



OFFICE OF THE UNDER SECRETARY OF WAR
4000 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-4000

PERSONNEL AND
READINESS

The Honorable Mike D. Rogers
Chairman
Committee on Armed Services
U.S. House of Representatives
Washington, DC 20515

APR 24 2026

Dear Mr. Chairman:

The Department's response to section 1092 of the National Defense Authorization Act for Fiscal Year 2024 (Public Law 118-31), "Red Hill Health Impacts," is enclosed.

The second annual report reviews the Department of War's (DoW) new and continued activities to support individuals and families exposed to the November 2021 Red Hill fuel release. It provides a review of DoW activities addressing Red Hill health implications, a review of Federal programs and services, current research and research needs, strategies for communicating and engaging with stakeholders, and other relevant data reporting elements.

Thank you for your continued strong support for the health and well-being of our Service members, veterans, and their families. I am sending similar letters to the other appropriate congressional committees.

Sincerely,



Sean O'Keefe
Deputy Under Secretary of War for Personnel
and Readiness

Enclosure:
As stated

cc:
The Honorable Adam Smith
Ranking Member



OFFICE OF THE UNDER SECRETARY OF WAR
4000 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-4000

PERSONNEL AND
READINESS

The Honorable Roger F. Wicker
Chairman
Committee on Armed Services
United States Senate
Washington, DC 20510

APR 24 2026

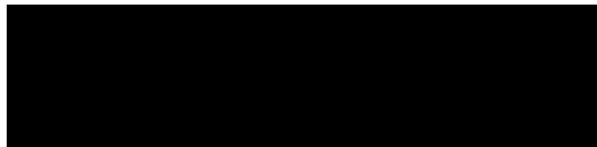
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The Honorable Jack Reed
Ranking Member



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The Honorable Mitch McConnell
Chairman
Subcommittee on Defense
Committee on Appropriations
United States Senate
Washington, DC 20510

APR 24 2026

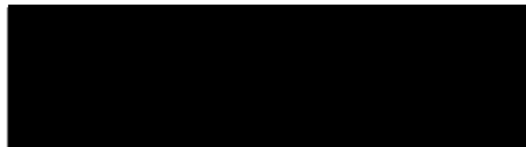
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The Honorable Chris Coons
Ranking Member



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PERSONNEL AND
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The Honorable Ken Calvert
Chairman
Subcommittee on Defense
Committee on Appropriations
U.S. House of Representatives
Washington, DC 20515

APR 24 2026

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cc:
The Honorable Betty McCollum
Ranking Member



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WASHINGTON, D.C. 20301-4000

PERSONNEL AND
READINESS

The Honorable Jerry Moran
Chairman
Committee on Veterans' Affairs
United States Senate
Washington, DC 20510

APR 24 2026

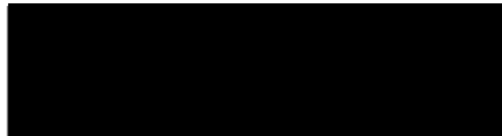
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The Honorable Richard Blumenthal
Ranking Member



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The Honorable Mike Bost
Chairman
Committee on Veterans' Affairs
U.S. House of Representatives
Washington, DC 20515

APR 24 2026

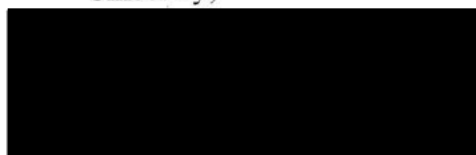
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The Honorable Mark Takano
Ranking Member



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PERSONNEL AND
READINESS

The Honorable Bill Cassidy, M.D.
Chairman
Committee on Health, Education,
Labor, and Pensions
United States Senate
Washington, DC 20510

APR 24 2026

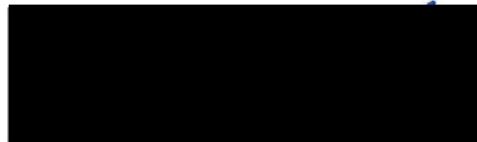
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The Honorable Bernie Sanders
Ranking Member



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PERSONNEL AND
READINESS

The Honorable Brett Guthrie
Chairman
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515

APR 24 2026

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Enclosure:
As stated

cc:
The Honorable Frank Pallone, Jr.
Ranking Member

Report to the Appropriate Congressional Committees



Red Hill Health Impacts

April 2026

The estimated cost of this report or study for the Department of War (DoW) is approximately \$9,840 for the 2025 Fiscal Year. This includes \$10 in expenses and \$9,830 in DoW labor.

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EXECUTIVE SUMMARY

This report is in response to section 1092 of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2024 (Public Law 118–31), “Red Hill Health Impacts.” The November 2021 release of Jet Propellant-5 (JP-5) aviation fuel from the Red Hill Bulk Fuel Storage Facility into the Joint Base Pearl Harbor-Hickam (JBPHH) drinking water system directly exposed thousands to a toxicological hazard and led to an ongoing public health response.

DoW remains committed to rigorous, independent analysis of health risks, ensuring access to high-quality care for individuals with potential exposure-related health concerns, and transparent communications with the affected communities. New developments in 2025 include the official launch of the University of Hawaii (UH) Red Hill Independent Health Registry, the second expansion of secretarial designation (SECDES) status, and progress in ongoing research efforts related to the 2021 fuel release.

BACKGROUND

On November 20, 2021, a rupture of a fire suppression line that contained JP-5 aviation fuel from a prior leak in May 2021 entered and contaminated the JBPHH drinking water system.¹ By November 28, 2021, the Hawai‘i Department of Health began receiving numerous reports from households served by the JBPHH drinking water system that the drinking water tasted and smelled like fuel. Subsequently, the Hawai‘i Department of Health issued a drinking water advisory on November 29, 2021.² After some initial confusion regarding which residential neighborhoods served by the JBPHH water system were at risk and following several inconsistent water use recommendations, all residents in the impacted military family housing areas were advised to stop all drinking, bathing, and washing with the contaminated water. Several months later, following a systematic flushing and the implementation of a testing plan for the impacted drinking water supply that was developed by the Interagency Drinking Water System, the Hawai‘i Department of Health removed the drinking water advisory for the last affected residential areas on March 18, 2022.³ No individual-level validated measures of exposure from environmental sampling, biological specimens or questionnaires for estimating exposure routes and magnitude of exposure are available for any individuals served by the JBPHH water system. The total number of individuals exposed or at risk for exposure to the release of JP-5 and fuel additives has been estimated to exceed 90,000.⁴

REPORT FRAMING

This second annual report is in response to section 1092 of the NDAA for FY 2024 (Public Law 118–31), “Red Hill Health Impacts,” which directs the Secretary of Defense to “review the Federal programs and services available to individuals exposed to petroleum; review current research on petroleum exposure in order to identify additional research needs; undertake

¹ (Department of the Navy, 2022)

² (Hawai‘i Department of Health, 2021)

³ (Hawai‘i Department of Health, 2022)

⁴ (United States Environmental Protection Agency, About Red Hill Fuel Releases, 2024)

any other review of activities that the Secretary determines to be appropriate.”⁵ The structure of this report is organized around the required review elements in section 1092.

This report addresses the required report elements specified in section 1092(a), which include “strategies for communicating and engaging with stakeholders on the Red Hill Incident; the number of impacted and potentially impacted individuals; measures and frequency of follow-up to collect data and specimens related to exposure, health and developmental milestones as appropriate; and a summary of data and analyses on exposure, health, and developmental milestones for impacted individuals.”¹

This second annual report highlights new DoW activities conducted in 2025 to address the health implications and support for personnel exposed to the 2021 fuel release and provides progress updates on ongoing response and support efforts. Background on activities during 2021-2024 can be found in the Department’s first annual report.⁶ Additional requirements outlined in section 1092(b), “Red Hill Epidemiological Health Outcomes Study,” will be reported separately.

REVIEW OF DOW ACTIVITIES ADDRESSING RED HILL HEALTH IMPLICATIONS

Review Element 1: Federal Programs and Services

In this section, the Department summarizes the Federal programs and services currently available to individuals exposed to the 2021 fuel release, including whether the program and service are applicable to all exposed individuals or a subset of the exposed population. These efforts are primarily managed by the Defense Health Agency’s (DHA) Public Health directorate, under the oversight of the Under Secretary of War for Personnel and Readiness and the Assistant Secretary of War for Health Affairs. These programs and services include:

- Red Hill Defense Occupational and Environmental Health Readiness System (DOEHRS) Registry (DoW-affiliated only)
- Individual Longitudinal Exposure Report (ILER) (DoW-affiliated only)
- The UH Red Hill Independent Health Registry (all exposed individuals)
- DHA Red Hill Public Health Communications Plan (all exposed individuals)
- The Red Hill Clinic (Hawai‘i) (all exposed individuals in Hawai‘i)
- Under Secretary of War for Personnel and Readiness Designation for Red Hill Authorizing Medical Evaluations for Non-TRICARE-Eligible Beneficiaries (all exposed individuals)
- Other Activities to Support Health Care Needs (Primarily individuals covered by TRICARE or Department of Veterans Affairs (VA) health care)

⁵ (Public Law 118-31, 2023)

⁶ (Office of the Undersecretary of Defense for Personnel and Readiness, 2025)

Red Hill DOEHRS Registry

DOEHRS is the official DoW system of record for managing information related to known and potential occupational and environmental exposures in both permanent duty stations and deployed environments.⁷ Soon after the 2021 fuel release, DoW established the Red Hill DOEHRS Registry, which automatically enrolled all DoW-affiliated individuals who lived in, worked in, or visited areas served by the JBPHH water system between November 20, 2021 and March 18, 2022. As a result, the Red Hill DOEHRS Registry contains the names and identifying information of all DoW-affiliated individuals potentially exposed to the 2021 fuel release based on their assigned duty station or residence.

A noteworthy limitation of the Red Hill DOEHRS Registry is that the system is currently only capable of including information for DoW-affiliated personnel and cannot include information for those potentially exposed to the 2021 fuel release that do not have any DoW affiliation. To resolve this limitation in October 2024, DHA Public Health requested a revision to the System of Records Notice (SORN) for DOEHRS which, if approved in 2026, would permit the system to include information for non-DoW affiliated personnel. Progress towards the revised SORN will be addressed in follow-on reports.

As of December 3, 2025, there were 55,116 unique individuals enrolled in the Red Hill DOEHRS Registry. The Red Hill DOEHRS Registry will operate indefinitely, serving as the official record of DoW-affiliated persons exposed to the 2021 fuel release through residence, work, school, daycare, or other means. Following the establishment of the Red Hill DOEHRS Registry, it was recognized that some individuals not previously captured through automatic enrollment based on work or residence location, but who met eligibility criteria for enrollment, would want to enroll or ensure they were included in the registry. To provide this ongoing support capability, DHA Public Health established an organizational email address to respond to any Red Hill related inquiry from the public. This email address is monitored by the Red Hill Outreach Coordinator, whose position and responsibilities are described later in this report.

While the Red Hill DOEHRS Registry serves as the official record of DoW-affiliated individuals potentially exposed to the 2021 fuel release, it does not meet the formal definition of an exposure registry per the Centers for Disease Control and Prevention/Agency for Toxic Substances and Disease Registry (CDC/ATSDR), as it lacks the capability to provide ongoing follow up with its registrants. This significant limitation was the impetus for DoW's efforts to establish an independent Red Hill health registry meeting the ATSDR definition requirements. The independent registry was created in 2024 and is described in detail later in this report.

ILER

The VA and DoW have jointly established the ILER system to provide a comprehensive longitudinal review of an individual's occupational and environmental health exposures throughout their military career.⁸ ILER compiles exposure data from multiple data sources, including DOEHRS, and provides DoW and VA clinicians, benefits administrators, and researchers data to improve healthcare services provided to service members and veterans. The

⁷ (Defense Health Agency Solution Delivery Division, DOEHRS-IH Fact Sheet, 2023)

⁸ (Defense Health Agency Solution Delivery Division, ILER Fact Sheet, 2023)

Red Hill DOEHRS Registry seamlessly transfers relevant information into ILER; individuals exposed to the Red Hill release that are not currently included in the Red Hill DOEHRS Registry, such as non-DoW-affiliated personnel, do not currently appear in the ILER.

Military Healthcare System (MHS) staff members can view ILER records for military Service members and family members exposed to the 2021 fuel release during a patient healthcare visit, and VA staff members can view ILER records for veterans during their patient care visits. The ILER will continue to enable VA clinicians, benefits administrators, and researchers to recognize veterans' exposure to the 2021 fuel release, as well as other occupational and environmental health hazards.

The UH Red Hill Independent Health Registry

While the UH Red Hill Independent Health Registry (the Registry) is not a Federal program or service, it is included in this report since Federal funding from the Red Hill transfer account was used to fund the establishment and operating costs through FY 2029. UH has complete independence to plan and execute the Registry to support those exposed to the 2021 fuel release, as DHA Public Health has emphasized in Red Hill communications and e-updates to the community.

With Congressional approval, DoW used funds in the Red Hill transfer account to resource and fund the establishment of an independent Red Hill registry in June 2024. UH distinguished itself as uniquely capable, motivated, and publicly trusted to design and execute the Registry, and was subsequently integrated into the Joint Disaster Medicine and Public Health Ecosystem at the Uniformed Services University of the Health Sciences (USUHS) and granted a subaward to establish and operate the Registry. In addition to monitoring the health of those exposed to the 2021 fuel release over time, UH will leverage the Registry to connect individuals and families to support services, and to provide educational offerings. Under an interagency agreement with DHA Public Health established in December 2024, ATSDR is providing technical assistance to UH in implementing the Red Hill Independent Health Registry, drawing upon ATSDR's extensive experience with environmental exposure registries.

UH, with continual community input, developed and launched the Registry in July 2025 with the goal of tracking health outcomes and providing resources to individuals exposed to the 2021 fuel release. Working with local, national, and international stakeholders, the Registry has further engaged the public and scientific experts through focus groups, surveys, meetings, and via its Community Advisory Workgroup and through Scientific Oversight Workshops, which helped to establish enrollment criteria, develop questionnaires, and identify key education and resource needs.

Since launching in July 2025, the Registry continues to enroll participants who were exposed to the 2021 fuel release. In October 2025, the Registry partnered with Unite Us, a technology company that connects people in need with health and community-based services. The local Unite Us affiliate, Unite Hawai'i, is a coordinated care network consisting of healthcare, government, nonprofit, and other organizations that facilitate collaboration to improve care coordination, track health outcomes, and connect people to essential support

services. The Registry continues to build cross-sector partnerships to use collected data to assess links between jet fuel contamination and potential health effects.

DHA Red Hill Public Health Communication Plan

In May 2023, DHA Public Health approved a communication plan to address the ongoing Red Hill response. Themes of this plan included institutional commitments to honesty; transparency; patient- and family-centered care; and understanding of any potential long-term health implications of the 2021 fuel release. The plan components included regular e-updates, a public-facing website, an organizational email box, webinars, small group listening sessions, and individual outreach.⁹ All of these components were implemented over the ensuing 15 months, and most are still active. In addition, while the Registry is not a Federal service, it is noteworthy that UH co-developed the Registry with the Hawai’ian community and included extensive public communications in establishing it.

- E-updates: DHA Public Health used the work and personal email addresses captured in the Red Hill DOEHRS registry, supplemented by e-update subscriptions open to the public, to build a listserv for sharing Red Hill related information. As of December 3, 2025, the DHA Red Hill listserv contained 38,347 e-update subscribers. DHA Public Health has employed the listserv to distribute 6 e-updates from September 2024 through August 2025 on various Red Hill related topics including ongoing DHA support activities, resources for individuals exposed to the 2021 fuel release, the UH Registry, the DHA’s public facing Red Hill website, public webinars, virtual small group listening sessions, and the National Academies of Sciences, Engineering, and Medicine consensus study on the 2021 fuel release. The e-updates have served as a convenient and informative means for the community to access key messages from DoW and other stakeholders.
- Public website: DHA Public Health established and maintains a dedicated single web source for all DoW-related Red Hill public health information (<https://ph.health.mil/topics/campaigns/red-hill-public-health/Pages/default.aspx>). The site includes instruction on where and how to seek healthcare, information regarding the Red Hill release to share with healthcare providers, information on the Red Hill Clinic and the SECDES policy for Red Hill, a website link to the UH Registry, information on the Red Hill DOEHRS registry, archived Red Hill health webinars and e-updates, and the contact information for the DHA Public Health Red Hill email inbox.
- Organizational email inbox: DHA Public Health established and maintains an organizational email inbox (dha.redhill@health.mil) to answer any questions and receive comments from the public regarding the Red Hill public health response. Most of the more than 2,500 email queries received to date have been to confirm or request enrollment in the Red Hill DOEHRS registry. The organizational email inbox is monitored daily during the work week by a full-time Red Hill Outreach Coordinator.

⁹ (Defense Health Agency Public Health, 2024)

- Individual outreach: DHA Public Health established a full-time Red Hill Outreach Coordinator position in December 2023 and continues to maintain the position to support those exposed to the 2021 fuel release with public health related questions or concerns. The Red Hill Outreach Coordinator monitors the organizational email inbox, coordinates with the DHA staff to respond to questions and inquiries received via the inbox, and schedules and conducts one-on-one virtual meetings to assist individuals with their concerns regarding the Red Hill exposure. The Red Hill Outreach Coordinator conducted over 100 one-on-one virtual meetings in 2025.

Red Hill Clinic

The Defense Health Network Indo-Pacific established the Red Hill Clinic inside the Branch Health Clinic Makalapa on JBPHH in January 2023 to provide dedicated, specialized support to personnel exposed to the 2021 fuel release.¹⁰ The Red Hill Clinic focuses on evaluating and treating health concerns specifically related to the fuel exposure, and enables Red Hill patients to bypass the normal waiting time and process for scheduling specialty care appointments. The clinic provides health services support to military Service members; their families; DoW civilian employees; and under the SECDES for Red Hill, anyone who was exposed to the 2021 fuel release regardless of DoW-affiliation status. Following the initial SECDES for Red Hill in March 2023, the clinic's operating hours were surged to 5 days per week to meet the demand for appointments. As the demand for appointments diminished through 2023 and 2024, the clinic reduced its operating hours and is currently open one half-day per week. The Red Hill Clinic will continue to operate and support individuals with health concerns that they attribute to the 2021 fuel release.

From its opening in January 2023 and continuing through early December 2025, the Red Hill Clinic has evaluated a total of 259 TRICARE-eligible patients and 17 SECDES patients. Specialty referrals have included gastroenterology (19), dermatology (44), neurology (13), and mental health (7).

Under Secretary of War for Personnel and Readiness Designation Authorizing Medical Evaluations for Non-TRICARE-Eligible Beneficiaries (Secretarial Designation)

On March 10, 2023, the Under Secretary of War for Personnel and Readiness, exercising authority granted under 10 U.S.C. § 1074(c), authorized non-TRICARE-eligible personnel who were exposed to the November 2021 Red Hill fuel release to receive a medical evaluation at the Red Hill Clinic. The original SECDES status was twice extended for an additional 12 months: in February 2024 and March 2025. The second extension is ongoing and will be active until March 10, 2026. The February 2024 extension expanded eligibility to then-current residents of military family housing who had concerns over drinking water quality. The March 2025 extension expanded the scope of DoW medical facilities eligible to provide space-available support to Red Hill SECDES patients from two facilities on Oahu (the Red Hill Clinic and Tripler Army Medical Center), to all DoW medical facilities worldwide.

¹⁰ (Naval Health Clinic Hawai'i, 2024)

As of early December 2025, the Red Hill Clinic has evaluated 17 patients under the SECDES program, with five referrals in total for gastroenterology, dermatology, and neurology. An additional three Red Hill SECDES patients have been evaluated at DoW medical facilities in the mainland U.S. since the expansion of support in March 2025. The extension of the Red Hill SECDES and expansion in scope of supporting DoW medical facilities affirms DoW's continued support to individuals, not otherwise qualified for healthcare support in DoW facilities, with health concerns they attribute to the 2021 fuel release.

Other Activities to Support Health Care Needs

DHA Public Health continues to emphasize the importance of all MHS staff members having familiarity with the 2021 fuel release and possible healthcare concerns in exposed patients. Due to the regular transfer of Service members and military families, patients who have reported ongoing symptoms attributed to the 2021 fuel exposure may appear at MHS facilities worldwide. DHA Public Health has updated the TRICARE managed care support contractors' case managers on the complex health care needs of some TRICARE beneficiaries exposed to the 2021 fuel release. DHA Public Health has also briefed primary care leads at the Defense Health Networks, as well as provided Red Hill healthcare updates to 36,000 MHS subscribers via DHA Primary Care Updates.

The consistent message has been that some individuals exposed to the 2021 fuel release have complex medical problems and MHS staff members should understand the context of the Red Hill fuel exposure in providing optimal patient- and family-centered care. DHA Public Health has also reinforced that some patients' heterogenous symptoms may not be well explained despite extensive medical evaluations and the long-term health risks of the fuel exposure are unknown, underscoring the importance of the Red Hill independent health registry established and maintained by UH to longitudinally monitor registrants' health and quality of life.

For veterans, DHA Public Health has supported Red Hill-related training activities led by the VA Health Outcomes Military Exposures (HOME) Division and other healthcare providers.

Review Element 2: Current Research and Research Needs

In this section, DHA Public Health provides updates regarding the known health effects of fuel exposure, gaps in knowledge, and future research priorities. Lines of effort to better understand the health implications of the fuel exposure include:

- Leveraging ATSDR Epidemiological and Toxicologic Expertise
- National Academies of Sciences, Engineering, and Medicine Consensus Study
- Congressionally Directed Medical Research Program (CDMRP) Toxic Exposures Research Program (TERP)

Leveraging ATSDR Epidemiological and Toxicologic Expertise

DHA Public Health has recognized that institutional epidemiological and toxicologic expertise in understanding the short-, medium-, and long-term health effects of fuel exposure, including exposure to JP-5 fuel additives, resides with ATSDR. The Hawai‘i Department of Health requested technical assistance from ATSDR immediately after the 2021 fuel release. ATSDR’s most visible involvement in Red Hill was deploying personnel to rapidly conduct two public Assessment of Chemical Exposures (ACE) surveys on convenience samples of individuals exposed to the 2021 fuel release.¹¹ Through the ACE program, ATSDR supports state and local health departments with rapid epidemiological assistance following a large-scale toxic release.¹² Following the 2021 fuel release, ATSDR summarized the known health effects of the fuel exposure for the Hawai‘i Department of Health, which helped inform the State public health response. Further, at the request of the Hawai‘i Department of Health, ATSDR continues conducting a public health assessment to evaluate community exposures to chemical releases from the Red Hill Bulk Fuel Storage Facility since 2005.¹³ ATSDR is using environmental data collected since 2005 when ATSDR completed a public health assessment for the Pearl Harbor Naval Complex. Additionally, as previously noted, the ATSDR is actively providing technical assistance to the UH for the development of their Red Hill Independent Health Registry.

During 2025, the ATSDR ACE team advanced Federal understanding of the health and community impacts associated with the 2021 fuel release through peer-reviewed publications, scientific dissemination, and interagency collaboration.

Peer-Reviewed Manuscripts: The ACE team published three manuscripts in 2025, providing analysis of community experiences, physical health outcomes, and long-term mental health effects following potential exposure to JP-5-contaminated drinking water.

- *Understanding Community Resilience During the Drinking Water Contamination Event on Oahu, Hawaii, 2021–2022: A Mixed Mode Approach.* Published in BMC Public Health (<https://link.springer.com/article/10.1186/s12889-024-20394-z>). This mixed-methods study evaluates community-reported disruption, stress, communication challenges, diminished trust, and ongoing needs during the contamination period. Findings highlight social and mental health impacts and provide guidance for improving emergency response and risk communication in large-scale environmental exposure events.
- *Morbidities Associated with Drinking Water Contamination After a 2021 Petroleum Leak — Oahu, Hawaii, March 2023.* Published in Disaster Medicine and Public Health Preparedness (<https://www.cambridge.org/core/journals/disaster-medicine-and-public-health-preparedness/article/morbidities-associated-with-drinking-water-contamination-after-a-2021-petroleum-leak-oahu-hawaii-march-2023/E654C9099E675E9A645E3F9FF60196A2>). Conducted at the request of DoW/DHA Public Health, this medical chart review assessed more than 600 electronic health records and documented rates of worsening

¹¹ (Agency for Toxic Substances and Disease Registry, Red Hill Response, 2024)

¹² (Agency for Toxic Substances and Disease Registry, Assessment of Chemical Exposures Program, 2024)

¹³ <https://www.atsdr.cdc.gov/red-hill/factsheet/index.html>

- preexisting conditions and persistent new symptoms following potential exposure. Results underscore the need for sustained medical and behavioral health services.
- *Long-Term Mental Health Findings and Concerns After Potential Exposure to Petroleum in Drinking Water on Joint Base Pearl Harbor–Hickam, November 20, 2021–February 24, 2023*. Published in *Disaster Medicine and Public Health Preparedness* (<https://www.cambridge.org/core/journals/disaster-medicine-and-public-health-preparedness/article/longterm-mental-health-findings-and-concerns-after-potential-exposure-to-petroleum-in-drinking-water-on-joint-base-pearl-harborhickam-november-20-2021february-24-2023/1F9C9339F503263AD2E67469F9DD9BB7>).

Conducted at the request of DoW/DHA Public Health, this medical chart review evaluated mental health outcomes among affected adults. Nearly half of reviewed records showed either worsening preexisting mental health conditions or persistent new mental health concerns, reinforcing the need for long-term behavioral health monitoring and care access.

International Scientific Dissemination: The ACE team collaborated with UH to lead a symposium at the International Society for Environmental Epidemiology (ISEE) annual conference. This session presented findings from all three ACE Red Hill investigations to an international audience of environmental health scientists.

Engagement with the National Academies: ATSDR and the CDC’s National Center for Environmental Health (NCEH) staff provided a formal webinar titled “CDC and ATSDR’s Response to the Red Hill Bulk Fuel Storage Facility Release Event” to the National Academies Committee on Clinical Follow-Up and Care for Those Impacted by the JP-5 Releases at Red Hill. The webinar summarized Federal public health actions related to the Red Hill incident, including investigations using community surveys, medical record reviews, biomonitoring support, and long-term public health assessment activities.

National Academies of Sciences, Engineering, and Medicine (NASEM) Consensus Study

In July 2024, VA HOME and DHA Public Health collaborated to award a task order to the National Academies to publish a consensus study report on “Clinical Follow Up and Care for Those Impacted by the JP-5 Releases at Red Hill.”¹⁴ The study committee was charged with engaging affected community members, assessing the health risks associated with JP-5 exposure, and providing evidence-informed clinical guidance for the DoW and the VA.

Over the past year, the National Academies appointed an expert committee, convened a panel of community liaisons, and held a public meeting (February 2025). The committee and staff also conducted three virtual listening sessions to hear directly from exposed community members; completed a site visit to the Red Hill Bulk Fuel Storage Facility and the Honolulu Board of Water Supply (June 2025); held two community meetings in Honolulu (June 2025); and hosted a webinar series to gather additional input from the community. Throughout the year, the committee met regularly in closed sessions to review scientific evidence, community input, and

¹⁴ (National Academies of Sciences, Engineering, and Medicine, 2024)

exposure information. The report was submitted for independent peer review in November 2025 and is currently undergoing revision, with public release anticipated in Spring 2026.

CDMRPTERP¹⁵

As part of the CDMRP, Congress appropriated a total of \$90 million (M) for the TERP in FY 2022-2024 and \$15M in FY 2025. The vision of the TERP is to “prevent, minimize and mitigate the impact of military-related toxic exposures and improve the health and quality of life of those affected.” The mission of the TERP is to “support impactful research aimed at identifying the cause and understanding the health outcomes, comorbidities and pathological mechanisms associated with military-related toxic exposures to facilitate the prevention, diagnosis and treatment of the visible and invisible diseases and symptoms impacting Service members, their Families, Veterans and the American public.”

Research proposals are openly solicited through Investigator-Initiated Research Award, Translational Research Partnership Award, and Clinical Trial Partnership Award funding opportunities. Awards are made to extramural and intramural DoW organizations with direct cost limits ranging from \$500,000 to \$2.5M, depending on the award mechanism. All research applications are evaluated by scientists, clinicians, and consumers using CDMRP’s two-tiered review process.

The TERP offers award mechanisms spanning the research continuum, from investigating new, well-development hypotheses to translational research and clinical trials. The FY 2025 program goals of the TERP are as follows:

1. Predict and prevent military-related toxic exposures by identifying strategies that can anticipate, identify, monitor and prevent Service Members and the American public from adverse effects of exposures to toxic substances.
2. Elucidate mechanisms of how military-related toxic exposures result in adverse effects, including, but not limited to, toxicities, malignancies, neurologic and respiratory disorders, cardiac complications, sleep disorders, immune system dysfunction, gastrointestinal issues, etc.
3. Diagnose the effects of military-related toxic exposures, understand the phenotypic, pathological and clinical outcomes associated with short-term and long-term exposures, and predict disease progression.
4. Develop therapeutics, treatments and strategies to minimize symptoms and disease progression association with military-related toxic exposures.
5. Understand the multigenerational effects of military-related toxic exposures and how they impact those exposed, their partners, and their descendants.

The TERP includes the following equally important topic areas: 1) Neurotoxin Exposure; 2) Gulf War Illness and Its Treatment; 3) Airborne Hazards and Bum Pits; and 4) Other Military Service-Related Toxic Exposures in General, Including Prophylactic Medications, Pesticides, Organophosphates, Toxic Industrial Chemicals, Materials, Metals and Minerals.

¹⁵ (Congressionally Directed Medical Research Programs, 2025)

The TERP is still supporting two on-going projects relevant to the 2021 fuel release. The first includes an evaluation of the endocrine, reproductive and development effects of JP-5 exposure in model systems. The second project seeks to identify molecular signatures of benzene exposures to facilitate the development of detection assays that will indicate whether an individual has been exposed. Findings from these projects will be shared in future annual reports.

Review Element 3: Other Activities

In addition to the above activities, DHA Public Health's EpiData Center (EDC) is supporting analysis of Red Hill health impacts. The EDC, which falls under the Defense Centers for Public Health-Portsmouth, has conducted two prior analysis specific to Red Hill fuel exposure and the potential health effects. These analyses were publicly posted on the Commander Naval Region Hawai'i website: (<https://cnrh.cnrc.navy.mil/Operations-and-Management/Red-Hill/>). The EDC's most recent Red Hill analysis, *Incidence of Selected Health Conditions Among TRICARE Beneficiaries Exposed to the Red Hill Fuel Release*, was cleared for public release in October 2024 and is available on the DHA's public Red Hill website. All of the EDC's Red Hill related studies were shared with the UH Registry team and NASEM Red Hill consensus study team.

The EDC is currently conducting an analysis to determine whether a possible correlation exists between JBPHH resident health outcomes (specifically respiratory, central nervous system, dermatological, and gastrointestinal symptoms) and modeled water contamination levels. The analysis utilizes a hydraulic model of the JBPHH water distribution system based on its operations from November 24, 2021, to December 5, 2021, which estimates the percentage of water sourced from the Red Hill shaft at each network node. These nodes were mapped to individual household addresses and the corresponding percentage of water sourced from the shaft served as the basis for defining exposure categories. Two years of health data, spanning 1 year before and 1 year after the modeled contamination event, are being analyzed to identify potential trends in diagnoses based on these exposure levels. This is the first Red Hill epidemiological study to estimate jet fuel exposure levels in JBPHH residents and to stratify health outcomes based on household exposure.

Additionally, the EDC leads the Red Hill Epidemiological Analysis Working Group, which includes DHA Public Health, the National Institute for Defense Health Cooperation, the VA, and the ATSDR as partners. This working group meets quarterly and provides epidemiological support for Red Hill related studies and analyses. During 2025, the workgroup supported the Assistant Secretary of War for Health Affairs, Health, Readiness Policy & Oversight with technical consultation for scoping future epidemiological studies on the health impacts of the 2021 fuel release, pursuant to section 1092(b).

OTHER REPORT ELEMENTS

Section 1092 of the NDAA for FY 2024 requires that the report address:

- strategies for communicating and engaging with stakeholders on the Red Hill incident;
- the number of impacted and potentially impacted individuals;

- measures and frequency of follow-up to collect data and specimens related to exposure, health, and developmental milestones as appropriate; and
- a summary of data and analyses on exposure, health, and developmental milestones for impacted individuals.

The preceding section “Review of DoW Activities Addressing Red Hill Health Implications” touches on these report elements. The following section summarizes key points and provides additional information.

Strategies for Communicating and Engaging with Stakeholders

DHA Public Health defines stakeholders in the Red Hill incident broadly including, but not limited to, the community of persons exposed to the 2021 Red Hill fuel release; the people of Hawai‘i; Hawai‘i Department of Health; UH; Hawai‘i civic authorities; interagency (ATSDR, VA, Environmental Protection Agency [EPA]) partners; National Academies; academic medical toxicologists; and DoW Components as well as Joint Task Force-Red Hill and Navy Closure Task Force-Red Hill.

DHA Public Health executed all elements included in the Red Hill Public Health Communication Plan for individuals exposed to the 2021 fuel release, including disseminating e-updates, maintaining a public facing website and a dedicated organizational email account, conducting webinars, and individual outreach, and continues to support a proactive communications and engagement strategy. The Registry is conducting its own complementary program of community engagement, as overviewed above.

A series of institutional coordination mechanisms ensure synchronized action among stakeholders. DHA Public Health attends bi-weekly update meetings with the NASEM Red Hill study team. The VA conducts monthly synchronization meetings with ATSDR, VA, and DoW staff. DHA Public Health continues to hold a monthly internal synchronization meeting for DHA staff. In addition, DHA Public Health participates in a monthly Red Hill Joint Health Services Working Group meeting sponsored by Defense Health Network Indo-Pacific that shares updates across a broad network of DoW stakeholders. Additionally, DHA Public Health has supported the Hawai‘i Fuel Tank Advisory Committee by being available to answer committee and public questions.

Number of Impacted and Potentially Impacted Individuals

The EPA’s Safe Drinking Water Information System (SDWIS) indicates that the JBPHH water system serves 65,230 persons as well as an additional 6,406 in the Aliamanu water distribution system.¹⁶ The total of 71,636 persons compares with the 93,000 persons exposed or potentially exposed that has been widely reported.¹⁷ As noted previously, the Red Hill DOEHRs Registry includes 55,116 DoW-affiliated individuals which were automatically enrolled based on work and, or residence location. This figure is much higher than what would have been obtained through relying exclusively on an individual voluntary (“opt in”) enrollment.

¹⁶ (United States Environmental Protection Agency, SDWIS Federal Reports Search, 2024)

¹⁷ (CBS News, 2021)

The UH Registry has been authorized to enroll all individuals exposed to the 2021 fuel release regardless of DoW affiliation. DHA Public Health and UH have completed a data sharing agreement, which authorizes UH to receive contact information from the Red Hill DOEHRS Registry to facilitate wider-scale recruitment and awareness effort for personnel exposed to the 2021 fuel release.

Measures and Frequency of Follow Up

As noted above, there are no validated measures of individual exposure. All individuals in the Red Hill DOEHRS Registry are treated as having exposure without stratification into sub-categories of exposure. To date, no medical toxicologist has stated that there may be validated measures of exposure derived from biomonitoring. Additional research may clarify the existence of such biomarkers and their clinical utility.

The UH Registry will define measures of health, quality of life, and other pertinent individual-level data that may be used to develop models to reconstruct exposure. The Registry will also define the recommended periodicity of data collection.

Future reports to Congress will be able to update what measures and frequency of follow up are being conducted on individuals exposed to the 2021 fuel release.

Summary of Data and Analyses

The CDC ACE surveys and medical record reviews, and the EDC studies were previously reported and are publicly available. The National Academies consensus report on the Clinical Follow-Up and Care for Those Impacted by the JP-5 Releases at Red Hill is expected to be completed in December 2025 and released in early 2026. The results of this comprehensive, peer-reviewed study will be included in follow-up reports. Additionally, the EDC's Red Hill epidemiological study to estimate jet fuel exposure levels in JBPHH residents, which is currently underway, is expected to be completed in 2026. The results of this study will also be included in follow-on reports. The Department will report separately on activities pursuant to section 1092(b).

CONCLUSION

This report reviewed DoW activities to support those exposed to the 2021 Red Hill fuel release. Independent expertise continues to be indispensable in bringing expert, unbiased perspectives to the Red Hill challenge. DoW remains actively engaged in taking care of those exposed to the 2021 Red Hill fuel release, regardless of DoW affiliation. DoW looks forward to future updates on actions to fully understand the health impacts of the 2021 Red Hill fuel release which will inform individuals, healthcare professionals, researchers, and civil authorities.

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DEFINITIONS

Consensus Study Report: A report published by the National Academies of Sciences, Engineering, and Medicine that documents the evidence-based consensus on the study's statement of task by an authorizing committee of experts. Reports typically include findings, conclusions, and recommendations based on information gathered by the committee and the committee's deliberations. Each report has been subjected to a rigorous and independent peer-review process, and it represents the position of the National Academies on the statement of task.

Defense Occupational and Environmental Health Readiness System – Industrial Hygiene (DOEHRS-IH): A web-based information system that captures occupational and environmental health risk data, and actively monitors biological, chemical, and physical health hazards that impact Department of Defense personnel worldwide.

Exposure Registry: Defined by ATSDR as “a system of ongoing follow up of people who have had documented environmental exposures.”

Individual Longitudinal Exposure Record (ILER): A web-based application that provides the Department of Defense and the Department of Veterans Affairs personnel with the ability to link service member and veteran data to known exposures, ensuring the efficient and effective continuity of individualized health care.

Secretarial Designee Program: The program established under 10 U.S.C. § 1074(c) to create by regulation an eligibility for health care services in military medical treatment facilities (MTFs) as well as dental treatment facilities for individuals who have no such eligibility under 10 U.S.C. chapter 55.

Statement of Task: The specific set of questions to be addressed by a National Academies of Sciences, Engineering, and Medicine study.

ACRONYMS

ACE	Assessment of Chemical Exposures
ATSDR	Agency for Toxic Substances and Disease Registry
CDC	Centers for Disease Control and Prevention
DHA	Defense Health Agency
DoW	Department of War
DOEHRS	Defense Occupational and Environmental Health Readiness System
DOEHRS-IH	Defense Occupational and Environmental Health Readiness System – Industrial Hygiene
EDC	EpiData Center
EPA	Environmental Protection Agency
FY	Fiscal Year
HOME	Health Outcomes Military Exposures
ILER	Individual Longitudinal Exposure Record
ISEE	International Society for Environmental Epidemiology
JBPHH	Joint Base Pearl Harbor-Hickam
JP-5	Jet Propellant-5
MHS	Military Health System
MTF	Military Medical Treatment Facility
NASEM	National Academies of Science, Engineering and Medicine
NCDMPH	National Center for Disaster Medicine and Public Health
NCEH	National Center for Environmental Health
NDAA	National Defense Authorization Act
SDWIS	Safe Drinking Water Information System
SECDES	Secretarial Designation
SORN	System of Records Notice
UH	University of Hawai'i
USUHS	Uniformed Services University of the Health Sciences
VA	Department of Veterans Affairs