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DEPARTMENT OF HEALTH
STATE OF HAWAI'I

ENVIRONMENTAL HEALTH DIVISION, DEPARTMENT OF HEALTH, STATE OF HAWAII, Complainant, v. UNITED STATES DEPARTMENT OF THE NAVY, Respondent.	Case No. 21-UST-EA-02 **NAVY'S AMENDED PROPOSED CONCLUSIONS OF LAW AND PROPOSED FINDINGS OF FACT; CERTIFICATE OF SERVICE**

PROPOSED CONCLUSIONS OF LAW

1. HRS § 342L-9 (Emergency Powers; Procedures) states:

> (a) Notwithstanding any other law to the contrary, if the governor or the director determines that an imminent peril to human health and safety or the environment is or will be caused by:
>
> (1) A release;
>
> (2) Any action taken in response to a release from an underground storage tank or tank system; or
>
> (3) The installation or operation of an underground storage tank or tank system;
>
> that requires immediate action, the governor or the director, without a public hearing, may order any person causing or contributing to the peril to immediately reduce or stop the release or activity, and may take any and all other actions as may be necessary.

2. DOH has not sufficiently demonstrated the "necessity of quick action by the State" to justify its use of an Emergency Order. *Logan v. Zimmerman Brush Co*., 455 U.S. 422, 436 (1982). DOH has not demonstrated the need for quick action here, and the majority of the actions it has ordered are not quick actions to stop an emergency. The evidence has not shown that an imminent peril remains, nor that imminent peril "is or will be caused by" any of the actions enjoined, nor that the actions directed by the Emergency Order are necessary to prevent any imminent peril.

3. "Imminent peril" is not defined in HRS § 342L.

4. The State of Hawaii obtained EPA state program approval, effective on September 30, 2002, for Hawaii's UST program to operate in lieu of EPA's UST program under Subtitle I of the Resource Conservation and Recovery Act of 1976 ("RCRA"), as amended, 42 United States Code ("U.S.C.") § 6901et seq. DOH is authorized to regulate USTs in conformance with EPA state program approval and the provisions of chapters 340E, 342D and 342L of the Hawaii Revised Statutes ("HRS") and the rules promulgated pursuant thereto. (Exhibit N-5A (Administrative Order on Consent) at p. 2)

5. A provision of RCRA, 42 U.S.C. § 6973 (Imminent Hazard), states:

> (a) Authority of Administrator. Notwithstanding any other provision of this Act [42 U.S.C. §§ 6901 *et seq*.], upon receipt of evidence that the past or present handling, storage, treatment, transportation or disposal of any solid waste or hazardous waste may present an imminent and substantial endangerment to health or the environment, the Administrator may bring suit on behalf of the United States in the appropriate district court against any person (including any past or present generator, past or present transporter, or past or present owner or operator of a treatment, storage, or disposal facility) who has contributed or who is contributing to such handling, storage, treatment,

transportation or disposal to restrain such person from such handling, storage, treatment, transportation, or disposal, to order such person to take such other action as may be necessary, or both.

6. Congress enacted amendments to RCRA in 1980, and it revised 42 U.S.C. § 6973 to authorize EPA to take action if waste "may present" an endangerment, rather than "is presenting" an endangerment, allowing EPA to address a risk of harm. *See Maine People's Alliance & Natural Res. Def. Counsel v. Mallinckrodt, Inc.,* 471 F.3d 277, 294 (1st Cir. 2006) ("We think it is clear that the 1980 amendments to [42 U.S.C. § 6973], substituting 'may present' for 'is presenting,' fundamentally altered how this provision was understood.")

The term "may present" does not appear in HRS § 342L-9, which instead requires a determination that "imminent peril … *is or will be* caused by" a release or other activity. Therefore, although cases interpreting the language of RCRA may be instructive in interpreting a Hawaii statute implementing the State's UST program, HRS § 342L-9 requires the more stringent finding that imminent peril *does* or *will* exist, not merely that it may come to exist.

Whether or not a harm is realized, an endangerment is only "imminent" if the factors giving rise to it are actually present; "there must be a threat which *is present* now." *Meghrig v. KFC W., Inc.,* 516 U.S. 479, 486 (1996) (emphasis added). The mere "possibility of future harm" does not constitute "imminent peril." *Chem. Weapons Working Group, Inc. v. U.S. Dep't of Def.,* 61 Fed. App'x. 556, 561 (10th Cir. 2003). DOH has not presented sufficient evidence to prove that the factors giving rise to a future threat of harm are present now. Therefore, the risk or possibility that a future release from the Red Hill Bulk Fuel Storage Facility ("Red Hill Facility" or "Facility") *may* cause harm does not form a sufficient basis for a determination that "imminent peril… *is or will be* caused by" a release or other activity. Fuel located in unbroken pipes and fuel-tight tanks is not causing and will not cause harm, let alone imminent peril, unless it is released into the environment; even then, it may not necessarily cause harm.

7. To be "imminent," harm or the threat of harm "must be close at hand." *Maine People's Alliance & Natural Res. Def. Counsel v. Mallinckrodt, Inc.,* 471 F.3d 277, 279 n. 1 (1st Cir. 2006); *see also Meghrig v. KFC W., Inc.,* 516 U.S. 479, 485-86 (1996) ("imminent" means "threatens to occur immediately"). DOH has not presented sufficient evidence to prove that additional releases from the Red Hill Facility are "close at hand." Therefore, the risk or possibility of a future release from the Red Hill Facility does not constitute imminent peril.

8. A release that no longer presents a danger does not constitute imminent endangerment. *Meghrig v. KFC W., Inc.,* 516 U.S. 479, 485-86 (1996). "Discrete past incidents of alleged misconduct" do not give rise to imminent endangerment. *Chem. Weapons Working Group, Inc. v. U.S. Dep't of Def.,* 61 Fed. App'x. 556, 560-561 (10th Cir. 2003). DOH has not presented sufficient evidence to prove that past releases from the Red Hill Facility continue to present a danger. Therefore, past releases from the Red Hill Facility do not support a determination of imminent peril.

9. The Administrative Order on Consent ("AOC") proceeding was undertaken following a release from Tank 5 in 2014, and provides a framework for understanding how Red Hill operations may affect the environment and for evaluating and reducing potential environmental

risks, pursuant to a detailed agreement between the Navy, Defense Logistics Agency ("DLA"), U.S. Environmental Protection Agency ("EPA") and DOH (Exh. N-5A). The parties to the AOC, including DOH, have expressly acknowledged that the agreement "is fair, reasonable, protective of human health and the environment, and is in the public interest." Exh. N-5A at p. 2. The Statement of Work ("SOW") for the AOC details specific steps that DOH and EPA agreed Navy and DLA must take to ensure that Red Hill is operated in an environmentally protective manner. Exh. N-5B.

10. HRS § 342L-4 provides: "The director shall issue a [UST] permit for any term, not exceeding five years, if the director determines this to be protective of human health and the environment; provided that the permit may be subject to conditions as the director may prescribe."

11. HAR § 11-280.1-323 required the Navy to apply for a permit to operate the Red Hill Bulk Fuel Storage Facility by July 15, 2019. Intervenors BWS and Sierra Club filed complaints with DOH requesting a contested case, designated as Docket No. 19-UST-EA-01. The case remains active.

12. An imminent threat posed by contaminated groundwater can be eliminated by eliminating potential exposure to that groundwater. *See Trinity Am. Corp. v. EPA,* 150 F.3d 389, 399-400 (4th Cir. 1998); *Two Rivers Terminal, L.P. v. Chevron USA, Inc.,* 96 F. Supp. 2d 432, 446 (M.D. Pa. 2000) ("The fact that no one is drinking this water eliminates it as a threat to health or the environment"); *Davies v. National Co-Op Refinery Ass'n,* 963 F. Supp. 990, 999 (D. Kan. 1997); *Foster v. United States,* 922 F. Supp. 642, 662 (D.D.C. 1996) (no risk of substantial endangerment, nor necessity for action, where exposure to contamination is unlikely); *see also Acme Printing Ink Co. v. Menard,* 870 F. Supp. 1465, 1478-79 (E.D. Wis. 1994) (mere presence of hazardous substances, with no exposure route, is not *per se* "imminent and substantial endangerment").

13. Because the Navy has taken all necessary steps to eliminate exposure to contaminated groundwater, the contaminated groundwater does not constitute imminent peril.

14. Because the Navy is bound by law to refrain from distributing water from Red Hill Shaft until the water is clean and poses no threat, there is no sufficient basis for the Emergency Order.

15. "Necessary" actions are those that are essential, indispensable, and required to address an imminent peril. "Necessary" actions are those that are absolutely needed, or required. *Midwest Inst. of Health, PLLC v. Governor of Mich. (In re Certified Questions from the United States Dist. Court), 506 Mich. 332, 368-369 (2020*). In the CERCLA context, "necessary" means responsive to a non-theoretical threat. *Prisco v. New York,* 902 F. Supp. 374, 386 (S.D.N.Y. 1995). In this context, "immediate action" must be necessary. HRS § 342L-9(a). DOH does not have the unfettered discretion to take any action it wants; it must show that the action it wishes to order is necessary, not merely wise or advisable. (Or, for that matter, something the Navy is already willing to do.)

16. The tanks were recently tested, there are no holes in any active pipelines, there is no fuel remaining in the AFFF pipe that was responsible for the November 20 release, and the contamination of Red Hill Shaft has been traced to the November 20 release. An imminent peril to human health and safety or the environment will not be caused by resuming fuel transfers.

17. "Absent the necessity of quick action by the State," the Navy is entitled to "an opportunity . . . granted at a meaningful time and in a meaningful manner… for [a] hearing appropriate to the nature of the case." *Logan v. Zimmerman Brush Co*., 455 U.S. 422, 437 (1982), *quoting Parratt v. Taylor,* 451 U.S. 527, 539 (1981), *Armstrong v. Manzo*, 380 U.S. 545, 552 (1965), *Mullane v. Cent. Hanover Bank & Trust Co*., 339 U.S. 306, 313 (1950), and *Boddie v. Connecticut*, 401 U.S. 371, 378 (1971), internal cites and quotes omitted. In *Burtnieks v. City of N.Y.,* 716 F.2d 982 (2d Cir. 1983), the Second Circuit denied summary judgment based upon a defense of exigent circumstances, explaining that

> [u]nder *Parratt*, before reaching the question of the adequacy of the state remedies, a court must first find "the necessity of quick action" or "the impracticality of providing any predeprivation process." Thus, the existence *vel non* of an emergency herein is a material fact and is vigorously contested by the parties.

Burtnieks, 716 F.2d at 988. And an emergency hearing held less than two weeks after the order does not provide a meaningful opportunity to present or defend a case addressing matters ranging from the extent of corrosion in the tanks to expert disagreements over a groundwater model to leaks that happened decades ago. An expedited emergency hearing does not provide a meaningful opportunity to present or defend a case addressing highly technical matters. *See Sinaloa Lake Owners Assn. v. Simi Valley*, 882 F.2d 1398, 1406 n. 7 (9th Cir. 1989).

18. Because there is no imminent peril, Directive 1 of the Order is not a necessary action authorized by HRS § 342L-9.

19. Because there is no imminent peril, Directive 2 of the Order is not a necessary action authorized by HRS § 342L-9.

20. Because there is no evidence that imminent peril is or will be caused by any release or activity that Directive 3 would prevent, Directive 3 is not authorized by HRS § 342L-9.

21. Because there is no evidence that imminent peril is or will be caused by leaving fuel in the Bulk Fuel Storage Tanks at the Facility, Directive 4 is not authorized by HRS § 342L-9.

22. Because there is no evidence that imminent peril is or will be caused by any release or activity that Directive 5 would prevent, Directive 5 is not authorized by HRS § 342L-9.

23. To the extent it relates to the November 20 release of fuel and subsequent contamination of the Navy's drinking water system, the Emergency Order's Directives are not necessary to address an imminent peril.

24. To the extent it relates to broad or long-standing concerns about the systemic risk posed by aspects of the Facility's design or operation, the Emergency Order's Directives are not necessary to address an imminent peril.

25. DOH possesses broad authority to react to emergency situations relating to public health and safety. The exercise of emergency order authority must be closely scrutinized because "[e]mergency decision-making is, by its nature, abbreviated… judicial review . . . is often greatly curtailed or non-existent. Exigent circumstances often prompt actions… that might be eschewed after more careful reflection or with the benefit of safeguards that normally constrained governmental action." *Sinaloa Lake Owners Assn. v. Simi Valley,* 882 F.2d 1398, 1486 (9th Cir. 1989). Careful consideration is required in assessing such factors as "the need for the [governmental action]" and "[the relationship between the need and the [action taken]," as well as "whether [the action was taken] in a good faith effort." *Id.*, quoting *Johnson v. Glick*, 481 F.2d 1028, 1033 (2d Cir. 1973).

But in order for DOH to properly exercise this authority, a bona fide emergency must exist. *See Catanzaro v. Weiden,* 188 F.3d 56, 63, (2nd Cir. 1999) (government may not simply avoid affording due process to citizens by arbitrarily invoking emergency procedures); *Armendariz v. Penman*, 31 F.3d 860, 866 (9th Cir. 1994) (holding that the rationale for permitting emergency deprivations does not apply "where the officials know no emergency exists").

That the Emergency Order has no determinate endpoint is significant; claiming an emergency does not provide the authority to impose an order of indefinite duration. *See Hamdi v. Rumsfeld,* 542 U.S. 507, 536 (2004); *Trump v. Hawaii,* 138 S. Ct. 2392, 2424 (2018) (Kennedy, J., concurring); *Calvary Chapel Dayton Valley v. Sisolak*, 140 S. Ct. 2603, 2605, 207 L. Ed. 2d 1129 (2020) (Alito, J., dissenting) (noting that as the pandemic emergency persists, policies must be increasingly tailored). *See also Cnty. of Butler v. Wolf,* 486 F. Supp. 3d 883, 899-901 (W.D. Pa. 2020) ("[c]ourts are generally willing to give temporary deference to temporary measures aimed at remedying a fleeting crisis," but emergency orders of indefinite duration receive greater scrutiny (emphases added)); *Fabick v. Evers,* 396 Wis. 2d 231, 254-255, 956 N.W.2d 856, 868 (2021) ("determining when a set of facts gives rise to a unique enabling condition may not always be easy," but a pandemic persisting for over a year does not support a new emergency order). *Cf. Newsom v. Superior Court,* 63 Cal. App. 5th 1099, 1118 (2021), *Beshear v. Acree,* 615 S.W.3d 780 (Ky. 2020), and *Friends of Danny DeVito v. Wolf, 227* A.3d 872 (Pa. 2020) (all of which upheld emergency authority that was limited by both an express requirement that the state of emergency be "terminated as soon as conditions warrant" and legislative power to independently terminate the emergency determination), *with Midwest Inst. of Health, PLLC v. Governor of Mich. (In re Certified Questions from the United States Dist. Court),* 506 Mich. 332, 369, 958 N.W.2d 1, 22, 2020 Mich. LEXIS 1758, *39, 2020 WL 5877599 (emergency authority of indefinite duration, dependent only on executive discretion, could not sustain delegation of quasi-legislative power).

"Absent the necessity of quick action by the State," DOH may not employ the expedited process of an Emergency Order and hearing to impose wide-ranging restrictions on the Navy of indefinite duration. *Logan v. Zimmerman Brush Co*., 455 U.S. 422, 436 (1982).

26. There must be "competent evidence allowing the official to reasonably believe that an emergency does in fact exist" to justify the exercise of emergency authority. *Catanzaro*, 188 F.3d at 63. Courts will find that no true emergency exists when an agency has demonstrated by its actions that the situation is not urgent. *See, e.g., Weinberg v. Clayton*, 2021 U.S. Dist. LEXIS 82034, *29-30, 2021 WL 1699943 (defendant agency failed to "explain why the Inn was unsafe. Indeed, the Inn had apparently operated for decades with structural issues, which Plaintiffs had worked to fix. This was not an emergency situation (i.e. the impending collapse of a building) that required an immediate response."); *Para v. City of Scranton*, 2008 U.S. Dist. LEXIS 53854, *45, 2008 WL 2705538 (despite two recent fires at an abandoned building, "evidence shows that there was no emergency situation" where "the City waited for approximately fifteen (15) months between the time of the first notification (December 22, 2004) and the time of the hearing (March 7, 2006) before taking action..."). "The rationale for permitting government officials to act summarily in emergency situations does not apply where the officials know no emergency exists…" *Sinaloa Lake*, 882 F.2d at 1406.

27. At the December 20-21, 2021 hearing in this matter, DOH failed to present facts that demonstrated the existence of imminent peril.

28. At the December 20-21, 2021 hearing in this matter, DOH failed to present facts demonstrating that immediate action is necessary.

29. At the December 20-21, 2021 hearing in this matter, DOH failed to demonstrate that imminent peril "is or will be caused by" the history and condition of the Facility. The majority of the evidence presented by DOH and Intervenors goes to the theory that past releases, the possibility of future releases, the lack of agreed-upon site characterization, and the condition of the tanks can be added together to generate a kind of systemic "imminent peril" in addition to any specific harm or threat of harm.

30. Speculative or potential risks are insufficient to demonstrate that imminent peril "is or will be caused by" a release, such that the exercise of emergency authority is warranted. DOH's and Intervenors' speculation about long-term systemic risks does not meet the standard for a finding of imminent peril. DOH failed to present sufficient facts to prove that the Facility poses real, non-speculative, close-at-hand risks that could support a finding of imminent peril. The AOC, a process designed specifically to evaluate and reduce potential environmental risks, and the UST permit proceeding, which requires a determination that the Facility is protective of human health and the environment, are the currently extant proceedings in which the long-term systemic risks of the Facility are being addressed. The Navy and DOH have been and continue to be working cooperatively in the context of the AOC to assess and address risks at the Facility; it is not

reasonable to conclude that these risks were acceptable until the November 20 release, of as-yet-unclear cause, occurred.

31. DOH, BWS, and Sierra Club have not shown that the issues they raised at the Emergency Order hearing (possibility of corrosion in tanks, overall size of fuel depot, presence of old fuel in the subsurface, tank inspection schedule, disagreements over groundwater model) are circumstances that "are causing or will cause" an imminent peril. Moreover, DOH has made clear that it was aware of each cited circumstance (e.g., QRVA received in 2018; Groundwater Flow Model Report received in March 2020) for months or years before it issued the emergency order (see, e.g., Navy FOFs 71, 73, 77).

32. Because the Navy has taken the necessary steps to eliminate the threat posed by groundwater contamination and is bound both by law and by an agreement with DOH to refrain from distributing water from Red Hill Shaft until the water is clean and poses no threat, there is no imminent peril, and the Emergency Order lacks sufficient basis.

33. HRS § 342L-9 authorizes the governor or director to "order any person causing or contributing to the peril to immediately reduce or stop the release or activity" that is causing or will cause imminent peril, and in this case that is the November 20 release, which was stopped and cleaned up to the extent possible as quickly as possible. Section 342L-9 also authorizes the governor and director to "take any and all other actions as may be necessary." But if there is no imminent peril, no action is "necessary."

PROPOSED FINDINGS OF FACT

THE RED HILL BULK FUEL STORAGE FACILITY

1. The Red Hill Bulk Fuel Storage Facility ("Red Hill" or "Red Hill Facility") is a field-constructed underground storage tank ("UST") system on the Island of Oahu in Hawaii that was constructed by the United States during World War II and began operation in 1943. (S16 atS000154).

2. The Red Hill USTs were constructed from 0.25-inch thick welded steel with 2.5 to 4 feet of reinforced concrete surrounding the steel plating. A 6-inch layer of gunite was applied to the native material of the mined cavities in which the tanks are located, and grout was injected between the gunite layer and the reinforced concrete at a pressure of 300 psi. (N-6A at N00677).

3. The Red Hill Facility is a strategic fuel facility required by U.S. Indo-Pacific Command (INDOPACOM) to store Petroleum War Reserve Stocks. (N-1 ¶ 21; Balocki Test. December 20th at 1:28-1:30).

4. The Red Hill Facility provides fuel to domestic military services that operate in the Pacific Area of Responsibility, including the Navy, U.S. Air Force, U.S. Marine Corps, U.S. Army, Hawaiian National Guard, and the U.S. Coast Guard, and is also available to support civilian authorities in the event of a local emergency or natural disaster. (N-1 ¶ 21; Balocki Test. December 20th at 1:28-1:30).

5. The Red Hill Facility supplies fuel by gravity fed pipelines. The Facility is cyber-protected and all fuel operations are conducted on closed system. It is a singularly unique facility under the United States' control between the West Coast and the Indian Ocean. (N-1 ¶ 21; Balocki Test. December 20th at 1:28-1:30).

6. The Red Hill Facility has 18 fuel tanks available for service, each with a capacity of 12.5 million gallons of fuel. Not all 18 fuel tanks are full at one time; during normal operations only 14 tanks hold fuel. The four empty tanks are out of service or undergoing scheduled maintenance. (N-2 ¶ 19).

7. Total tank height is 250 feet, but during normal operation, the tanks are filled to 190 feet. (S-16 at S000070).

COMPLIANCE WITH UST REGULATION AND PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT

Tank Construction, Material, and Stored Substances

8. The Red Hill USTs store marine diesel (F-76) and two types of jet fuel (JP-5 and F-24). (N-6B).

9. The tanks are made with fuel-compatible steel liners that conform to the ASTM A36 specification for steel. (N-6B at N00712; N-7C at 21).

Corrosion Protection

10. The tanks at Red Hill are made of steel that is clad or jacketed with concrete, a non-corrodible material (S-16 at S000058, 108, 109, 111).

11. Metal tanks and piping which are encased or surrounded by concrete have no metal in contact with the ground. (S-16 at S000058-59, 110, 169).

12. Concrete inhibits the flow of corrosive ions. (S-16 at S000109, 179).

13. Corrosion is most prevalent near the upper region of the cylinder (N-7A at 28), and most through-holes are found "above the maximum fill height" of affected tanks (N-7B at 9). "The undetected through holes discovered only during API 653 RHBFST inspections were located between 200' to 212' in the RHBFST, which is below the current realistic maximum operating limits. However, the size and relatively high height of these through holes suggests that the RHBFSTs were not operating with fuel levels above these through holes prior to discovery during the inspections. In the future it is expected that through holes at these elevations would be detected during the annual leak tightness test." (B-15 at BWS0005068)

14. The pipelines leading from the Red Hill tanks down to the pump house are located in a tunnel, and are therefore considered aboveground pipelines that are not in contact with the ground and do not require cathodic protection against corrosion. (N-6J at 6; B-70 at 2).

15. The pipeline at Joint Base Pearl Harbor Hickam (JBPHH) that is underground is cathodically protected by an impressed current system (N-6B at p. 3). Cathodic protection surveys are conducted annually for all piping segments in contact with the ground. (N-6B at Enclosure 9).

Release Detection

16. The provisions of HAR § 11-280.1-41(a) that apply to the field-constructed tanks at Red Hill require the tanks to be monitored for releases using a method of release detection listed in section 11-280.1-43(10). HAR § 11-280.1-43(10)(A) is an annual tank tightness test that can detect a 0.5 gallon per hour leak rate. (N-2C at 2).

17. Tank tightness testing that can detect a 0.5 gallon per hour leak rate or better is performed on each operating field-constructed UST twice a year. (N-2C at 20).

18. The method used for the tank tightness testing performed at Red Hill has been certified by the National Working Group on Leak Detection Evaluation (NWGLDE), a national, independent, technical work group comprised of full-time Federal and state UST regulators that determines whether leak detection methods have been evaluated in accordance with acceptable regulatory evaluation protocols and maintains a list of approved leak detection methods. (N-2C at 7).

19. EPA and DOH have agreed that the method used for tank tightness testing at Red Hill is appropriate and meets the regulatory standard of 0.5 gallons per hour. (N-2C at 2-5).

20. All Red Hill tanks in operation have passed tank tightness tests (N-2 at ¶ 20).

21. Tank 5 passed all four of its tank tightness tests conducted during its refilling in 2020, performed with regulatory agency oversight (N-2 ¶ 17).

22. The AFHE system provides remote, real-time monitoring of the fuel distribution system using inventory data, alarm conditions, system pressures via remote transmitters, fuel metering, high pressure and low pressure conditions, valve position indicators, and pump controls and status (S-16 at S000101; S-16 at S000066).

23. The Automatic Tank Gauging (ATG) system records product storage and inventory information (e.g., liquid level, temperature, and density) via probes located in each tank, and displays this data on AFHE screens (S-16 at S000067).

24. Soil vapor monitoring is one of several approved leak detection methods that can ensure a release does not go undetected for more than thirty-one days; the Navy currently monitors soil vapor levels at least monthly (N-6I at 47).

Spill and Release Prevention

25. In the event of a release to the environment, the Navy responds in accordance with the Integrated Contingency Plan. (N-6N).

26. The Navy notifies DOH if a suspected release occurs and has done so following each suspected release (N-7C at 20-23; N-6J at N001054; Kawata Test. December 20, 2021 at 4:50:10).

27. The Navy followed the procedures specified in HAR § 11-280.1-61, 62, 63, 64, 65.2, and 65.3 for the confirmed January 2014 Tank 5 release, with some specific response actions negotiated with regulators via the Administrative Order on Consent ("AOC") and corresponding Statement of Work ("SOW"), where the release conditions required a customized response (AOC). (N-5A; N-5B)

28. Since the tanks are surrounded by basalt rock that cannot be removed or remediated, the Navy, with the agreement of the regulators, prepared an *Investigation and Remediation of Releases Report* to comply with the requirements of HAR § 11-280.1-62(a)(7) following the release at Tank 5 in 2014 (AOC). (N-6O).

29. Following the 2014 release at Tank 5, biweekly, monthly, and quarterly groundwater monitoring was conducted at wells located inside the Facility (N-6I at 7, 10, 13).

PAST FUEL RELEASES

Historical Releases

30. There have bene 76 reported releases events that might have purportedly resulted in releases of fuel from the Red Hill Tanks. (Norfleet Report at App. C (*citing* B-216, B-194, B-195, B-197, B-221, B-231, B-242, B-190, B-184, B-285, B-176, B-228)). The releases after 2014 have not been from the Red Hill Tanks. (Norfleet Test. December 20, 2021 at 5:90:01).

31.

32. Tanks 1 and 19, responsible for over one-third of historical leaks at Red Hill (Norfleet Report at App. C). Tanks 1 and 19 are permanently out of service. (N-2 ¶ 19; N-2B at 3).

33. Thirty of 72 telltale releases were documented to have formed within the telltale system, which was a leak detection system with a flawed design. Leaks from the telltale system were often from the telltale system itself, which provided false indication of leaks from the tank (Norfleet Test at 5:20:21, 5:24:00, 5:38:25 ; B-88 at pp).

34. No reported releases into the environment from any Red Hill Tank have been due to corrosion. (Norfleet Report at App. C (*citing* B-216, B-194, B-195, B-197, B-221, B-231, B-242, B-190, B-184, B-285, B-176, B-228)).

2014 Tank 5 Release

35. The Navy conducted an investigation and determined that human error was the cause of the 2014 Tank 5 Release. Tank 5 was undergoing routine repairs and the contractor failed to properly weld metal and properly inspect its work. (N-6J at N01054).

36. The underlying cause of the fuel release from Tank 5 was unrepaired gas test holes and defective fillet welds on patch plates which covered the gas test holes. (N-6J at N01063).

37. The contractor performing the repairs overlooked plainly visible defects and failed to competently apply the quality controls required as an industry standard to test the effectiveness of the welds and repairs inside the tank. (N-6J at N01063).

38. The Navy detected the release when it began filling the tanks on December 9, 2013 and discovered the discrepancy in the inventory. The Navy reported the release to the DOH drained the Tank. (N-6J at N01054).

39. The January 2014 Tank 5 release was also detected by a large number of soil vapor monitoring points in the weeks and months following the release. (N-6I at 1; N-7N at 22)

ADMINISTRATIVE ORDER ON CONSENT

40. The AOC is a binding agreement the Navy and DLA entered into with DOH and EPA (the Regulating Agencies) following the accidental release of approximately 27,000 gallons of fuel from Tank 5 of the Red Hill Facility in 2014. (N-5A at N00434-36)

41. The purpose of the AOC is to ensure that the groundwater resource in the vicinity of the Facility is protected and to ensure that the Facility is operated and maintained in an environmentally protective manner, and the Parties agree that the AOC is fair, reasonable, protective of human health and the environment, and is in the public interest. (N-5A at N00433).

42. The Navy and DLA agreed to perform "Work" including all of the activities, including but not limited to all deliverables, specified in the AOC Statement of Work, which is Attachment A to the agreement. (N-5A at N00438)

43. Deliverables required by this AOC shall be submitted to the Regulatory Agencies for approval or modification. The Regulatory Agencies will: (a) approve, in whole or in part, the submission; (b) approve the submission upon specified conditions; (c) modify the submission to cure the deficiencies; (d) disapprove, in whole or in part, the submission, directing that Navy and DLA modify the submission; or (e) any combination of the above. (N-5A at N00440).

44. The parties agreed that the objective of protecting the environment can be achieved by the Navy and DLA deploying the best available practicable technology ("BAPT") within twenty-two years of the effective date of the AOC. (N-5A at N00438)

45. In the event that during the performance of the AOC, Navy and/or DLA encounters any condition or situation that constitutes an emergency situation or may present an immediate threat to human health or the environment, Navy and DLA shall immediately take all appropriate actions to prevent and/or minimize such emergency or threat. (N-5A at N00443)

46. Navy and DLA shall then submit to DOH and EPA written notification of such emergency or threat at the Site within twenty-four (24) hours of such discovery and, if further action is required, submit a plan to further mitigate the threat within seven (7) days of sending the written notification of the emergency. (N-5A at N00438)

47. After approval or approval with modification of the plan by the Regulatory Agencies, Navy and DLA shall implement the plan as approved or modified and the plan shall be incorporated by reference into and made part of this AOC and be enforceable as such. (N-5A at N00438)

48. The Parties agreed to make reasonable efforts to resolve disputes informally at the lowest level. (N-5A at N00450)

49. Where disputes under the AOC cannot be resolved, the dispute resolution process in Section 14 shall be the exclusive remedy through which the Parties resolve any and all disputes arising from this AOC and the implementation and execution of the Work. (N-5A at N00450)

50. When disputes are not resolved through the Section 14 dispute resolution process, the EPA Assistant Administrator will provide the other Parties with a written final decision setting forth resolution of the dispute. (N-5A at N00450)

51. No party to the AOC has ever invoked the dispute resolution clause concerning any deliverable the Navy and the DLA have submitted pursuant to the SOW. (Ichinotsubo Test. December 20, 2021 at 1:51:40).

Statement of Work

52. The AOC SOW consists of eight sections: Section 1: Overall Program Responsibility; Section 2: Tank Inspection, Repair, and Maintenance; Section 3: Tank Upgrade Alternatives; Section 4: Release Detection / Tank Tightness Testing; Section 5: Corrosion and Metal Fatigue Practices; Section 6: Investigation and Remediation of Releases; Section 7: Groundwater Protection and Evaluation; and Section 8: Risk/Vulnerability Assessment (N-5B at N00466-67)

53. Section 2 of the AOC SOW required the Navy to evaluate its tank inspection, repair, and maintenance procedures (TIRM) and to develop and implement improvements to these procedures to further prevent releases into the environment. (N-5B at N0000470)

54. The Navy completed the requirements under Section 2 of the AOC SOW, and submitted its proposed decision document on April 24, 2017, which was approved by the Regulating Agencies on September 5, 2017 (N-6J; N-7A at 12).

55. Section 4 of the AOC SOW required the Navy and the Regulatory Agencies to evaluate and modify the Red Hill Facility release detection and tank tightness testing procedures. (N-5A at N00476).

56. In 2019 the Navy increased Tank Tightness Testing frequency to twice per year. Navy and DLA increased testing, as an interim measure, to continuously monitor the inventory of fuel in the Tanks while the tanks were are awaiting repair inspection and repair. (N-5B at N00468).

57. Section 5 of the AOC SOW requires the Navy and DLA to evaluate the potential presence and extent of corrosion and metal fatigue, and identify appropriate control practices. (N-5B at N00468).

58. The Navy conducted destructive testing on Tank 14 in 2018 by removing 10 coupons and examining them for the presence of corrosion and metal fatigue. (N-7C at 20-23)

59. The Navy selected ten coupon locations for destructive testing, non-randomly (N-7C at 11-17; N-7A at 14). The number of coupons selected is too small to be a statistically significant sample size (N-7B at 14). No prove-up step was performed at coupon locations. (N-7B at 12).

60. Eight of the coupons had measured thicknesses consistent with or slightly greater than the non-destructive testing findings. (N-7C at 23).

61. No fuel odor was present at any of the coupon tests. (N-7C at 18).

62. Indicators of microbial-induced corrosion were not observed on any coupon. (N-7D at 1-2).

63. The concrete behind the steel liner coupons was not cracking, spalling, or otherwise unsound. (N-7C at 19; S-18 at S000348).

64. The chloride content of concrete powder samples directly behind the coupons was below levels that would be likely to cause corrosion. (N-7C at 2-3; N-7D at 9).

65. The pH of the concrete powder samples was in the alkaline range. (N-7C at 19-20).

66. The alkaline pH of the concrete in contact with the steel liner has caused a passive film that inhibits corrosion to form on the exterior of the liner. (N-7C at 6-7).

67. No wet surfaces were observed on the metal coupons removed from the tank. (S-17 at S000333).

68. The Regulating Agencies disapproved the report on March 16, 2020 because they did not concur with the interpretation of the results (B-30 at p. 1). The Regulating Agencies did not require additional sampling to resolve the disagreements, but requested additional analyses in AOC Section 5.4 (B-32). The test results yielded valuable information about the TIRM process and are being used to refine and improve the TIRM. (N-7B at 14).

69. The Navy submitted the Section 5.4 Execution Plan Decision on Need for and Scope of Modified Corrosion and Metal Fatigue Practices on December 4, 2020, outlining the next phase of planned analyses. (Ichinotsubo Test. December 20, 2021 at 1:42:40).

70. Section 6 of the AOC SOW required the Navy and DLA to investigate the extent of past releases from the Facility and remediate any constituents that require a response action (AOC).

71. In March 2020 the Navy submitted its Investigation and Remediation of Releases Report (IRR) to the Regulatory Agencies for their review. (N-5B at N00480).

72. Section 7 of the AOC SOW requires the Navy to monitor and characterize the flow of groundwater around the Facility. (N-5B at N00480).

73. The Navy submitted its revised Groundwater Flow Model Report to the Regulating Agencies in March of 2020, and the Regulating Agencies have taken no action on the Navy's deliverable. (Grange Test. At 3:13:18).

74. The Navy has installed additional groundwater monitoring wells since the AOC (N-6I at 41).

75. Groundwater flow model (GWFM) working group meetings have been held between the AOC parties, the BWS, USGS, and consultants to solicit technical comments and recommendations. These meetings have contributed to the development of both of the

Investigation and Remediation of Releases (IRR) and GWFM reports submitted to the regulators in March 2020. (Kawata Test. ¶ 24; Grange Test. December 20, 2021 at 3:13:18).

76. Section 8 of the AOC SOW required the Navy to develop a Risk/Vulnerability Assessment to identify and rank the major contributors to potential risks at Red Hill. (N-5B at N00482).

77. The Navy submitted the Quantitative Risk Vulnerability Assessment (QRVA) Phase 1 report to the Regulating Agencies in November 2018. The AOC Regulators approved the QRVA report in 2019. (B-35).

78. The AOC SOW Section 8's regulator-approved *Quantitative Risk/Vulnerability Assessment Phase 1* report ranked seismic activity as third of four categories for priority in assessing the existence and degree of risk at the Red Hill Facility.. (B-15 at BWS005019-26).

79. The QRVA Phase 1 Report identifies the most significant internal event risks at Red Hill and quantifies their relative contributions to the overall risk. The QRVA was based on the assumption "that the facility will effectively be operated in the current configuration [as of July 2017] with the same operating profile (fuel movement profile, processes, operating procedures and policies, maintenance, testing, and design) hypothetically for hundreds of years with no intervening risk-mitigating improvements"; any improvements made to the Facility since July 2017 are excluded from the Phase 1 assessment. (B-15 at BWS005019-26).

80. Although the QRVA calculated risk results based on all 18 active fuel storage tanks being in operation, only fourteen have fuel. (N-2 ¶ 20).

81. The QRVA identified six primary categories of initiating events that could contribute to a release and estimated that these six categories account for over 98 percent of all initiating events. (B-15 at BWS005019-26).

82. The QRVA identified operator actions as generally more important than equipment failures to overall risk, and identified quality control during the tank return-to-service process, emergency response procedures, and operator training as important to risk. (B-15 at 8-9).

83. Phase 2 of the RVA will address risks posed by internal and external fire and flood events, seismic events, and other external events such as extreme weather, aircraft crashes, and external hazardous material releases. (B-15 at BWS0005054).

Tank Inspection Maintenance and Repair (TIRM)

84. The Tank Inspection Repair and Maintenance (TIRM) process at Red Hill includes recoating areas of the tank interior steel liners to prevent corrosion as specified by the coating specialist; decommissioning smaller nozzles (piping at bottom of tank) to reduce risk; enhanced contractor qualification process to improve the reliability of tank inspection and repairs; updated processes and procedures for inspection, testing, quality control, and quality assurance; enhanced procedures for returning tanks to service; and standardized operator UST training (N-7A at 10-12). The process can take several months for each tank. (N-7A at 26)

85. The current TIRM process was developed in response to the 2014 Tank 5 Release. The underlying cause of that release was defective repair work by the contractor, who installed gas test holes and covered them with patch plates containing defective welds. The inspection and repair process used at the time was not able to identify this error before the tank was brought back into service. (N-7A at 17-18).

86. When the Navy submitted its application to operate the Red Hill Facility, four tanks were inspected and underwent the TIRM process. (N-7A at 32).

87. American Petroleum Institute (API) standards are widely used by government and industry around the world and include the accepted standard for petroleum tank inspections. (N-7A at 10, 12-13).

88. The Navy's inspection and repair work is done in accordance with API Standard 653, with the addition of modifications for use at the Red Hill Facility (N-7A. at 10, 12-13).

89. The API 653 standard allows UST owner/operators to determine inspection cycles based on recommendations from certified API inspectors. (S-17 at S000359).

90. The Department of Defense Unified Facilities Criteria (UFC) sets the recommended inspection interval for USTs like those at Red Hill at 10 years, unless recommended otherwise by a certified inspector. (S-17 at S000364 - 65).

91. The Navy's goal is to implement a 20-year service schedule for inspecting the tanks at Red Hill. (N-7A at 12).

92. An API 653 inspection is a condition inspection and an assessment of metal loss to determine which repairs must be performed for the tank to remain liquid-tight for the next service interval, or for the minimum remaining thickness of the metal to never be less than 0.1 inch following indicated repairs and the service interval recommended by the inspector. (N-7A at 8-9).

93. The API 653 inspection and repair process includes nondestructive examination, calculating corrosion rates and minimum plate thickness, establishing inspection intervals, confirming suitability for service, assessing joint efficiency of welds, settlement evaluation, welding patch plates, and post-repair inspection and testing. (N-7A at 8-9, 12).

94. Since it is impractical to remove the tank plates for inspection, NDE methods – commonly used in underground storage tank inspections – are used to evaluate inaccessible tank components. (N-7A at 20-24).

95. Nondestructive examination in the Red Hill API 653 inspection process includes low frequency electromagnetic technique (LFET) and balanced field electromagnetic technique (BFET). (N-7A at 20).

96. Quality control and validation of the data obtained using LFET and BFET is obtained using a phase array ultrasonic testing (PAUT). (N-7A at 22).

97. Other inspection activities include the tower inspection, the atmospheric vent inspection, the cross-tunnel piping inspections, the hydrostatic test on the nozzle piping, and the valve inspections (N-7A at 26-27).

98. The Navy utilizes hydrostatic testing of the nozzle piping at a water pressure of greater than 1.6 times the maximum pressure the piping will experience (N-7A at 27).

99. The Navy Standard of Care for TIRM at Red Hill exceeds the API 653 standards in the following respects: selection of the best qualified contractor rather than the lowest bidder; a qualified welder who is also a qualified examiner is prohibited from inspecting his own work; older welds are repaired by upgrading to current code; hydrostatic testing is performed on nozzle piping to a pressure higher than what would ordinarily be done; the tank inspector is required to inspect all repairs; and a minimum threshold is set for repair that includes a factor of safety. (N-7A at 10-11).

100. The minimum permissible wall thickness acceptable at the end of a storage tank service interval under API 653 is 0.100 inch (N-7A at 9)

101. The Navy has modified the API 653 standard to require a minimum acceptable remaining wall thickness of 0.160 inch, which is more conservative and results in the performance of more repairs than the API 653 standard alone (N-7C at 8-11; N-7A at 25).

102. The Navy inspects system components at Red Hill as frequently or more frequently than the schedule specified in HAR § 11-2.80.1-36 requires, including having rovers available in the facility 24-hours per day (N-2 ¶ 18).

103. A regulator-led inspection team that included representatives from EPA and DOH conducted a 4-day inspection of the Red Hill Facility in 2016, and reported that systems and management practices in place meet or exceed best practices for petroleum terminals and bulk fuel storage facilities, and that key construction components of the tanks exceed or meet most modern day construction standards. (N-2 ¶ 15; N-2B at 3).

104. Approximately 1-2% of each inspected tank liner has required repair (N-7A at 29; S-17 at S000370).

105. The tank liners are repaired by adding metal to the liner plates, a procedure that can be performed anywhere on the steel liner to renew the liner (N-7A at 28; N-7B at 18-19).

Groundwater Monitoring at Red Hill

106. The number and location of groundwater monitoring wells at Red Hill was determined in consultation with DOH and EPA (N-6I at 7-10).

107. Each groundwater monitoring well at Red Hill was constructed in accordance with the guidance published by DOH for the construction of groundwater monitoring wells (N-7N at 7-10).

108. During AOC scoping, DOH and EPA agreed that additional wells near the tanks could be counterproductive (B-1 at Appendix A.1; N-7N at 8).

109. The groundwater monitoring well network within and around the Facility is sampled quarterly for the presence and absence of petroleum-related constituents in accordance with a DOH-approved sampling and analysis plan (N-6O at Appendix A.2; N-7N 10).

110. Groundwater at the Red Hill Shaft (the nearest drinking water supply well to the Facility) is tested at least quarterly for petroleum constituents (N-6O at p. A-3 to A-5).

111. The groundwater samples are analyzed for petroleum constituents in accordance with a DOH-approved sampling and analysis plan and the analytical results are compared to the State of Hawaii Department of Health (DOH) Tier 1 environmental action levels (EALs) (N-6O at Appendix A.2; N-6I at 14).

112. DOH's drinking water EALs are considered protective of human health (N-6I at 14; Kawata Test at ¶ 36).

113. No petroleum or petroleum constituents have ever been detected in the Board of Water Supply's wells that are located in close proximity to Red Hill (Kawata Test. ¶ 38).

114. EPA does not require a particular laboratory method for total petroleum hydrocarbon ("TPH") analyses and has issued only guidance. Reported TPH concentrations in a sample may differ if the sample is analyzed by different laboratories (B-352 at Appendix B.8 at 2-11 to 2-13; N-7N at 12).

115. The Oahu Sole Source Aquifer (SSA) is an administrative boundary encompassing 12 sub-aquifers that may or may not be hydraulically connected. Impacts to one aquifer system within the SSA boundary would not necessarily impact any other sub-aquifers within the SSA (N-7N at 2-3; B-352 at 2-5).

Soil Vapor Monitoring at Red Hill

116. Soil vapor monitoring for volatile organic compounds at the Facility is conducted monthly, in accordance with the DOH-approved Groundwater Protection Plan ("GWPP") (B-352 at 2-7; N-6I at 1).

117. The soil vapor monitoring network at the Facility includes at least two monitoring points installed at shallow angles beneath each active fuel tank (N-7M at A-15, Figure 2-8; N-7N at 22).

118. The monthly soil vapor monitoring results are compared to action levels established in the GWPP; an exceedance of the action level triggers contingency actions in accordance with the GWPP (N-6I at 21, 45).

THE NAVY'S APPLICATION FOR A UST OPERATING PERMIT FOR RED HILL

119. The United States Department of the Navy ("Navy") submitted to the Hawaii Department of Health ("DOH") an initial Application for an Underground Storage Tank Permit - Form No. 2 in March 2019 (N-6B).

120. Tank Construction, Material, and Stored Substances the Red Hill USTs store marine diesel (F-76) and two types of jet fuel (JP-5 and F-24) (N-6B).

121. DOH requested revisions and additional information from the Navy in April 2019 (B-70). The requested revisions included instructing the Navy to state that the Red Hill tanks are "clad or jacketed" with concrete (B-70 at 2).

122. The Navy submitted a revised application for a UST permit in May 2019 (N-6B). The Navy's cover letter for the revised application provides additional information regarding the Red Hill Facility that does not fit into the standard permit application form, including information about the primary containment material, facility piping, release detection and cathodic protection for piping, product recovery tanks, release detection for tanks, method of product dispensing, overfill prevention equipment, and airfield piping (N-6B at p. 2-4).

123. In June 2019, DOH issued a draft Operation Permit for the Red Hill Bulk Fuel Storage Facility. (N-6C)

124. In July 2019, DOH issued a letter to the Navy stating that it considered the permit application timely and that it intended to allow the Facility to continue to operate Red Hill until DOH rendered a decision on the Navy's permit application. (S-16 S000119-21).

CONTESTED CASE HEARING ON THE NAVY'S APPLICATION FOR A UST OPERATING PERMIT FOR RED HILL

125. Interveners contested the application of the U.S. Navy for a permit to maintain and operate the Red Hill Underground Storage Tank Facility, Docket No. 19-UST-EA-01. A contested case hearing was held on February 1 - 5, 2021. (N-6G at 1)

126. The hearing was re-opened on July 7, 2021 to receive additional evidence and testimony relating to a reported fuel release incident that occurred at the Red Hill Facility on May 6, 2021. (N-6G at 1).

127. Interveners complaints' in the contested case hearing alleged many issues they raised in this proceeding. (N-6G at 4-6)

128. That an expedited emergency hearing is not an appropriate forum to address long-standing questions regarding the condition and history of the Facility is demonstrated by the fact that the same issues were addressed in a contested case brought by BWS and Sierra Club in 2019 and heard in February 2021, in a hearing that spanned six days and featured lengthy testimony by several technical experts. The hearings officer in that case required more than 45 days to render a proposed decision, which amounted to over 100 pages.

129. Other than evidence relating directly to the November 20 release and subsequent contamination of the Navy's Red Hill Shaft and drinking water distribution system, the evidence brought by DOH and Intervenors has been available to them for some time.

130. BWS, Sierra Club, and DOH all participated in that case and had the opportunity to make the argument that the history and condition of the Facility demonstrates that its existence is, *per se*, an imminent peril (see Exhs. N-6E, N-6F).

131. The hearing officer took evidence on the following: Geology and Subsurface (N-6G at 14); Groundwater (N-6G at 24); Historic Releases (N-6G at 19, 54 ,93); Soil Vapor Monitoring (N-6G at 26); Monitoring Results Following the 2014 Release Incident (N-6G at 31); 2015 AOC (N-6G at 33); Tanks Construction and Compliance with the HARs on Corrosion Control (N-6G at 41); Tank Inspection, Repair and Maintenance (N-6G at 62, 69, 71); Leak Detection (N-6G at 44, 66); Corrosion (N-6G at 47, 66); Monitoring Wells (N-6G at 50); Seismic Events (N-6G at 6, 36); May 6, 2021 Release ((N-6G at 19, 59). (N-6G).

132. The Hearing Officer's Proposed Decision and Order recommended that the DOH issue a permit to that authorizes the Navy to operate and maintain the Red Hill Facility on the Island of Oahu for a period of five years subject to and upon two conditions. (N-6G at 91).

133. The first condition required that all active tanks at the Facility have a DoD Unified Facilities Criteria and/or American Petroleum Institute Standard 653 (modified) inspection for a term extending beyond the permit, otherwise be drained and removed from service no later than December 31, 2024. (N-6G at 91).

134. The second condition required the Navy to submit annual reports beginning in July 2022 describing the status and periodicity of the inspection for each tank in service, and whether certain upgrades or coatings have been applied during the repair process. (N-6G at 92).

135. BWS, Sierra Club, and DOH subsequently moved to reopen the permit proceeding on grounds they have also sought to introduce here (see Exh. N-6H). That hearing is more "appropriate to the nature of the case" DOH, BWS, and Sierra Club have attempted to bring. Although that case is still underway and awaits a final decision while the Navy proceeds under a permit issued on an interim basis, DOH abruptly stopped waiting and restated a number of BWS's and Sierra Club's points from the permit proceeding and motions to reopen as grounds justifying an emergency order.

Red Hill Shaft Impacts

136. The Navy's water system is comprised of three drinking water supply wells: 1) the Red Hill Shaft; 2) the Navy Aiea-Halawa Shaft; and 3) the Waiawa Shaft. (N-1 ¶ 4; N-3 ¶ 4).

137. On November 28, 2021, the Navy received reports from residents in Public-Private Venture Housing that water from the Navy-owned and operated water system was producing odors of chemicals or fuel in affected areas. (N-1 ¶ 4; N-3 ¶ 4).

138. The emergency: contamination of the Red Hill shaft, was realized on November 28, 2021, and the Navy immediately responded by taking the actions enumerated here.

139. The Navy initiated its environmental response the same day by shutting down the Red Hill Shaft on November 28, 2021. (N-3 ¶ 4).

140. The Navy immediately started collecting and testing the water for contaminants the next day on November 29, 2021. (N-3 ¶ 4).

141. The Navy took its Aiea-Halawa Shaft off-line on December 3, 2021, out of an abundance of caution. (N-3 ¶ 10; Eng Test. December 20, 2021 at 3:40:46).

142. All recent samples from the Navy-Aiea Halawa shaft well – samples taken from the aquifer – are a non-detect for TPH and petroleum constituents. (N-3 ¶ 12; N3-A at 3-4].

Sampling

143. The Navy and the DOH have collected over 900 samples that have been analyzed for: Total Organic Petroleum (TOC), constituents of petroleum product, and Total Petroleum Hydrocarbon (TPH). (N-3 ¶¶ 8, 17)

144. Laboratories accredited by the Department of Defense and the State of Hawaii analysis show results for TPH above the Hawaii Environmental Action Level (EAL) are limited to the Red Hill Shaft. (N-3 ¶¶ 6-11, 14-15, 17).

145. The DOH sets for the Environmental Action Level (EAL) for gross contamination and drinking water toxicity which are 500 mg/L and 400 mg/L. (Kawata Test. ¶ 36)

146. The presence of TPH amounts below the EALs are assumed not to pose a significant threat to human health or the environment. (Kawata Test. ¶ 36.)

147. Water in the Navy's system is being supplied by the Waiawa Shaft where no contamination is present. (N-2 ¶ 4; N-3 ¶ 4).

148. The Navy, DOH, EPA, and the Army singed a Drinking Water Sampling Plan ("Sampling Plan"), on December 14, 2021. The sampling plan will support the joint effort to determine if the drinking water within the affected areas complies with the State of Hawaii and EPA Drinking Water Standards. (N-3 ¶ 19; N-3D).

149. Under the the Sampling Plan, the Navy will: 1) sample its three supply well shafts to characterize the concentration of constituents; 2) through sampling, prioritize contaminated locations in the DoD water distribution system to flush; 3) screen locations where flushing has been completed; 4) perform housing and building specific flushing for all down gradient structures; 5) collect samples from ten percent of the residences, with a minimum of fifteen homes in each zone, and increase sampling in areas where health professionals indicate; and 6) conduct long-term drinking water monitoring. (N-3 ¶ 20, N-3A at pdf 1-2).

150. Under the Sampling Plan, once flushing is complete water in the residences could be considered fit for human consumption in as few as twelve (12) days. (N-3 ¶ 21).

151. The DOH sets Navy's drinking water systems is distinct from the Honolulu Board of Water Supply's drinking water system, which is a public utility. (N-1 ¶ 4; N-2 ¶ 4).

152. The BWS has sampled its drinking water wells and groundwater monitoring wells that are in close proximity to the Red Hill Facility, and testing – including all historic testing – indicates the BWS's drinking water wells are safe. (Kawata Test. ¶¶ 23, 38; Kawata Test. December 20, 2021 at 4:51:26, 4:52:00).

Response Actions

153. On December 7, 2021, the Secretary of the Navy ordered the cessation of all operation until the investigation into the cause of the November 20, 2021 incident is complete. (N-1 ¶ 16; N-1C).

154. The last fuel operation at the Red Hill Facility occurred on November 26, 2021. (N-2 ¶ 4).

155. On December 7, 2021, the Secretary of the Navy ordered the Red Hill and Navy Aiea-Halawa wells remain off line until the drinking water meets EPA drinking water standards. (N-1 ¶ 16; N-1C).

156. On December 7, 2021, the Secretary of the Navy ordered the acquisition of a drinking water treatment or systems to be installed that Red Hill Shaft to ensure the water conforms to the Safe Drinking Water Act and that pumping at the shaft minimize any movement of a contaminant plume. (N-1 ¶ 16; N-1C).

157. On December 7, 2021, the Secretary of the Navy ordered that, within 30 calendar days, the Navy will consult with a qualified independent third party to assess operations and system integrity of the Red Hill Facility to determine design and operational deficiencies that may impact the environment and develop a work plan and implementation schedule to conduct necessary repairs and make necessary changes in operations to address any deficiencies identified in the assessment. Corrective actions shall be performed as expeditiously as possible. (N-1 ¶ 16; N-1C).

158. On December 7, 2021, the Secretary of the Navy ordered that following the independent third party assessment, the Navy will approve a final work plan and implementation schedule and will expeditiously perform work and make necessary changes in operations. (N-1 ¶ 16; N-1C).

159. The Navy maintains all environmental controls, release detection, and release response protocols at the Facility in compliance with the Hawaii Regulations and the Navy Secretary of the Navy's Instruction (SECNAVINST) 5090.6B. (Balocki test. at 1:25:08. 1:25:18).

160. On November 23, 2021 the Commander, U.S. Pacific Fleet (CPF) convened an investigation into the Navy's reported release of 14,000 gallons of fuel-and-water mixture from a fire suppression drain line, which initial indications indicate may be the source of the contamination. (N-1 ¶ 14.)

161. The CPF investigation is focused on: 1) the root cause of a prior release from a fuel pipeline in the lower access tunnel that occurred on May 6, 2021; and 2) whether fuel found during the November 20, 2021 release, which was locatd down gradient from the site of the May 6, 2021, release, is related. (N-1 ¶ 14; N-1A and N-1B).

162. The results of the CPF investigation are due to the Commander, U.S. Pacific Fleet no later than January 14, 2021. (N-1B at 2).

Flushing the Neighborhoods and Homes

163. The Navy, DOH, EPA and the Hawaii Department of Land and Natural Resources (DLNR) developed collaborated and developed a detailed flushing plan, which the parties signed on December 17, 2021. The plan is to flush the entire Navy-operated distribution system. The BWS was invited to participate in the effort. (N-2 ¶¶ 6-7; N-3E at 2).

164. The Navy anticipates that it will flush the entire water distribution system in approximately18 days. (N-2 ¶ 6)

165. The Navy began removing contamination from the drinking water system On December 20, 2021, by flushing the system using Granular Activated Carbon (GAC) filtration systems situated throughout the affected neighborhoods. (N-2, ¶ 6; Meyer Test. December 20, 2021 at 2:22:10).

166. The Navy is using 25 GACs capable of flushing up to 1 million gallons per day. (N-2 ¶¶ 7, 10)

167. The Navy will flush each individual home in the affected areas, which it will accomplish in two (2) to (4) days per community. (N-2 ¶ 7)

168. The Drinking Water System Recovery Plan requires that the Navy conduct system flushing activities and water quality monitoring until "1) the composition of the [clean] source water and flushing water are indistinguishable; or 2) when flushing of the JBPHH water transmission system is no longer reducing the level of TPH within the system." (N-5J at 13-14 (N00653-N00654).

Red Hill Shaft and Aquifer

169. The Red Hill does not pose a risk to human health because it is out of service. The Navy will not return it to service until it the water conforms to the Safe Drinking Water Act. (N-1 ¶ 16d; N-1C at 1).

170. The Navy is pumping petroleum floating on top of the water from the Red Hill well and transferring the waste to a treatment and oily water separation facility. (N-2 ¶ 8)

171. The Navy has captured approximately 31,000 gallons of water/fuel mixture to date. (N-2 ¶ 8)

172. Navy divers have entered the Red Hill shaft and are skimming contamination directly from the well. (N-2 ¶ 8; Myer Test. December 20, 2021 at 2:28:00)

173. Between pumping and skimming operations, the Navy places industrial absorbent material in the Red Hill Shaft, which absorbs contaminants from the water. (N-2 ¶ 9)

174. The Navy has secured two large GAC units capable of filtering 10 million gallons of water per day, and will transport to them to Oahu by military airlift. (N-2 ¶ 9)

175. The large GACs placed on the Red Hill Shaft will filter contamination from the water, and withdrawing the large volume of water will pull contaminants in the aquifer towards the Red Hill Well. (N-2 ¶ 9)

176. The Groundwater Flow Model (GWFM) of March 20, 2020, indicates that when the Red Hill Shaft is pumping, groundwater beneath the tanks of the Red Hill Facility is captured by the Red Hill Shaft. (N-3 ¶ 18; N7 (GWFM ES).

177. The Navy is using emergency military construction authority for a planned investment up to 100 million dollars to install a permanent drinking water treatment system for the Red Hill Shaft. (N-1 ¶ 17; N-2 ¶ 12).

Notices

178. On November 29, 2021, the Navy made an "Immediate Release" that it was conducting more stringent tests on at laboratories on the mainland, but had not detected petroleum constituents in the in the initial testing on Joint Base Pearl Harbor-Hickam, including military housing. (N-7O).

179. On November 30, 2021, the Navy recommended that residents of the known affected areas avoid ingesting their water if a chemical or petroleum odor was present. (N-7P).

180. On November 30, 2021, the DOH recommended "all Navy water system users avoid using the water for drinking, cooking, or oral hygiene." (N-7P).

181. On December 3, 2021, the Navy notified affected residents and parties of its water system to stop using water for drinking, cooking, bathing, and laundry. The notice included notice to area schools, child development centers, and all residents serviced by the system. (N-1 ¶ 7).

182. By December 13, 2021, the had Navy hosted nine (9) live in-person and virtual town hall meetings, established a dedicated webpage to publish the Navy and DOH's sampling results, and the location for alternative water sources, additional family assistance, and links to news and information available on public domains. (N-1 ¶ 9).

Alternative Drinking Water Sources

183. The Navy has provided alternative drinking water, alternative water sources for bathing and laundry facilities, and increased access to Navy shower facilities. (N-1 ¶ 8).

184. The Navy and Army have provided alternative lodging to over 3400 affected families in area hotels, and the Navy's and Army's expense. (Balocki Test. December 20, 2021 at 1:16:40)

185. The Navy established five (5) additional medical screening and medical care site and a medical screening hotline. (N-1 ¶ 10)

Medical Screening

186. The Navy and joint medical force is assessing the medical symptoms associated with well over 5,000 screening and medical evaluations of personnel seeking medical help for exposure to petroleum and other potential contaminants of concern as of December 16, 2021. (N-4 ¶ 19).

187. The symptoms that have been presented are consistent with exposure to a petroleum based product, including nausea, vomiting, headaches, skin irritation, and rash. (N-4 ¶ 19).

188. While some people are presenting with persistent symptoms, most have resolved or improving symptoms and are presenting to medical for documentation of potential exposure for their medical records. We are documenting in the medical record all that present for medical care/evaluation. (N-4 ¶ 19).

189. Based on what is known now, people who were exposed to contaminated water through drinking, bathing, cooking, or other exposure ware not expected to experience long-term health effects. (N-4 ¶ 23; Felton Test. at 4:25.01).

190. The Navy established a registry as of December 10, 2021 to capture information of those with potential exposure from water contamination to track the population over time and to facilitate understanding of potential long-term medical effects. (N-4 ¶ 19).

191. Over 7,400 names have been submitted to the Defense Occupational and Environmental Health Readiness System from seventeen sites on Joint Base Pearl Harbor-Hickam as part of the registry. Additional names are being inputted to the system as we refine understanding of those affected. (N-4 ¶ 21).

192. Coordination with Centers for Disease Control and Prevention and the DOH to determine how best to address documentation for long-term review of exposure of non-military citizens of Hawaii. (N-4 ¶ 22).

193. Demand for medical screening and care has decreases substantially since the initial contamination manifested it the water distribution system. (McGinn Test. December 20, 2021 at 4:39:00).

November 20, 2021 Release

194. The Navy's investigation into how fuel reached the Red Hill Well is ongoing. (N-2 ¶ 13).

195. The November release was from an Aqueous Film Forming Foam (AFFF) fire suppression recovery line that is designed to collect wastewater and fuel from firefighting events and transport the waste to above ground storage tanks. (N-2 ¶ 13)

196. The AFFF return lines are powered by sump pumps, which are separate from the sump pumps in the other drainage systems, such as the groundwater collection systems. (N-2 ¶ 13)

197. The firefighting system, and its collection lines, is not connected to the Red Hill Facility fuel lines or tanks. (N-2 ¶ 13)

198. The Navy's theory under investigation is that the fuel entered the AFFF collection system from a known fuel pipeline release that occurred on May 6, 2021 in the lower access tunnel beneath the tank farm. (N-2 ¶ 14)

199. Fuel migrated downgrade and collected in the AFFF system, where the sump pumps pumped into the AFFF recovery line. (N-2 ¶ 14; B)

200. Both the May 6, 2021 and November 20, 2021 releases were caused by human error that led to releases from pipes; both were also discrete events. (N-2 ¶ 14)

201. Under normal conditions, the AFFF return line is empty. (N-2 ¶ 13; Meyer Test. at 2:33:00)

Tanks monitoring and Tank Tightness Testing

202. Whether the Facility is operating or not, the Tanks are closely monitored at all times via the Automated Fuel Handling Equipment (AFHE) operated by control room operators. (N-2 ¶ 15; N-2B)

203. Roving patrols and personnel from the Pearl Harbor Fleet Logistics Center continually monitor the access tunnels at the facility. (N-2 ¶ 15)

204. The Navy conducts regular inspections, tests, and preventative maintenance, and repairs to ensure the integrity of the tanks. (N-2 ¶ 15)

205. The Tanks undergo semi-annual leak detection testing utilizing a leak detection method listed with the National Work Group for Leak Detection Evaluators (NWGLDE). (N-2 ¶ 15)

206. The NWGLDE is comprised of ten state-level regulators whose full time positions are to regulate storage tank systems, and one member from the U.S. EPA. (N-2 ¶ 15)

207. The NWGLDE approved methods are the petroleum and oil lubricant (POL) industry standard. (N-2 ¶ 15)

208. Currently only 14 Red Hill Tanks contain fuel. Two tanks are permanently out of service, and two are empty for inspection and repair, and two have not been returned to service following completion of repairs. (N-2 ¶ 15)

209. Between April 6, 2021, and May 18, 2021, each of the tanks that currently contain fuel passed a Tank Tightness Test and conformed with the Minimum Detectable Leak Rate (MDLR) in HAR § 11-280.1. (N-2 ¶ 20; N-2D).

210. Between October 5, 2021 and October 30, 2021, Tank 5, which was returned to service, tested to .1 gallon per hour in accordance with HAR § 11-280.1-43(3). (N-2 ¶ 20; N-2E).

211. Between October 6, 2021 and November 10, 2021, twelve of the other Tanks that currently contain fuel underwent passed their second semi-annual Tank Tightness Test. (N-2 ¶ 20; N-2F).

212. The Navy did not test Tank 16 in the fall of 2021 due to fuel operations. Tank 16 remains compliant with the regulations through May of 2022. (N-2 ¶ 20)

213. No Red Hill Tanks have had a release since the 2014 release, which led to the AOC. (Norfleet Test. at App C; Kawata Test. at 4:51:00)

214. There is no emergency situation with regard to anything other than the contamination of Red Hill Shaft and the Navy's drinking water distribution system. The history of releases at Red Hill, its current operating conditions, and the risk posed by future releases are primary issues addressed by both the Administrative Order on Consent (Exh. N-5A) signed by DOH, EPA, Navy, and the Defense Logistics Agency ("DLA") (Navy COL 9), and the UST permit proceeding (Docket No. 19-UST-EA-01) in which Navy, BWS, Sierra Club, and DOH are parties (Navy COL 10, 11).

Kilo and Hotel Pier

215. Recent releases from pier side pipelines are to the ocean side of the jurisdictional valve located near the Upper Tank Farm and thus appear to be within the marine transfer area. (N-5I).

216. The Coast Guard's jurisdiction extends over pipelines located in the marine transfer area Under the Ports and Waterways Safety Act (PWSA) and implementing regulations, 33 CFR 154.105. (N-5E).

217. The Hotel Pier and Kilo piers, and the associated pipelines, are located along the harbor three miles down gradient from the Red Hill Facility. (Kawata Test. December 20, 2021 at 4:52:30).

218. The Hotel Pier is a multi-product pipeline that is no longer used for fuel receipt; it is not part of the Red Hill Fuel systems. (N-5I)

219. Interveners have moved to reopen the Contested Case hearing for application of the U.S. Navy for a permit to maintain and operate the Red Hill Underground Storage Tank Facility, Docket No. 19-UST-EA-01, concerning releases from the Hotel and Kilo Piers. (N-6H).

220. The Navy timely notified the DOH of releases from both the Hotel and Kilo Pier upon discovery its discovery. (N-6H).

NOTICE OF VIOLATION

221. On October 26, 2021, the DOH issued the Navy a Notice of Violation with five (5) counts and an administrative penalty of $335,182.00. Each of the violations noticed were administrative and none concerned an active release from the Facility. (B-408 at BWS0434554-55).

222. The Notice of Violation related to an inspection that occurred during the previous year, between the September 28, 202 and October 9, 2021. (B-408 at BWS043451).

223. Count I alleged the Navy failed to provide corrosion protection for an underground pipeline to an aboveground storage tank. (B-408 at BWS043453).

224. Count II alleged the Navy Failed to perform a tightness test at a leak detection rate of .1 gallon per hour, upon tank five's return to service following repairs. (B-408 at BWS043453).

225. Between October 5, 2021 and October 30, 2021, Tank 5, which was returned to service, tested to .1 gallon per hour in accordance with HAR § 11-280.1-43(3). (N-2 ¶ 20; N-2E at [p. pass]).

226. Count III alleged the Navy failed to, among other things, test annually a portable spill prevention equipment modules located at the Facility's various piers spill containment structures at a truck loading dock. (B-408 at BWS043453).

227. Count IV alleged the Navy failed to perform an adequate walkthrough inspection by visually checking a hydrant loo pit at least every thirty-one (31) days. (B-408 at BWS043454).

228. Count V alleged the Navy was not utilizing any form of double walled release detection at two product recovery tanks. (B-408 at BWS043454).

229. The Notice of Violation concerned only the five violations from an inspection that occurred during the previous year, between the September 28, 2020 and October 9, 2020. (B-408 at BWS0434554).

DATED: December 24, 2021.

/S/ Craig D. Jensen
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CERTIFICATE OF SERVICE

I hereby certify that on this date and by the methods of service noted below, a true and correct copy of the foregoing was served on the following as follows:

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Dated: December 24, 2021

Respectfully Submitted,
/S/ Craig D. Jensen

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