

Craig D. Jensen
Marnie E. Riddle
Jonathan C. McKay
Dave Fitzpatrick 6803
DEPARTMENT OF THE NAVY
OFFICE OF GENERAL COUNSEL
850 Ticonderoga Street, Suite 110
JBPHH, HI 96860
Telephone: (703) 727-6194

DEPARTMENT OF HEALTH

STATE OF HAWAII

ENVIRONMENTAL HEALTH DIVISION,)	Case No. 21-UST-EA-02
DEPARTMENT OF HEALTH, STATE OF)	
HAWAII,)	DECLARATION OF
)	JAMES G. MEYER
Complainant,)	
)	
v.)	
)	
UNITED STATES DEPARTMENT OF THE)	
NAVY,)	
)	
Respondent.)	
_____)	

DECLARATION OF JAMES G. MEYER

I, James G. Meyer, declare as follows:

1. I am the Commanding Officer of Naval Facilities Engineering and Systems Command (NAVFAC) Hawaii located at Joint Base Pearl Harbor, Hawaii (JBPHH). I am also assigned as the Regional Engineer for the Commander, Navy Region Hawaii, located at Pearl Harbor. I hold a Bachelor's degree in Mechanical Engineering and Naval Science from the University of Wisconsin, a Master's degree in Civil Engineering from Stanford University, a Master's in Business Administration from City University of Seattle, and I am a registered professional engineer in the State of California. NAVFAC Hawaii provides facilities engineering, real estate, and environmental management services to the Navy, other DoD and non-DoD tenants within

Navy Region Hawaii. Our major customers include Navy Region Hawaii/Joint Base Pearl Harbor-Hickam, Pearl Harbor Naval Shipyard/Intermediate Maintenance Facility, Marine Corps Base Hawaii, U.S. Pacific Fleet, U.S. Pacific Air Forces, and U.S. Indo-Pacific Command.

2. I make this declaration in support of the Respondent, United States Department of the Navy's ("Navy") opposition to the Emergency Order of December 6, 2021, which the Complainant, Environmental Health Division, Department of Health, State of Hawaii ("DOH"), issued concerning an overview of the effected Navy water system on Oahu and current and planned efforts to restore the Red Hill shaft and protect the aquifer. I make this declaration based upon personal knowledge and I am competent to testify as to all matters stated herein.

3. As Commanding Officer of NAVFAC Hawaii I have been assigned to provide, direct, and oversee the Navy's local response and address efforts to eliminate any risk to human health, safety and the environment posed by recent events from the Red Hill Facility. I have been Commanding Officer of NAVFAC Hawaii since August 7, 2020.

4. The Navy (and in part the Army) owns and operates a water system located in Honolulu, Hawaii that serves potable water on military installations, Public-Private Venture Housing (PPV Housing), and the military community and facilities associated with Joint Base Pearl Harbor-Hickam. The Navy's system also services limited areas adjacent to its installations, which were prior government enclaves the Navy transferred to state and local governments. The system is comprised of three Maui-style drinking water supply wells: 1) the Red Hill Shaft; 2) the Navy Aiea-Halawa Shaft; and 3) the Waiawa Shaft. As indicated in **N-2A**, Ford Island is located in the center of that diagram. To the right of Ford Island is the Red Hill Shaft (indicated by a red star). The Red Hill Shaft normally supplies about 15% of our water. The Red Hill Shaft has been off-line since November 28, 2021. I am aware that on November 28, following reports

from Navy Housing residents of an odor in the water, no fuel transfers to, from or between Red Hill tanks took place. I understand that the last fuel movement to, from, or between Red Hill tanks took place on November 26, which was a transfer of F-24 jet fuel from Red Hill Tank 4 to Upper Tank Farm Tank 46 (outside and apart from the Red Hill facility). To the left of the Red Hill Shaft on **N-2A** is the Aiea-Halawa Shaft. This is a different resource than the Honolulu Board of Water Supply's (HBWS) Halawa Shaft. The Navy's Aiea-Halawa Shaft normally supplies about 5% of our water. Navy Aiea-Halawa Shaft has been off-line since Friday, December 3, 2021, in coordination with the HBWS. Near the left-center top of **N-2A** is the Waiawa Shaft. The Waiawa Shaft normally supplies about 80% of our water. With the Red Hill and Aiea-Halawa Shafts off-line, the Waiawa Shaft is currently the sole source of Navy water. That level of production is adequate and we are also utilizing water conservation measures.

5. The Navy is currently working around the clock to restore the Navy water distribution system. The source of the water problems is fuel contamination in the Red Hill Shaft. We know from testing that the Red Hill Shaft was contaminated with jet fuel (JP5), and that the contaminant was new fuel, which strongly indicates that the source of the fuel was the November 20, 2021 release. As indicated above, the Red Hill Shaft has been isolated since November 28, so no new contamination is being introduced into the water distribution system. The only water being injected into the system is from the Waiawa Shaft which has been verified clean through multiple tests.

6. First step in cleanup is to directionally flush multiple volumes of clean water through the system. The system volume is about 25 million gallons. How fast this system flush can be completed is very dependent on the flush volume. It could be completed in as quickly as four (4) days if there were limited or no restrictions. With our planned approach of in-line GAC

treatment, we anticipate up to 18 days to perform the complete system flush. We are working closely with the DOH to conduct this flushing in a way that is safe for the environment and the people of Hawaii, to include our military families. Flushing operations will commence now that a detailed plan and notice of intent have been approved by DOH and EPA, as of Friday, December 17, 2021. The Navy has conducted over 100 detailed samples of the water distribution system as a whole and all samples have come back within environmentally acceptable limits (one exception is a dead end section of pipe near the Aiea-Halawa pump station which is not representative of the distribution system or the actual Navy Aiea-Halawa Well). The Navy Aiea-Halawa Well has been directly tested and there are no contaminants. Commencing the week of December 19, we plan to utilize twenty-one (21) to twenty-five (25) (1 Million Gallons per Day (MGD)) Granular Activated Carbon (GAC) filtration systems situated throughout the various neighborhoods working to filter through hydrants to achieve the complete system flush. Accordingly, it is our assessment that this flush can be done safely.

7. The next step toward system restoration is to flush each individual home and effected facility. We will have more detailed plans on how to do this as we continue to examine each location. It is our assessment that this individual flushing could be accomplished in as quickly as two (2) to four (4) days per housing community. Throughout this flushing, we will continue a rigorous sampling protocol to evaluate the water as well as protect the environment and the people of Hawaii. These flushing and sampling plans have been developed in collaboration with representatives from the DOH, Environmental Protection Agency (EPA), HBWS (invited), Hawaii Department of Land and Natural Resources (DLNR), City and County of Honolulu, and the University of Hawaii Water Resources Research Center. This group is sharing expertise with environmental regulators for the purpose of achieving partnering solutions and it is our goal to

continue to work through this coalition of experts. After evaluation of the testing results, we will work closely with the DOH and other stakeholders to declare our water safe.

8. Next, our plan is to remediate the Red Hill Well and protect the aquifer. There is confirmed to be some amount of petroleum contamination there and we are working to remove that fuel out of the Red Hill Well. In the near term, we have worked in coordination with the DOH to have Navy divers enter the water well shaft for purposes of inspecting it and characterizing the release, and we have gotten approval to commence skimming product removal activities. Pumps are being used to directly remove the petroleum contamination floating on top of the Red Hill Well. Navy Mobile Diving and Salvage Unit (MDSU) ONE skimming operations captured a total of approximately 31,000 gallons of a water/fuel mixture to date. This mixture is being sent to the Fleet Logistics Center (FLC) oil/water separator on the installation which will inform the rough quantity of fuel recovered. In addition, industrial absorbent material will be placed in the Red Hill shaft during the next pause in skimming operations. This absorbent material will soak up petroleum, which will be removed from the Red Hill Well along with the absorbent material after being in place for about 24 hours.

9. We are also working to perform significant cleanup by pumping large volumes of water out of the Red Hill Well. This will also protect the rest of the aquifer by pulling any contaminants towards the Red Hill Well. On December 9, 2021, NAVFAC Pacific, our higher echelon Command here in Hawaii, awarded a task order under a Global Contingency Services Contract to Vectrus Systems Corporation of Colorado Springs, Colorado for approximately \$6.8 million for two (2) granular activated carbon (GAC) water filtration units capable of filtering a total of up to 10 million gallons per day (MGD). These large GAC units are en-route from Michigan and other locations; we have coordinated military airlift to bring them here. These are

huge units requiring multiple airlifts, and then significant effort to assemble, connect, and begin operating. Nonetheless, our goal is to have them completely up and operating within approximately 2 weeks. We are also working with the DOH, DLNR and other stakeholders on where to send this water and to ensure that required permitting is attained. It will be clean filtered water that is safe for the environment.

10. The aforementioned 21-25 (1MGD) GAC units for neighborhood flushing, on the other hand, will begin to arrive on December 18, 2021 and will be put into service within a matter of days to flush the distribution system.

11. One of our challenges throughout this event is the lack of an on-island water testing capability that can analyze to the sensitivity levels we need. All of our samples are being flown to certified third party labs on the Mainland which adds time. Both Navy and DOH have some local capability but not at the sensitivity levels we really need. We are working with local interests to develop this capability in Hawaii and would prefer that this capability be operated by a third party entity. We need this capability on-island in order to improve our testing efficiencies. I believe this would greatly benefit the DOH's sampling and testing program as well.

12. Lastly, we are in the process of working to purchase a permanent treatment facility utilizing the Military Construction process.

13. The Navy's investigation into how fuel reached the Red Hill Well is ongoing. But we know the source of the fuel from 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. 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. The firefighting system, and its collection lines, is not connected to the Red Hill Facility fuel lines or tanks.

14. The working 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. From the point of release, the fuel migrated downgrade and collected in the AFFF system, where the sump pumps pumped into the AFFF recovery line. 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.

15. As to the fuel storage tanks at Red Hill, the Navy takes numerous precautions to ensure that the tanks are safe. The tanks are closely monitored at all times via the Automated Fuel Handling Equipment (AFHE) operated by control room operators. Roving patrols and other NAVSUP FLC Pearl Harbor Fuels Department personnel continually monitor the access tunnels and the facility. The Navy conducts regular inspections, tests, preventative maintenance, and repairs to ensure the integrity of the tanks. These efforts include semi-annual tank tightness testing as well as an EPA and DOH approved Tank Inspection Repair and Maintenance (TIRM) process. According to a Red Hill Facility Evaluation Report submitted to the Environmental Protection Agency in June 2017, “key construction components of the tanks exceed or meet most modern day construction standards,” and “the implemented inspection technologies and methods meet or exceed industry standard.” *See N-2B.*

16. The Navy’s semi-annual leak detection testing performed on the eighteen Red Hill underground storage tanks (UST) that are in service, utilizes a leak detection method listed with the National Work Group for Leak Detection Evaluators (NWGLDE). The NWGLDE is a working group comprised of eleven (11) members, ten (10) from state regulators whose full time

positions are to regulate storage tank systems, and one member from the U.S. EPA. The NWGLDE approves leak detection methods, which the petroleum and oil lubricant (POL) industry uses as the accepted industry standard. The Navy's NWGLDE leak detection method is commonly referred to as Tank Tightness Testing.

17. Tank Tightness Testing is conducted with a mass-based leak detection and monitoring system. To perform the tests, the tanks are fully isolated from the remaining fuel system. The testing system is deployed in the tanks from the tank gauging gallery, which is above the tank, and lowered to the bottom of the tank. The testing system has very sensitive tank gauging sensors that measure temperature and take multiple mass readings of the fuel. The readings are then compared over time to identify extremely small changes, which in the end are expressed as mass changes in gallons per hour.

18. At the Red Hill Facility, Tank Tightness Testing is performed under contract with NAVFAC Atlantic. The Navy performs semi-annual Tank Tightness Testing with the approved measurement system twice as often as the Hawaii Administrative Rules require. **N-2C.**

19. Currently only 14 Red Hill Tanks contain fuel. Tanks 1 and 19 are permanently empty and are no longer in use. Tanks 14 and 18 are empty because they were in various phases of inspection and repair in the TIRM program when the Navy stopped operations. Tanks 13 and 17 are empty because they have recently completed the TIRM process.

20. Between April 6, 2021, and May 18, 2021, each of the Red Hill Facility USTs that currently contain fuel underwent the first of a semi-annual NWGLDE approved Tank Tightness Test. Each of the tanks passed the test and conformed with the Minimum Detectable Leak Rate (MDLR) in HAR § 11-280.1. **N-2D.** Between October 5, 2021 and October 30, 2021, Tank 5 was tested again, but to a MDLR of .1 gallon per hour in accordance with HAR § 11-280.1-

43(3). The lower MDLR in HAR § 11-280.143(3) is required when a tank has been returned to service, which was required for Tank 5 following inspection and repairs. **N-2E.** And between October 6, 2021 and November 10, 2021, twelve of the other Tanks that currently contain fuel underwent their second semi-annual Tank Tightness Test. Each of them again passed the test and conformed with the MDLR in HAR § 11-280.1. **N-2F.** Tank 16 was not tested in the fall of 2021 because, during the testing event, its product level was low due to operations. A delivery was not available to raise the level and perform the test. Because HAR § 11-280.1 requires tanks to be tested annually, Tank 16 remains compliant with the regulations.

Since the Navy began its Tank Tightness Testing regimen, no Red Hill Tank has failed a Tank Tightness Test. From the time Red Hill Facility operations stopped, each of the 14 tanks that contain fuel have been isolated from the remaining fuel system.

21. Finally, attachment **N-2G** addresses another of the testing methodologies we currently employ to monitor the groundwater in the vicinity of the Red Hill facility. These consist of small shafts drilled vertically into the ground which are designed to allow access to various depths within the groundwater to provide a means to obtain samples. This assists us with understanding the horizontal and vertical movement of the groundwater and would also allow us to capture samples of contaminants, if any, for identification and tracing of any movement over time. Attachment **N-2G** depicts the significant increase in groundwater monitoring wells we have established over recent years to enhance our testing capabilities.

22. I declare under penalty of perjury that the foregoing facts are true and correct to the best of my knowledge and belief.

Dated: Honolulu, HI; December 18, 2021.

/S/James G. Meyer
James G. Meyer