHH. Based on our review of Navy documentation of the December 2019, September 2020, October 2021, and November 2022 incidents, we determined that Navy officials responded to these incidents by identifying the source of the AFFF releases, stopping the releases, and repairing the systems that caused the releases. Additionally, Navy officials performed some incident response actions intended to clean up the released material. However, in the next three sections, we discuss our concerns with the Navy’s incident reporting and CERCLA environmental cleanup for the December 2019, September 2020, and October 2021 incidents at the DFSP JBPHH.<sup>38</sup> As previously discussed, DoD policies to address PFAS have changed over time. For each of the incidents we discuss in this management advisory, we refer to the requirements at the time of the incident.

***(U) Navy Officials Did Not Issue Notifications About the Incidents in 2019, 2020, and 2021***

(U) As previously discussed, Navy officials are required to report AFFF incidents at DFSP JBPHH to DoD officials, such as the Assistant Secretary of Defense for Sustainment (ASD[S]). Specifically, the January 13, 2020 ASD(S) memorandum requires DoD officials, including Navy officials, to report any release of AFFF at DoD sites.<sup>39</sup> CNIC Instruction 5214.1B and the October 13, 2021 Naval Administrative Message require Navy officials to report any release of AFFF at Navy sites to the Navy chain of command. Additionally, Navy officials have incident response plans, such as the CNRH ICP, requiring them to report fuel incidents to the Navy chain of command and to regulatory authorities, such as the Hawaii DOH. Specifically, HAR 11-451 requires Navy officials to initiate notifications to regulatory authorities and report “releases of mixtures” when the mixture contains substances, such as fuel, that “are subject to the notification requirements.”<sup>40</sup>

<sup>37</sup> (U) October 2023 EPA Region 9 Aqueous Film Forming Foam Investigation Report.

(CUI) [REDACTED]

<sup>38</sup> (U) Although we included information on the November 2022 AFFF incident for completeness and for its relevance to our discussion of reporting requirements later in this section, we did not review the Navy’s response to this incident, because it occurred after our timeframe of interest.

<sup>39</sup> (U) ASD(S) memorandum, “Aqueous Film Forming Foam Usage and Spill Reporting,” January 13, 2020.

<sup>40</sup> (U) Hawaii Administrative Rules, Chapter 11-451, “State Contingency Plan,” November 14, 1997.

***(U) Concerns with Navy Officials' Reporting of the December 2019 and September 2020 AFFF Incidents***

(U) We asked Navy officials for documentation describing their reporting of each of the incidents involving AFFF. Our review of the documentation provided to us by Navy officials identified the following concerns with their reporting. For the December 7, 2019 AFFF incident, Navy officials provided us with three documents indicating that NAVSUP FLC PH officials contacted the NAVSUP FLC PH Fuels Director and the NAVSUP FLC PH Deputy Fuels Director. However, none of the three documents included a Commander's Critical Information Requirements (CCIR) report or described any reporting to the required Navy chain of command, including the CNIC Regional Operations Center.<sup>41</sup>

(U) For the September 29, 2020 AFFF incident, Navy officials provided us with 16 documents related to their response, including work orders and waste removal manifests. However, they did not include a CCIR report or provide any evidence that they reported the AFFF incident to the required Navy chain of command, including the CNIC Regional Operations Center. Additionally, we asked Office of the ASD(S) (OASD[S]) officials with the DoD PFAS Task Force whether they received notification for any of the AFFF incidents at DFSP JBPHH since 2016.<sup>42</sup> Documentation we reviewed of reports received by OASD(S) officials confirmed that Navy officials did not report the September 2020 AFFF incident to the ASD(S).

***(U) Concerns with Navy Officials' Reporting of the October 2021 AFFF and Fuel Incident***

~~(U)~~ For the October 26, 2021 AFFF incident, which was also a fuel incident, Navy officials provided us with 51 documents, 34 photos, and 2 videos related to their response. Among these documents was an October 27, 2021 email from the NAVSUP FLC PH Commanding Officer to the CNRH Commanding Officer containing a CCIR report for the incident.<sup>43</sup>

[REDACTED]

(U) However, as previously discussed, Navy documents described evidence of AFFF in the fuel and water mixture on October 26, 2021, and discussed the possibility that residual AFFF may have been present in the soil from the December 2019 AFFF incident. Because Navy officials presumed that the foam present in the fuel and water mixture was AFFF, they were

<sup>41</sup> (U) As previously discussed, the January 22, 2019 CNIC Instruction 5214.1B required Navy officials to report any release of AFFF at Navy sites to the Navy chain of command. CNIC Instruction 5214.1B includes a table describing who in the Navy chain of command must receive a CCIR based on the type of incident.

<sup>42</sup> (U) Although we requested information about AFFF incidents since 2016, we acknowledge that the December 2019 AFFF incident occurred before the ASD(S) established its reporting requirement and before the FY 2021 National Defense Authorization Act established its reporting requirement previously discussed in this report. Documentation we reviewed of reports received by OASD(S) officials confirmed that Navy officials only reported the November 2022 AFFF incident.

<sup>43</sup> (U) As previously discussed, the CNRH is the regional command acting on behalf of CNIC at JBPHH.

(U) required to report it to the DoD chain of command.<sup>44</sup> The October 27, 2021 email from the NAVSUP FLC PH Commanding Officer to the CNRH Commanding Officer reporting the incident did not mention the evidence of AFFF in the mixture.

~~(CUI)~~ Additionally, we did not receive any evidence that the initial CCIR report was updated when Navy officials discovered on October 29, 2021, that the [REDACTED] FORFAC did not fully contain the fuel, AFFF, and water mixture. As previously discussed, at least 100,000 gallons of the fuel, AFFF, and water mixture were potentially released into the environment.

(U) Documentation we reviewed also confirmed that Navy officials did not report the October 2021 AFFF incident to the ASD(S). OASD(S) officials recommended that we ask their counterparts at the Office of the Assistant Secretary of the Navy (Energy, Installations, and Environment) (OASN[EI&E]) whether they received reports for any of the AFFF incidents at DFSP JBPHH, but those officials did not respond to our email requests. Therefore, we could not verify whether NAVSUP FLC PH or CRNH officials met the Navy reporting requirements.

~~(CUI)~~ Furthermore, on October 29, 2021, Navy officials determined that the mixture was not fully contained within [REDACTED] the FORFAC and estimated that at least 100,000 gallons of the mixture were potentially released into the environment. Although the origin of the incident was a ruptured water pipeline, once the water mixed with fuel and AFFF and Navy officials determined that it was released to the environment, they were required to report the incident to the Hawaii DOH. Specifically, the CNRH ICP states that Navy officials must immediately notify the Hawaii DOH of any fuel release in quantities equal to or exceeding the criteria in HAR 11-451. HAR 11-451 requires Navy officials to report “releases of mixtures” when the mixture contains another reportable substance, such as fuel, that “are subject to the notification requirements.” HAR 11-451 requires reporting for any amount of fuel released to the environment greater than 25 gallons or any release that is less than 25 gallons, but which is not contained and remedied within 72 hours. Documentation we reviewed supports that at least 100,000 gallons of the mixture containing fuel were potentially released to the environment. Although we cannot be certain how many gallons of fuel were in that released mixture, it is likely greater than 25 gallons, and it was not contained and remedied within 72 hours. Therefore, Navy officials were required to report it to the Hawaii DOH in accordance with the CNRH ICP.

<sup>44</sup> (U) A Navy official saw evidence of AFFF foam in the fuel and water mixture on October 26, 2021, and believed it came from the previous incident in December 2019. Additionally, a Navy official took photographs of the suspected AFFF, as shown in Figures 2 and 4. However, Navy documentation indicated that Navy officials did not test to confirm the presence of PFAS until February 2022. Because Navy officials presumed that the foam present in the fuel and water mixture was AFFF, they were required to report it. Specifically, since 2019, CNIC Instruction 5214.1B and a January 13, 2020 ASD(S) memorandum require reporting for any release of AFFF. Additionally, an October 13, 2021 Naval Administrative Message states that for a “significant” release of “more than 10 gallons of AFFF concentrate, or more than 300 gallons of AFFF mixed foam, or any other situation that may receive media attention,” Navy officials must report to the ODASD(E&ER) “within 24 hours of the initial release.”

(~~CUI~~) However, Navy officials did not report the release to the Hawaii DOH. According to a May 4, 2023 email we reviewed from CNRH officials, Navy officials did not initiate the required notifications in response to the October 2021 AFFF and fuel incident at the FORFAC because they incorrectly assessed that “there was no requirement for a water spill like this.”<sup>45</sup> Although there is not a requirement to report a water spill, the Navy email messages we reviewed did not acknowledge that Navy officials were required to initiate notifications on October 29, 2021 when they determined that a release occurred because [REDACTED] [REDACTED] the FORFAC did not contain the mixture, and at least 100,000 gallons of the fuel, AFFF, and water mixture were potentially released to the environment.

### ***(U) Navy Officials Did Not Adequately Document Incident Response and Environmental Cleanup for the 2019, 2020, and 2021 Incidents***

(U) Navy officials could not provide us with documentation indicating that they took required incident response actions for the areas affected by the December 2019, September 2020, and October 2021 incidents. As previously discussed, CNIC Instruction 5214.1B requires CCIR reports for incidents involving AFFF and fuel. CNIC Instruction 5214.1B requires Navy officials to document incident details and actions taken. Additionally, OPNAV M-5090.1 requires Navy officials responsible for a fuel incident to prepare an Oil Spill Report describing 21 elements of the incident. Furthermore, DoDI 4715.07 requires DoD officials to identify, evaluate, and respond to an incident involving contaminants and to maintain data and documentation of cleanup actions for incidents that require environmental cleanup.

(U) We asked Navy officials for information on the December 2019, September 2020, and October 2021 incidents involving AFFF. Navy officials provided us with various documents describing the response actions for each incident, including work orders, emails, laboratory analysis reports, and waste removal manifests. Additionally, we asked Navy officials for documentation of the CERCLA environmental cleanup at JBPHH. Navy officials provided us with a December 2023 Preliminary Assessment report of PFAS-related sites at JBPHH, which was prepared as the first step in the CERCLA environmental cleanup process.<sup>46</sup> Our review of the documentation provided to us by Navy officials identified the following concerns with the incident response actions and environmental cleanup of each of the AFFF incidents.

<sup>45</sup> (U) As previously discussed, the CNRH is the regional command responsible for environmental compliance and the physical infrastructure on JBPHH.

<sup>46</sup> (U) As previously discussed, the DoD follows the CERCLA process for environmental cleanup at DoD installations. The steps in the CERCLA environmental cleanup process are: Preliminary Assessment/Site Inspection, Remedial Investigation/Feasibility Study, Remedial Design/Remedial Action, Remedial Action Operations, and Long-Term Management. According to the DoD PFAS Task Force website, “A Preliminary Assessment (PA) includes a historical record search and interviews with DoD employees who have historical knowledge of the operations that may have contributed to a potential release. The information collected from the record search and the interviews helps [the] DoD determine whether there is a potential historical release and if further investigation is warranted.”

(U) NAVFAC Hawaii, “Preliminary Assessment Potential Per- and Polyfluoroalkyl Substances National Priorities List Sites: Joint Base Pearl Harbor-Hickam Oahu HI,” December 2023.

***(U) Concerns with Navy Officials' Documentation of Incident Response for the December 2019 AFFF Incident***

(~~CUI~~) As previously discussed, Navy officials did not provide us with a CCIR report documenting incident response for the December 2019 AFFF incident. Instead, Navy officials provided us with a work order as evidence that “cleanup [was] initiated and completed.” Our review of the work order could not verify what environmental impacts were addressed by the incident response. For example, one work order we reviewed stated that on December 7, 2019, “a ‘clean up’ crew of about 7 personnel [were] on site [REDACTED] setting up flood lights to begin their operations.” However, the work order we received did not provide any further detail of the incident response and did not describe what the operations were, whether a material disposal occurred, how much material was removed, or how it was disposed of. We did not identify any further detail of the incident response in any of the other documentation received for the December 2019 AFFF incident. Additionally, as previously discussed, Navy documentation also stated that residual AFFF could have remained in the soil [REDACTED] [REDACTED] from the December 2019 AFFF incident and mixed with the water as it flowed downhill during the October 2021 AFFF and fuel incident.

(U) Although the Navy did not provide us with a CCIR report, our review of the December 2023 Preliminary Assessment report determined that it recommended further evaluation of this site under the next step of the CERCLA environmental cleanup process, the Site Investigation.<sup>47</sup>

***(U) Concerns with Navy Officials' Documentation of Incident Response and Environmental Cleanup of the September 2020 AFFF Incident***

(~~CUI~~) As previously discussed, Navy officials did not provide us with a CCIR report documenting incident response actions for the September 2020 AFFF incident. [REDACTED]  
[REDACTED]  
[REDACTED] The Navy documentation stated that uncontaminated groundwater was accumulating in the Red Hill BFSF [REDACTED] near the AFFF incident [REDACTED]  
[REDACTED] According to documentation we reviewed, Navy officials collected approximately 140,000 gallons of

<sup>47</sup> (U) According to the December 2023 Preliminary Assessment report, work plans for evaluating the site under a Site Investigation were in preparation.

<sup>48</sup> (~~CUI~~) [REDACTED]

(CUI) AFFF during the incident response for the September 2020 AFFF incident.<sup>49</sup> However, the documentation did not describe any additional incident response actions taken by Navy officials. Because we could not determine if any additional actions were taken [REDACTED], we could not determine whether the 140,000 gallons accounted for only the original recovery of the AFFF mixed foam or included any mixture that would have resulted from rinsing the [REDACTED] floor three times.

(CUI) [REDACTED] a March 2018 Assistant Secretary of the Navy (Energy, Installations, and Environment) memorandum describing Navy requirements for removing AFFF concentrate from installed systems, such as fire suppression systems, and mobile systems, such as fire trucks.<sup>50</sup> The March 2018 memorandum states: “Installed systems that have [AFFF] removed ... must be triple rinsed to remove residual [PFAS] concentrations.” However, the March 2018 memorandum is specific to cleaning equipment designed to contain AFFF concentrate, requires the collection of the residual mixture, and does not discuss how to clean up an AFFF release to permeable concrete. Additionally, the CNRH ICP states that the Red Hill BFSF tunnels are not impermeable to spills. Specifically, the CNRH ICP states that the “[a]bility of the [Red Hill BFSF tunnels] to contain spills will depend on the size of the spill, cause, and the fuel tightness and integrity of the ... tunnel floor and walls.”<sup>51</sup> Because the Red Hill BFSF [REDACTED] floor is not an installed system, engineered containment, or secondary containment [REDACTED], we could not determine whether the triple rinse was appropriate to effectively clean up the incident contamination.

(CUI) Although the Navy did not provide us with a CCIR report, our review of the December 2023 Preliminary Assessment report determined that it describes the September 2020 AFFF incident. However, the December 2023 Preliminary Assessment report describes the September 2020 AFFF incident in one sentence in a section describing incidents at [REDACTED] instead of a section describing Red Hill BFSF incidents.<sup>52</sup> Additionally, the December 2023 Preliminary Assessment report does not include [REDACTED], where the September 2020 AFFF incident occurred, on the conceptual site models that depict locations

<sup>49</sup> (CUI) Navy officials provided us with documentation stating that they recovered the entire volume of the AFFF concentrate released in September 2020 by pumping it into a disposal tank, rinsing [REDACTED] floor, and pumping the residual into a second disposal tank.

<sup>50</sup> (U) Assistant Secretary of the Navy (Energy, Installations, and Environment) memorandum, “Additional Aqueous Film Forming Foam (AFFF) Control, Removal, and Disposal Requirements,” March 6, 2018.

<sup>51</sup> (U) We discuss the permeability of the concrete in the Red Hill BFSF tunnels and adits in more detail in DODIG-2025-012.

<sup>52</sup> (CUI) [REDACTED] Similarly, the December 2023 Preliminary Assessment report describes the November 2022 AFFF incident; however, the location of the AFFF incident described in the report differs from another report on the incident.

[REDACTED]  
Therefore, we could not determine whether Navy officials planned to further evaluate this incident [REDACTED], within the Red Hill BFSF, or both during the Site Investigation.

(~~CUI~~) recommended for confirmation sampling and evaluation during a Site Investigation.<sup>53</sup> Therefore, we could not determine whether Navy officials planned to further evaluate this incident at the Red Hill BFSF [REDACTED] during the Site Investigation or perform environmental cleanup.

***(U) Concerns with Navy Officials' Documentation of Incident Response and Environmental Cleanup of the October 2021 AFFF and Fuel Incident***

(~~CUI~~) For the October 2021 AFFF incident, which was also a fuel incident, Navy officials provided us with documentation of soil analyses conducted at the incident site and “[d]etails on requesting disposal of hazardous material.” Navy officials also provided us with a CCIR report. However, Navy officials did not provide an Oil Spill Report describing the 21 elements of the incident as required by OPNAV M-5090.1. Additionally, Navy officials did not provide us with evidence that any cleanup of the water, AFFF, and fuel mixture released to the environment when the FORFAC [REDACTED] did not fully contain the mixture had been initiated or completed. Therefore, we could not verify whether Navy officials have sufficiently remediated the environmental impacts of the October 2021 AFFF incident.

(U) Furthermore, our review of the December 2023 Preliminary Assessment determined that the report does not mention this incident. Therefore, we could not determine whether Navy officials planned to further evaluate this incident at the FORFAC during the Site Investigation or perform environmental cleanup.

## **(U) Conclusion**

(U) As a result, we are concerned that Navy officials may not have adequately reported and cleaned up incidents involving AFFF at DFSP JBPHH. Although the recent hazardous substance designation for two PFAS and reporting requirements may address many of our reporting and cleanup concerns for future incidents involving AFFF, we still recommend actions for these prior incidents. Specifically, our recommendations are intended to ensure that Navy officials improve their understanding of reporting requirements and to ensure that environmental risks from incidents involving AFFF are addressed and environmental contamination is cleaned up.

(U) Therefore, the Secretary of the Navy should direct the CNRH, in coordination with the Under Secretary of Defense for Acquisition and Sustainment, to conduct a comprehensive review of the Navy’s response to incidents involving AFFF at DFSP JBPHH, including the incidents discussed in this management advisory. This review should include a determination of whether the response, reporting, and cleanup for these incidents identified complied with Federal and State of Hawaii laws and with DoD and Navy policy, and whether the locations are sufficiently addressed in Defense Environmental Restoration Program assessments as

<sup>53</sup> (U) According to the December 2023 Preliminary Assessment report, conceptual site models are “pictorial, human health, and ecological” representations of “potentially complete exposure pathway” recommended for confirmation sampling and evaluation during a Site Investigation.

(U) required by the Comprehensive Environmental Response, Compensation, and Liability Act, such as preliminary assessments and site investigations, for the installation. Additionally, the Navy should implement corrective actions found during the review to address incident response and reporting at DFSP JBPHH in the future.

(U) Furthermore, we recommend that the Secretary of the Navy direct the Assistant Secretary of the Navy (Energy, Installations, and Environment), in coordination with the Under Secretary of Defense for Acquisition and Sustainment and the Commander, Navy Installations Command, to determine whether a broader review of the handling of AFFF incidents at all Navy facilities is warranted based on this management advisory and the review completed for Recommendation 1. If warranted, conduct the review and implement corrective actions found during the review to address AFFF incident response and reporting across the Navy.

## **(U) Recommendations, Management Comments, and Our Response**

### ***(U) Recommendation 1***

**(U) We recommend that the Secretary of the Navy direct the Commander, Navy Region Hawaii, in coordination with the Under Secretary of Defense for Acquisition and Sustainment, to:**

- a. **(U) Conduct a comprehensive review of the Navy's response to incidents involving aqueous film-forming foam at Defense Fuel Support Point Joint Base Pearl Harbor-Hickam, including the incidents discussed in this management advisory. This review should include a determination of whether the response, reporting, and cleanup for the incidents identified complied with Federal and State of Hawaii laws, and with Department of Defense and Navy policy; and whether the locations are sufficiently addressed in Defense Environmental Restoration Program assessments as required by the Comprehensive Environmental Response, Compensation, and Liability Act, such as the preliminary assessments and site investigations, for the installation.**
- b. **(U) Implement corrective actions found during the review to address incident response and reporting at Defense Fuel Support Point Joint Base Pearl Harbor-Hickam in the future.**

### ***(U) Assistant Secretary of the Navy (Energy, Installations, and Environment) Comments***

(U) The Assistant Secretary of the Navy (Energy, Installations, and Environment) (ASN[EI&E]), responding on behalf of the Secretary of the Navy (SecNav), agreed with the recommendation. Specifically, the ASN(EI&E) stated that the Navy has adapted responses to aqueous film-forming foam (AFFF) releases to the environment as DoD policy and the regulatory status of certain PFAS have changed over time. Additionally, the ASN(EI&E) stated that an example of how a current response to AFFF incidents should happen is the

(U) response to the November 2022 AFFF incident discussed in this management advisory. Furthermore, the ASN(EI&E) stated that the Navy will consolidate information on past AFFF releases at DFSP JBPHH and ensure that the information is coordinated with the NAVFAC Hawaii Environmental Restoration program for implementation of corrective actions, as appropriate. However, the ASN(EI&E) stated that they will not include the September 2020 AFFF incident discussed in this management advisory because the Navy does not consider it a release to the environment per regulatory criteria. The ASN(EI&E) stated that the Navy’s efforts will be coordinated with relevant offices under the Under Secretary of Defense for Acquisition and Sustainment.

***(U) Our Response***

(U) Comments from the ASN(EI&E) partially addressed the recommendation by agreeing to consolidate information on past AFFF releases at DFSP JBPHH and ensure that the information is coordinated with the NAVFAC Hawaii Environmental Restoration program for implementation of corrective actions, as appropriate. Therefore, the recommendation is unresolved.

~~(CUI)~~ The ASN(EI&E) stated that Navy officials would not include the September 2020 AFFF incident in the review because Navy officials did not believe the incident constituted a release to the environment. As previously discussed in this management advisory, the CNRH Integrated Contingency Plan (ICP) states that the Red Hill Bulk Fuel Storage Facility (BFSF) tunnels, [REDACTED] are not impermeable to spills and therefore do not qualify as engineered containment or secondary containment. [REDACTED]

[REDACTED]  
[REDACTED] Furthermore, Navy documentation also stated that uncontaminated groundwater was accumulating in the Red Hill BFSF [REDACTED] near the September 2020 AFFF incident [REDACTED].

~~(CUI)~~ Because the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) definition of “environment” includes “the navigable waters, the waters of the contiguous zone, and the ocean waters, and any other surface water, ground water, drinking water supply, land surface or subsurface strata, or ambient air,” [REDACTED]

[REDACTED]  
we concluded that the September 2020 AFFF incident was a release to the environment. Therefore, we request that the SecNav provide additional comments in response to this advisory within 30 days describing how the Navy can incorporate the September 2020 AFFF incident within the review and ensure that the information is coordinated with the NAVFAC Hawaii Environmental Restoration program for implementation of corrective actions, as appropriate.

## ***(U) Recommendation 2***

**(U) We recommend that the Secretary of the Navy direct the Assistant Secretary of the Navy (Energy, Installations, and Environment), in coordination with the Under Secretary of Defense for Acquisition and Sustainment and the Commander, Navy Installations Command, to:**

- a. (U) Determine whether a broader review of the handling of aqueous film-forming foam incidents at all Navy facilities is warranted based on this management advisory and the review completed for Recommendation 1.**
- b. (U) Conduct the review, if warranted.**
- c. (U) Implement corrective actions found during the review to address aqueous film-forming foam incident response and reporting across the Navy.**

## ***(U) Assistant Secretary of the Navy (Energy, Installations, and Environment) Comments***

(U) The ASN(EI&E), responding on behalf of the Secretary of the Navy (SecNav), agreed with the recommendation. Specifically, the ASN(EI&E) stated that the recommendation had been implemented because Navy AFFF incident response and reporting is reviewed up the Navy chain of command and provided to the Office of the Secretary of Defense and Congress in accordance with section 323 of the FY 2020 National Defense Authorization Act (NDAA). Additionally, the ASN(EI&E) stated that Navy officials conducted a comprehensive review of PFAS releases across all Navy installations through base-wide preliminary assessments and site inspections, including releases prior to implementation of response and reporting requirements. Furthermore, the ASN(EI&E) stated that the corrective actions from the reviews are proceeding under the Environmental Restoration program.

## ***(U) Our Response***

(U) Comments from the ASN(EI&E) addressed the recommendation by stating that Navy officials conducted a comprehensive review of PFAS releases and that corrective actions are proceeding under the Environmental Restoration program. Therefore, the recommendation is resolved but will remain open. However, we note that section 323 of the FY 2020 NDAA does not describe AFFF incident reporting.<sup>54</sup> We believe that Navy officials intended to refer to section 318 of the FY 2021 NDAA for the AFFF incident reporting requirements. We will close this recommendation once we receive documentation verifying that the Navy's AFFF incident response and reporting is reviewed up the Navy chain of command and provided to the Office of the Secretary of Defense and Congress in accordance with the FY 2021 NDAA and we receive documentation of corrective actions taken under the Environmental Restoration program.

<sup>54</sup> (U) Section 323 of the FY 2020 NDAA required DoD officials to prohibit the uncontrolled release of fluorinated AFFF. Section 318 of the FY 2021 NDAA required DoD officials to increase transparency through reporting on usage and spills of AFFF at military installations.  
 (U) Public Law 116-92, "National Defense Authorization Act for Fiscal Year 2020."  
 (U) Public Law 116-283, "William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021."

## (U) Appendix

### (U) Scope and Methodology

(U) We developed this management advisory from April 2024 through September 2024 during an evaluation of whether DoD officials managed the operation, maintenance, safety, and oversight of the Navy’s Defense Fuel Support Point (DFSP) Joint Base Pearl Harbor–Hickam (JBPHH), and in accordance with the “Quality Standards for Inspection and Evaluation,” published in December 2020 by the Council of the Inspectors General on Integrity and Efficiency. We focused this management advisory on concerns with the handling of incidents involving AFFF at DFSP JBPHH from 2019 to 2022.

### (U) Criteria

(U) Relevant to this management advisory, we reviewed the following criteria related to incident response, reporting, and environmental cleanup.

- (U) Hawaii Administrative Rules (HAR), Chapter 11-451, “State Contingency Plan,” November 14, 1997
- (U) DoD Instruction 4715.07, “Defense Environmental Restoration Program,” May 21, 2013 (Incorporating Change 2, August 31, 2018)
- (U) Assistant Secretary of Defense (Sustainment) memorandum, “Aqueous Film Forming Foam Usage and Spill Reporting,” January 13, 2020
- (U) Assistant Secretary of the Navy (Energy, Installations, and Environment) memorandum, “Additional Aqueous Film Forming Foam (AFFF) Control, Removal, and Disposal Requirements,” March 6, 2018
- (U) Assistant Secretary of Defense (Energy, Installations, and Environment) memorandum, “Response and Reporting of Aqueous Film Forming Foam Usage, and Accidental Releases/Spills on Military Installations and National Guard Facilities,” April 7, 2022
- (U) Assistant Secretary of the Navy (Environment), “Perfluorinated Compounds/Perfluoroalkyl Substances (PFC/PFAS)–Identification of Potential Areas of Concern (AOCs),” June 20, 2016
- (U) Naval Operations Manual 5090.1, “Environmental Readiness Program Manual,” June 25, 2021
- (U) Commander, Navy Installations Command (CNIC) Instruction 5214.1B, “Commander’s Critical Information Requirements and Significant Event Reporting,” January 22, 2019
- (U) Commander, Navy Installations Command (CNIC) Instruction 5214.1C, “Commander’s Critical Information Requirements and Significant Event Reporting,” October 17, 2022

- (U) Commander, Navy Region Hawaii Instruction 5214.1A, “Commander’s Critical Information Requirements and Significant Event Reporting,” June 17, 2022
- (U) Naval Administrative Message 227/21, “Aqueous Film Forming Foam (AFFF) Usage and Spill Response and Reporting,” October 13, 2021
- (U) Public Law 116-283, the H.R. 6395-William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021

### ***(U) Coordination with Officials***

(U) We coordinated with individuals at the following organizations.

- (U) Office of the Assistant Secretary of Defense (Sustainment)
- (U) Office of the Assistant Secretary of the Navy (Energy, Installations, and Environment)
- (U) Commander, Navy Region Hawaii (CNRH)
- (U) Naval Supply Systems Command (NAVSUP), including NAVSUP Fleet Logistic Center (FLC) Pearl Harbor (PH)
- (U) Naval Facilities Engineering Systems Command (NAVFAC), including NAVFAC Hawaii and NAVFAC Pacific

### ***(U) Document Collection***

(U) We collected and reviewed the following types of documents.

- (U) Emails between Navy officials discussing the AFFF incidents
- (U) Maps and photos of the locations of the AFFF incidents and cleanup activities for the AFFF incidents
- (U) Preliminary assessment of potential PFAS sites at JBPHH
- (U) Work orders, safety data sheets for the AFFF used at JBPHH, waste removal requests, and manifests related to cleanup activities for the AFFF incidents
- (U) Laboratory results of water and soil analyses related to cleanup activities for the AFFF incidents

## (U) Management Comments

### (U) The Assistant Secretary of the Navy (Energy, Installations, and Environment)



DEPARTMENT OF THE NAVY  
THE ASSISTANT SECRETARY OF THE NAVY  
(ENERGY, INSTALLATIONS, AND ENVIRONMENT)  
1000 NAVY PENTAGON  
WASHINGTON, DC 20350-1000

August 22, 2024

MEMORANDUM FOR THE INSPECTOR GENERAL, DEPARTMENT OF DEFENSE

SUBJECT: Management Advisory: Concerns with the Navy's Incident Response to Aqueous Film-Forming Foam Incidents at Joint Base Pearl Harbor-Hickman Community (Project No. D2022-DEV0SR-0051.003)

The Department of the Navy management response and comments on the subject report are attached. As provided in comments on the draft Management Advisory from the Office of the Secretary of Defense and the Navy earlier this month, the Navy has serious concerns with the technical content in the report. Since the Department of Defense Inspector General is not able to provide an updated draft report for review and comment prior to finalizing the report, the Navy does not have a good understanding of whether comments have been sufficiently addressed. While we believe that resolution of our concerns may impact the recommendations, we are submitting the attached management response to the current draft report as requested. Corrective action plans are being developed and will be available in approximately 60 days due to the complexity of the subject matter and breadth of stakeholders involved. Thank you for the opportunity to review and provide feedback. My point of contact is [REDACTED].

A handwritten signature in cursive script that reads "Meredith Berger".

Meredith Berger

Attachments:

- (1) Management Response
- (2) Comments
- (3) Security Marking Review

cc:

NAVINGEN  
COMCNIC  
OPNAV N4  
COMNAVFAC

## **(U) The Assistant Secretary of the Navy (Energy, Installations, and Environment) (cont'd)**

**INSPECTOR GENERAL US DEPARTMENT OF DEFENSE  
DRAFT REPORT DATED MAY 15, 2024  
PROJECT NO. D2022-DEV0SR-0051.003**

**MANAGEMENT ADVISORY: INCIDENT RESPONSE CONCERNS WITH THE  
NAVY'S RESPONSE TO AQUEOUS FILM-FORMING FOAM INCIDENTS AT JOINT  
BASE PEARL HARBOR HICKAM**

**SECRETARY OF THE NAVY COMMENTS  
TO THE INSPECTOR GENERAL DOD RECOMMENDATIONS**

**RECOMMENDATION 1. (U) We recommend that the Secretary of the Navy direct the Commander, Navy Region Hawaii, in coordination with the Under Secretary of Defense for Acquisition and Sustainment, to conduct a comprehensive review of the Navy's response to AFFF incidents at DFSP JBPHH, including the incidents discussed in this management advisory, and implement corrective actions as appropriate.**

(U) DON RESPONSE: The Department of the Navy (DON) concurs with the recommendation with comment. The DON has adapted responses to AFFF releases to the environment as DoD policy and regulatory status of certain PFAS have changed over time. An example of a current response to AFFF spill would be the 2022 Red Hill AFFF system release, and subsequent response. The DON will consolidate information on past AFFF releases at DFSP JBPHH, to include the incidents discussed in the DODIG management advisory, and ensure that this information is coordinated with the NAVFAC Hawaii Environmental Restoration program for implementation of corrective actions, as appropriate. This effort will not include the September 2020 AFFF incident detailed in the DODIG management advisory as this incident was contained within a building and is not considered a release to the environment per regulatory criteria. The DON effort will be coordinated with relevant offices within the Under Secretary of Defense for Acquisition and Sustainment.

## (U) The Assistant Secretary of the Navy (Energy, Installations, and Environment) (cont'd)

**RECOMMENDATION 2. (U) Additionally, we recommend that the Secretary of the Navy direct the Assistant Secretary of the Navy (Energy, Installations, and Environment), in coordination with the Under Secretary of Defense for Acquisition and Sustainment and the Commander, Navy Installations Command, to determine whether a broader review of AFFF incident spill response and reporting at all Navy facilities is warranted based on this management advisory and the review completed for Recommendation 1; conduct the review, if warranted; and implement corrective actions as appropriate.**

(U) DON RESPONSE: The DON concurs with the recommendation with comment. This recommendation has been implemented. Navy AFFF incident spill response and reporting is reviewed up the Navy chain of command and provided to OSD and Congress, as appropriate, in compliance the requirements outlined in Section 323 of the Fiscal Year 2020 National Defense Authorization Action. The Navy also will comply with any updates to DoD PFAS spill response and reporting policy or regulatory requirements.

In addition, the Navy has conducted a comprehensive review of PFAS releases across all DON installations through base-wide preliminary assessments/site inspections. This includes releases that occurred prior to spill response or reporting requirements being in effect. Corrective actions are already proceeding under the Environmental Restoration program.

## (U) Acronyms and Abbreviations

<b>AFFF</b>	Aqueous Film-Forming Foam
<b>BFSF</b>	Bulk Fuel Storage Facility
<b>CCIR</b>	Commander's Critical Information Requirements
<b>CERCLA</b>	Comprehensive Environmental Response, Compensation, and Liability Act
<b>CNIC</b>	Commander, Navy Installations Command
<b>CNRH</b>	Commander, Navy Region Hawaii
<b>DERP</b>	Defense Environmental Restoration Program
<b>DFSP</b>	Defense Fuel Support Point
<b>DoDI</b>	Department of Defense Instruction
<b>DoDD</b>	Department of Defense Directive
<b>DOH</b>	Department of Health
<b>EPA</b>	Environmental Protection Agency
<b>FLC</b>	Fleet Logistics Center
<b>HAR</b>	Hawaii Administrative Rules
<b>JBPHH</b>	Joint Base Pearl Harbor-Hickam
<b>NAVFAC</b>	Naval Facilities Engineering Systems Command
<b>NAVSUP</b>	Naval Supply Systems Command
<b>NAVSUP FLC PH</b>	Naval Supply Systems Command Fleet Logistics Center Pearl Harbor
<b>OPNAV M</b>	Chief of Naval Operations Manual
<b>PFAS</b>	Perfluoroalkyl and Polyfluoroalkyl Substances
<b>PFOA</b>	Perfluorooctanoic Acid
<b>PFOS</b>	Perfluorooctane Sulfonic Acid

## (U) Glossary

**(U) Aqueous Film-Forming Foam (AFFF).** A foam made at the time of use by mixing air into a water solution containing a specifically formulated foam concentrate (concentrated version), by means of suitably designed equipment. The resulting foam flows freely over a burning liquid surface and acts as a barrier both to exclude air or oxygen and to develop a film on the fuel surface that is capable of suppressing combustible vapors to quickly extinguish the flames.

**(U) Contaminant.** Includes, but is not limited to, any element, substance, compound, or mixture, including disease-causing agents, which, after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism (including humans), either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring.

**(U) Engineered containment.** Physical infrastructure designed to completely contain a release of AFFF solution (or other substance, such as fuel). Engineered containment systems can be designed in a variety of ways to contain various substances and typically include a drainage system to a tank, pit, or channel, either above ground or below ground, which can contain the substance until it can be safely treated for release or removed for proper disposal. DoD design criteria require DoD Components to construct engineered containment systems when foam fire suppression systems are built, such as in aircraft hangars.

**(U) Environment (CERCLA).** The navigable waters, the waters of the contiguous zone, and the ocean waters, and any other surface water, ground water, drinking water supply, land surface or subsurface strata, or ambient air within the United States or under the jurisdiction of the United States.

**(U) Environment (Hawaii).** Any waters, including surface water, ground water, or drinking water supply, any land surface or any subsurface strata, or any ambient air within the State of Hawaii or under the jurisdiction of the State.

**(U) Hazardous Substance.** Any substance designated by the EPA as hazardous under various legal authorities, including the Federal Water Pollution Control Act, the Solid Waste Disposal Act, the Federal Water Pollution Control Act, the Clean Air Act, and the Toxic Substances Control Act.

**(U) Incident.** Any occurrence or series of occurrences having the same origin.

**(U) Release.** Any spilling or substantial threat of spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment of any hazardous substance, including the abandonment or discarding of barrels, containers, and other closed receptacles containing any hazardous substance, pollutant, or contaminant. A release may be either aboveground or belowground. An aboveground release is any release to the surface of the land or to surface water. A belowground release is any release to the subsurface of the land and to groundwater.

**(U) Secondary Containment.** A release prevention and release detection system for a tank or piping. These systems include structures or equipment to prevent a release of oil and hazardous substances from their primary containment tank or piping, where the structure is a liquid-tight container that protects the environment by containing leaks and spills of regulated substances, such as fuel, from piping, dispensers, pumps, and related components in the containment area.



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### **U.S. DEPARTMENT OF DEFENSE**

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