DRAFT MINUTES OF THE PEARL HARBOR-HICKAM-KALAELOA RESTORATION ADVISORY BOARD MEETING OAHU VETERANS CENTER, HONOLULU, HAWAII

I. SEPTEMBER 9, 2026, ATTENDANCE: SEE ATTACHMENT A.

II. WELCOME

[Time on meeting recording: 0:00:00 – 0:04:50]

Ms. Stephanie Kawasaki, facilitator of the meeting, opened the meeting at 6:00 p.m. and briefly covered the rules of engagement. Ms. Kawasaki then introduced the Navy co-chair, Colonel (Col) Gregory Hammond, community co-chair, Ms. Francie Whitfield, and Ms. Jocelyn Tamashiro, Environmental Restoration Program Manager at Naval Facilities Engineering Systems Command (NAVFAC), Hawaii. The following Restoration Advisory Board (RAB) members introduced themselves:

- Mr. Guy Inouye
- Ms. Susan Gorman-Chang
- Ms. Susan Pcola-Davis
- Mr. Robert Huber
- Ms. Helene Takemoto
- Mr. Ernie Lau (ex officio)
- Ms. Joyce Le (ex officio)
- Mr. Kyle Kajihiro
- Mr. Cruz Vina Jr.
- Mr. Hanaloa Helelā

Ms. Kawasaki asked if there were any RAB members online. There were none. Then, she asked the room if there were any other officials in attendance, and the following introduced themselves:

- Ms. Sharon Lin, Assistant Director of the United States (U.S.) Environmental Protection Agency (EPA) Region 9 Superfund Program
- Ms. Lucrina Jones, EPA Remedial Project Manager for Pearl Harbor
- Ms. Jocylin Pierro, EPA Toxicologist and Risk Assessor for Joint Base Pearl Harbor-Hickam (JBPHH)
- Ms. Lynn Brockway, EPA Red Hill

Additionally, although not stated verbally at the meeting, online attendees also included Mr. John Chesnutt, Ms. Tonya Russi, Mr. Matthew Cohen, and Ms. Kristen Young of the EPA.

Distribution Statement A. Approved for public release: distribution is unlimited.

III. ADMINISTRATIVE BUSINESS

a. RAB MEMBER APPLICATIONS AND SELECTION

[0:04:50 – 0:44:45]

Ms. Whitfield began the discussion of RAB member reappointments. Four RAB members applied for reappointment, including Mr. Kyle Kajihiro, Mr. Guy Inouye, Ms. Helene Takemoto, and Mr. Cruz Vina. The RAB voted on the reappointments separately, and there were no objections. All four members were successfully reappointed. Then, Ms. Whitfield inquired if Mr. Huber wanted to be reappointed. He confirmed his interest, and with no objections raised, he was also reappointed to the RAB.

Ms. Pcola-Davis asked how the RAB members will know when they are up for reappointment. Ms. Whitfield stated that their term is three years, and she has a spreadsheet where she keeps track. Because there are three meetings per year, each RAB member will attend nine RAB meetings during their term.

Ms. Whitfield then discussed the six new RAB member applicants. Two of the applicants, Ms. Melanie Lau and Ms. Tiare Ribeaux, were present online, and one applicant, Dr. Danny de Gracia, was present in person. Ms. Whitfield asked if the other three applicants, Mr. Bryce Takenaka, Ms. Eileen Nalley, and Mr. Asheemo (Koda) Daily, were present and they were not. Mr. Kajihiro stated that Ms. Nalley is a professor at the University of Hawaii (UH) and Mr. Takenaka is a graduate student, and that he will reach out to them to see if they can attend.

Ms. Whitfield asked Dr. de Gracia if he intended to be a member of the Central Oahu RAB, as was marked on his application. Dr. de Gracia confirmed that since there is a need for RAB members on the Pearl Harbor-Hickam-Kalaeloa RAB, he will apply to that one. Ms. Tamashiro clarified that she recommended that he join this RAB because the Central Oahu RAB has not been restarted.

Dr. de Gracia then introduced himself. He stated that he is attending in a private capacity, but that he currently works at the State of Hawaii Department of Health Chronic Disease Prevention and Health Promotion Division, Health Policy, Communications, and Planning Office, and is also the Centers for Disease Control and Prevention Grant Communications Director for the Racial Ethnic and Community Approaches to Health Grant. He is also a student obtaining his second master's degree in UH's Master of Public Health program. He is also a member of the Waipahu Neighborhood Board.

Mr. Huber asked if Dr. de Gracia would be able to move to the Central Oahu RAB when that is restarted, and Ms. Tamashiro confirmed that he could. Mr. Helelā made a motion to accept Dr. de Gracia into the RAB. Ms. Whitfield asked if Dr. de Gracia was currently running for office, and he confirmed that he is currently a candidate for House District 39 (Royal Kunia, Village Park, Waipahu, Ewa, and Ho'opili). Ms. Tamashiro stated that there is no restriction in the RAB Charter stating that an elected official cannot concurrently serve on the RAB.

Mr. Lau stated that the online attendees are experiencing poor quality audio. Ms. Le also stated that those attending online are unable to provide comments online because the chat is disabled and asked if they were to raise questions or concerns, or to provide feedback, is the only way through the questions and answers (Q&A) box. This was confirmed. She then asked if new RAB applicants are attending online, will they be able to speak, which was confirmed.

Ms. Whitfield had the RAB members vote on appointing Dr. de Gracia to the RAB, and there were no objections.

Ms. Whitfield then invited online attendee Ms. Lau to introduce herself. Ms. Lau stated that she is currently a Fuel Tank Advisory Committee public member with her term ending in 2028. Ms. Takemoto asked her to elaborate on her background and experience. Ms. Lau stated that she has lived in Moanalua Valley for over 30 years. She joined the Fuel Tank Advisory Committee in 2019 and has seven years of experience with Red Hill and the Navy. She is also a retired physician.

Mr. Lau stated that he strongly supports her nomination. The RAB then voted on appointing Ms. Lau to the RAB.

Ms. Ribeaux then introduced herself as a *kanaka maoli* storyteller with generational ties to Ewa. She received her master's degree at Berkely in media, storytelling, and art practice, and her thesis project was on Ewa and centered on everything that happened with Red Hill. She conducted in-depth research, interviews, exchange conversations, and *malama aina* with different organizations around the edges of Pu'uloa for different documentary projects at Berkely.

Ms. Whitfield then had the RAB vote to appoint Ms. Ribeaux and there were no objections.

Mr. Takenaka joined the online meeting and introduced himself. He is born and raised on Oahu. He is currently a PhD student in public health at Yale School of Public Health, and his dissertation looks at the environmental and social impacts by the military and tourism and how it shapes native Hawaiian life in Hawaii. He has a master's degree in epidemiology and a bachelor's degree in community health. He has spent a lot of time doing research on how the environment and other larger systemic and political factors create downstream conditions for communities. He is an organizer for Hawaii Peace and Justice. He has been organizing work on ways to hold the military accountable, and he is seeking clarity on the solutions and addressing mitigations. Mr. Takenaka is a spatial epidemiology researcher and has experience with geographic information system and mapping.

Then, Ms. Whitfield had the RAB vote to appoint Mr. Takenaka and there were no objections.

b. RAB Member Organization

Ms. Whitfield intends to schedule an executive committee meeting with the new and old RAB members to go over the organization of the RAB. She stated that there are two teams, the technical review side and the outreach side, and she wants to see how the new RAB members can help on both sides.

Dr. de Gracia stated that he could serve on either side.

c. Review and Approve May 2026 Meeting Minutes

Ms. Whitfield asked if anyone has discussion items regarding the May 2026 meeting minutes. Mr. Kajihiro made a motion to accept the minutes from the May 2026 meeting. The RAB members voted to approve the meeting minutes from May 2026 and there were no objections.

d. Schedule 2027 RAB Meetings and Site Visits

Col Hammond proposes to have the same schedule as this year, which would be RAB meetings in January, May, and September. The Navy is proposing January 27, 2027, for the first meeting. At the January meeting, the dates for May and September will be decided. There were no objections.

Ms. Tamashiro stated that potential site visits could occur at the Barbers Point Sanitary Landfill and the former Tri-Services Landfill, also known as LF05, located at Hickam Field of JBPHH. Slides 8 to 11 in the presentation contain four figures that show the locations of sites covered by this RAB. The

Project Summary Table, which is included at the end of the RAB handout package coincides with the figures. Ms. Tamashiro encouraged the RAB members to review the sites on the figures and tables.

Col Hammond confirmed that site visits will be scheduled at the next RAB meeting in January 2027. Mr. Lau recommended that the Red Hill per- and polyfluoroalkyl substances (PFAS) site (site 36 on the figure) and the former Oily Waste Disposal Facility site (site 35 on the figure) be considered. Mr. Huber asked Mr. Lau if site 35 (Red Hill PFAS Release) is the only site with PFAS, and Mr. Lau stated that site 36 (former Oily Waste Disposal Facility) also has PFAS detections. Ms. Le stated that both sites are active PFAS investigation sites within the Red Hill Environmental Restoration, Navy (ERN) and she is interested in visiting them. Ms. Pcola-Davis asked if the RAB should be picking one site for the site visit, and Ms. Tamashiro confirmed. Ms. Gorman-Chang stated that she agrees with Mr. Lau on visiting site 36 (Red Hill PFAS Release).

Ms. Takemoto asked where the site that is being treated with granular activated carbon (GAC) filters is located. Ms. Tamashiro stated that that site is not part of the ERN program so it will not be discussed at this meeting. Mr. Lau stated that the GAC filters are near site 35 (former Oily Waste Disposal Facility) and the GAC filters are filtering the water out of the Navy's Red Hill Shaft and discharging the water into Halawa Stream. Mr. Helelā asked for more information on site 39 (ST13 Halawa Stream) and Ms. Tamashiro pointed him to the Project Summary Table. Ms. Tamashiro confirmed that site 39 is not where the GAC filters are located.

IV. PRESENTATION: CALCULATING RISK (EPA)

[0:44:45 – 1:56:18]

Ms. Tamashiro stated that at the January 2026 RAB meeting, questions were asked about risk assessments. To answer those questions, an educational presentation will be given by Dr. Jocylin Pierro from EPA. She is a human health and ecological risk assessor with the Superfund Technical Support Office in San Francisco. Dr. Pierro will share about the risk assessment process and how it supports decision making for hazardous waste clean ups.

Prior to joining the EPA in 2020, Dr. Pierro was a Peace Corps volunteer in the West African nation of Benin, where she saw the harmful effects of limited waste disposal options of toxic chemicals on children's development. This real-life experience introduced her to the field of toxicology, which is the study of negative effects of toxicants or chemicals on living organisms.

Following the Peace Corps, Dr. Pierro completed two master's degrees at Indiana University. The first master's degree was in Public Affairs Environmental Policy, and the second in Environmental Science centered on toxicological risk assessment. After receiving her master's degrees, she continued risk assessment work with the National Park Service and later chose to pursue a doctorate degree in Environmental Toxicology at Texas Tech University. Her doctorate studies focused on sea turtle health following exposure to marine contaminants using both laboratory and mathematical computational risk assessment techniques. Her career at the EPA started with a focus on child and fetal development following chemical exposure during a mother's pregnancy.

Dr. Pierro introduced herself and went over the agenda for her presentation. The Superfund program comes out of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, which is a government program that cleans up some of the most hazardous sites in America. The goal is to hold responsible parties financially liable for being sources of contamination. In 1992, Pearl Harbor was listed as a Superfund site, and the Navy is charged with overseeing the cleanup process.

The goal of the Superfund program is to protect human health and the environment by reducing risk as much as possible by cleaning up the contamination.

When we think of risk-based decisions, we are asking, "Is there a chance of something happening that could cause harm?" Examples of risk-based decisions include medical decisions, insurance policies, construction projects, and financial investments.

The Superfund program makes risk-based decisions because it is required by Superfund law to take into consideration the risk to human health and the environment. Risk assessments are used to find out which contaminants pose the greatest risk to human health and the environment, to determine where site cleanup is needed in different media encountered by humans and ecological systems (for example, soil, groundwater, surface water, sediment, air), and to determine the protective cleanup levels.

The Superfund process is quite lengthy and takes many years to complete. The process starts when sites are listed on the National Priority List, after which the remedial investigation begins that looks at where the contaminants are located, what the contaminants are, and how much people are exposed to them. This is where the risk assessment comes in. Then, the feasibility study looks at how the site can be cleaned up.

In general, risk assessment is broken down into four key steps. It starts with hazard identification, and then exposure assessment and toxicity assessment happen simultaneously, and then risk characterization. These steps have been implemented since the 1980's when CERCLA was first introduced, so they have been tried and tested, have extensive guidance, and have been expanded over time.

Hazard identification asks the questions where and which contaminants were detected. We look at what data is available and what data do we need. Then we try to determine which of these contaminants is most harmful. The highest concentration of each contaminant is compared to very stringent health protective screening levels, such as the EPA's Regional Screening Levels (RSLs), which have been established as very protective levels against uncommon risks that would not occur if you were not exposed to a Superfund site (i.e., excess risk). If a screening level is exceeded, the contaminant is a contaminant of potential concern at the Superfund site.

One of the first steps is the toxicity assessment, which identifies what contaminant concentrations cause harm so health risks can be calculated. Researchers study chemicals to determine whether they cause negative health effects and at what concentrations. These toxicity values go through an extensive vetting process by many scientists, and they are usually found in literature. Toxicity values are broken down into noncancer-based toxicity and cancer-based toxicity, which has to do with the way they are calculated to determine if one is going to occur, or the other, or both.

Exposure is key to risk assessment. If you are not exposed, then there is an incomplete pathway and there is no health risk. But the amount of exposure can vary, which can also affect risk. The main pathways that we look at are inhalation (gases, vapor, airborne particles including soil), ingestion (soil, water, food), and dermal contact (soil, water).

A completed exposure pathway starts with a contaminant source, for example munitions from World War II that have leached into the water. Then we look at the potentially affected media, such as surface water and sediment. Then we look at the exposure point, which is the point at which we come into contact with that contaminant. In this case, it would be swimming in the water or eating fish that have come into contact with the contaminant. The exposure route is how the exposure occurs, for example eating fish. Then we identify the receptor population, such as ecological receptors (fish, insects,

organisms in the water) and also human receptors, such as residents, industrial workers, or recreational users. There is also a wide variety of populations, such as pregnant women, young children, elderly, or immunocompromised people. All of these aspects are considered when assessing risk and typically take into account the populations that are most vulnerable to harm.

Slide 24 shows an example of a complete pathway and how a contaminant in surface water works its way into humans. It starts off in the water and then it gets into the plankton, the aquatic insects eat the plankton, then insect-eating fish eat those insects, then larger fish eat the smaller fish that have lower concentrations, and then humans eat those fish. As you go up the food chain, the concentration of the contaminant increases because the dose increases with size.

Exposure dose and duration are key to understanding if there is a risk. The values used for evaluating harmful exposure are from guidance documents and have been vetted over time. The reasonable maximum exposure is used. For example, it uses a value of almost 3 liters per day of water ingested every day for 30 to 40 years, which is unrealistic for most people and is intended to be overly protective. For soil ingestion, for someone living a suburban lifestyle, they would have to accidentally ingest 100 milligrams of soil per day from the air or touching something that has dust on it. For a subsistent forager who eats plants and animals straight from the environment, the exposure dose is increased to 400 milligrams per day. A suburban lifestyle person would be less likely to be exposed, and a subsistent forager person would be more likely to be exposed to soil ingestion. So, we want to be more protective and focus on the vulnerable population. A suburban lifestyle is considered to be 30 years which is conservative, because most people do not live in the exact same location for 30 years. The subsistent forager is more likely to live in the same area because of their relationship to the land, so the exposure duration is considered to be 70 to 75 years. Special consideration is given to sensitive populations, such as foragers or subsistence fisherman, during risk assessments, even though most people would not face that level of exposure. Small children are vulnerable because they are smaller, so the same dose as a grown adult will affect them more. A pregnant woman is vulnerable because the fetus can be affected. A grown adult may be less affected if they are fully healthy.

Risk characterization is the culmination of bringing all the steps together to estimate how great the human health risk is from being exposed to site contaminants. Cancer risks and noncancer effects are calculated differently. Noncancer effects are triggered by exceeding the dose with the safe, lowest observed adverse effect. For example, if you start to see someone who is having skin itching after exposure to a contaminant at 1 milligram per day, that is the lowest dose that causes some kind of harmful effect. The risk assessments are based on the lowest observed adverse effect level. Other examples include liver damage, bone loss, skin irritation, or reproductive problems. Cancer effects are measured as a chance of getting cancer.

If we determine through the toxicity assessment that the toxicity value is the safe level, then if exposure is below that level, people are likely not to be harmed, but if the exposure dose is above that level, there is a potential for concern for a specific health effect. For noncancer hazards, the estimated exposure dose is the lowest level of contaminant that has been found to lead to harmful side effects based on exposure type and duration. When thinking about risk, genetic differences must also be considered. That is why it is the potential for an adverse health effect.

Cancer risk is the “chance” of getting cancer because not everyone who is exposed at the same concentration will get cancer. This comes down to the concept of genetics, because you might be exposed but if you do not have a predisposition, a lower level of exposure might not harm you. But if you have a genetic predisposition, it might result in harm. Among the general population, about 40% of people in the United States (or about 1 in 2.5 people) are expected to have cancer in their lifetime without ever having been affected by a Superfund site.

Superfund site cleanup is necessary if the site cancer risk for known or suspected carcinogens is more than 1-in-10,000 to 1-in-a-million. Which means there is a risk of 0.01% to 0.0001% chance of getting cancer from the site. If the cancer risk falls within that range, there is a high likelihood of a cleanup.

An example statement of cancer risk from a Superfund site assessment is that if site groundwater were to be used for drinking in the future by a resident, a person would have an excess lifetime cancer risk of 1-in-a-million. This means that there would be one additional case of cancer, which is not acceptable for Superfund sites.

As required by Superfund regulation, cancer risks from a cleaned-up Superfund site cannot increase the general population's cancer risk of 40%.

If there is a chance of getting cancer that is greater than 1-in-10,000, there is a need for a cleanup. If the chance is less than 1-in-a-million of getting one more case of cancer, then a cleanup is determined not to be needed by Superfund regulation. If the chance is between 1-in-10,000 and 1-in-a-million, then it depends if a cleanup is needed. We consider site-specific information, such as the population at the site and the exposure at the site. Then we determine at that site, what is needed to reduce exposure. For noncancer hazards, if the exposure dose is higher than the safe dose, a cleanup is needed. If the exposure dose is below the safe dose, it is determined that no cleanup is needed.

Superfund site cleanups are guided by thorough risk assessment evaluations of site-by-site exposure and toxicity situations. It is necessary to know that some areas of the United States have high background levels of some natural and human-made substances that are not from the Superfund sites. We cannot clean up to levels below the already occurring background levels. For example, leaded gas was used all over the world before people knew that it was harmful. Now there is anthropogenic lead that came from human actions all over the environment. As a result, we know there is a background, or baseline level, of lead. If we look at the background level of lead and compare it to what level is related to the Superfund site, if it does not exceed that background then there is no need to clean up. Another example of naturally occurring background is arsenic which is naturally present in some rocks as well as related to mining operations. We cannot clean up to below the background level that is already existing. We clean up a site to the background level or to the level where there is no longer unsafe risk. Cleanup is needed if the combined exposure and toxicity of the contaminants released by the Superfund site is greater than the protective level.

Key take aways are that the Superfund regulation is a government program to clean up some of the nation's most contaminated land by reducing health risks and hazard to a safe level. Superfund uses a four-step risk assessment process including hazard identification, toxicity assessment, exposure assessment, and risk characterization to evaluate risk and guide clean up. Superfund site cleanup is usually necessary if the exposure dose is greater than the protective dose, if noncancer hazards are present, and cancer risks that exceed the EPA's risk range of 1-in-a-million to 1-in-10,000. A future meeting with remedial project managers will cover how the risk assessment is used in decision-making process.

Question (Q1): (Mr. Huber) How and who determines the safe level of toxicity? I am talking about the amounts that are safe levels that are established by the federal government under the EPA.

Answer (A1): (Dr. Pierro) That is based on the toxicity assessment. That is based on the scientists who have done research.

Q2: (Mr. Huber) Who are the scientists?

A2: (Dr. Pierro) The scientists are from many facets, such as professors and state scientists.

Q3: (Mr. Huber) Is it collaborative between state and university?

A3: (Dr. Pierro) It is not exactly collaborative, it uses statistics or information like toxicity values that have been peer reviewed across the board, people have accepted them and tested them over and over to determine this is the value at which this occurs. They are values that have proved to be true after much experimentation.

Q4: (Mr. Huber) The determination with those peer [reviewed] values, where does that go to the EPA to establish those safe levels of toxicity? Who does the final "Ok, we say yes to all this", the final "this is the acceptable level"?

A4: (Dr. Pierro) Traditionally, it has been IRIS. But the process is changing right now. I forget what it stands for. But they do years of research, they go through all the literature, they do all their own experimentation.

Q5: (Mr. Huber) Is that the federal government?

A5: (Dr. Pierro) Yes, it is in the EPA. This is for EPA regulations.

> **Comment (C1):** (Ms. Lin) IRIS is EPA's Integrated Risk Information System. Essentially, it is a huge database that is publicly available if you are interested.
>
> **C2:** (Dr. Pierro) It will say what the lowest observed dose is, such as skin irritation or hair loss. And it will say what the dose was at which it occurred. But the process to accept a value is very rigorous, it can take 10 years of going through literature and doing experiments within the government and within the EPA.
>
> **C3:** (Mr. Huber) And values change as science and people change, and usage and consumers change, and the environment changes.
>
> **C4:** (Dr. Pierro) It is really as science increases and understanding the biological system, that is really what it comes down to. At first, you start off by saying "hair loss", but then you realize it colors the toenails. So maybe you did not know that at first, it is after time that you start to observe these other things. We do not stop at the first sign; we keep doing research as scientists.

Q6: (Mr. Kajihiro) I have two questions, first as a RAB we also look at unexploded ordnance (UXO). You have been covering chemical contaminants, how does UXO, something that is more mechanical in its effects, factor into the risk assessment? And the second is about the assumptions that go in to determining the exposure pathway? Because in some cases you have lands or waters where people were removed from them. They were traditionally used and now there is a fence or something excluding them, so how do you then determine what the level of exposure might have been or could be again in the future?

Q7: (Dr. Pierro) For the UXO, what do you mean by that?

A7: (Mr. Kajihiro) Unexploded munitions in the water or the land I think falls under the RAB or under CERCLA, so how does CERCLA apply to that assessment of risk?

C8: (Dr. Pierro) So those would also, in some cases, have releases. Anything that is releasing [to the environment], those are chemicals or toxicants. When we say chemicals, it is a very broad term, so it is not just a pesticide, it is anything that is made or naturally occurring. We look at whether it is harmful or not.

Q8: (Mr. Kajihiro) I understand that there is that aspect, but in terms of the explosive hazard of a munition, is that under CERCLA or is that under something else?

A8: (Dr. Pierro) That is something else. We look at the release from the site. I am not sure what type of regulation that is.

Online Comment (C5): (Mr. Chesnutt) EPA and the [Department of War] have worked on UXO hazard assessment protocols, [which] looks at the explosive risk of the item.

C6: (Ms. Tamashiro) I would ask that Charlotte [Ms. Rangel], who is our munitions response lead, answer that for you.

C7: (Ms. Rangel) For UXO, we do evaluate risk separately and it has to do with what we find on the site. Are they just training rounds? What were the concentrations of training rounds in certain areas? Then we evaluate if it is a high use or low use area, and what is the risk of that munition. Then we try to clean it up as best as we can. Because any munition can cause issues. But we can never guarantee because things are buried, so that is why at the end of a UXO project we have some form of LUCs [land use controls] or warnings.

C8: (Mr. Kajihiro) I am asking just because in places like Makua Valley we are going to be dealing with UXO when the Army leaves and I am assuming that CERCLA would govern some kind of a RAB process, or is it DERP, the Defense Environmental Restoration Program, that would govern?

C9: (Ms. Rangel) For CERCLA, we do go through the same process on our UXO sites whether or not they are under Superfund or non-Superfund or non-National Priority List locations on our installations.

Q9: (Mr. Kajihiro) But we can assume that this process and these rules would apply?

A9: (Ms. Rangel) Yes.

Online Comment (C10): (Mr. Chesnutt) UXO is covered under CERCLA, if the UXO is abandoned and not on an active range.

Q10: (Mr. Kajihiro) And the second [question] was about the [exposure pathways].

A10: (Dr. Pierro) That is a great question. We often deal with tribes and their lifestyles have changed but if that area is designated for a tribe, we will [evaluate] it as the traditional tribal [lifestyle]. Even if they are no longer [practicing that lifestyle], a potential future use would be reverting to tribal ways. When we evaluate that population, we go back to traditional tribal ways, even if they are currently no longer using them. The other question has to do with part of the risk management and community itself. If an area is blocked off, is the tribe going to use it in the future? That is a community question. Because if it is blocked off totally and it has been determined that they are not going to use it and there is never going to be access, then we would not treat that [as a complete exposure pathway]. Because [land] uses, residential versus industrial [must be considered]. If it is zoned something else and is no

longer going to be the tribal zone or the native zone, then we would do it for the most protective use that it could have. But if it is tribal land like we have on the mainland, we do it for the traditional tribal lifestyle.

Q11: (Ms. Gorman-Chang) How are the background levels determined, who determines them, and what were the background level analysis done for JBPHH, the Superfund site?

A11: (Dr. Pierro) I do not know all the details. There are many sites. In general, at Superfund sites, we call them operable units. There are lots of different parts to some of the sites. Pearl Harbor and Hickam is a huge site with so many sites. What you call background is different based upon the location. You have to relate it to a certain distance and make sure that there is not exposure there. Where you find exposure, you step out until you find no more and then you go further away to a place that is [topographically] similar or geologically similar. But you want to make sure you are far away from the site so there are no site influences.

C11: (Col Hammond) This is a really good conversation and discussion and will help the RAB inform the Navy on our approach to restorations. I think this is addressing questions that I've heard since my first RAB meeting. I propose that we deviate from the planned agenda and do more Q&A on this topic, recognizing that we may not be able to cover all of the existing business items and that content might need to be deferred until our January meeting. If the RAB members and the co-chair are willing to deviate to keep on with the Q&A, we are happy to have that conversation just once again recognizing we will not be able to get to all of the existing business tonight.

C12: (Mr. Lau) I really support that, thank you Colonel, because I do have some questions.

C13: (Ms. Whitfield) I agree. I put the statement about Sunshine Law, which is another agenda item, online already. And the other things we can cover in the closing remarks.

C14: (Ms. Kawasaki) Just to clarify, we are going to postpone the existing business, Section D [on the agenda] to another meeting day. And now we are going to continue with questions for Jocylin [Dr. Pierro].

Q12: (Mr. Lau) Thank you. I really enjoyed your presentation; it was very informative. Much of it went over my head. You mentioned something about the tribes and you respect the tribal ways in determining how much you clean the site up. In Hawaii, we have the *kanaka maoli*, the people that are of this land that were here first, and for them the freshwater resources are significant cultural and religious resources to the community. And those resources are managed to be kept pure, as they see it. And I want to be careful not to speak for them, but in this situation with Red Hill, it is also that the aquifer and groundwater below this site, the Red Hill investigation site, both Area A and Area B, are actually freshwater resources that were suitable [for drinking water] before the Red Hill facility was built. And we actually tapped the same aquifer. And also, not far from the Superfund site is the Navy's Red Hill Shaft which is also a source of drinking [water]. Would you say that the target goals [for cleaning up contaminated water in the aquifer] would be done to drinking water quality? So that it would be suitable for drinking water without treatment.

A12: (Dr. Pierro) I cannot speak to Red Hill specifically, but in general, as risk assessors, we assess the risk of groundwater. We collect the data on the groundwater. We say, at this level, it is creating this risk, with this amount of exposure. Then the risk managers use the stringent health levels to help select the cleanup means. So, MCLs [maximum contaminant levels] are national standards for drinking water. That is part of risk-based decision making by risk managers. I do not make those decisions; I calculate the risk. I say this groundwater is no longer suitable for drinking and we know that

background-wise, [before] this source touched it, it was suitable for drinking. And so, we have to clean up to that background. Well, it is not necessarily the background by the way, because we have to clean up to a point where it is not harmful. Sometimes that amount is not [as low as the] background. And that background could be from a distance further away. So, where the site is, it actually could have had a higher value before the contamination happened. But we will clean up based upon reducing that risk to where it is not going to cause the noncancer effects or cancer chances. We will reduce it to the level we talked about here. If it exceeds those things, and it is caused by the Superfund site, then the responsible party is accountable for cleaning it up to a safe level. And we have standards for that, the MCLs, which are national standards.

C15: (Mr. Lau) Thank you for that. Fortunately, the EPA has regulated some of the PFAS or man-made chemicals that did not exist naturally, and those levels are well above the 4 parts per trillion for PFOS [perfluorooctanesulfonic acid] and PFOA [perfluorooctanoic acid], so I guess what I am hearing here is that the site would be cleaned up until those levels that are detected in the environment, in the water resource, is lower than 4 parts per trillion. Am I interpreting that incorrectly?

C16: (Dr. Pierro) Well, realistically, the new regulations are the 4 parts per trillion. But technologically, we do not have the technology to get down to that low. That is close to zero. We do not have the technology to get that low right now. So, can we really get to 4 parts per trillion at this point? That is why we need to evolve, that is why we need to develop technology that can get us to those lower levels. The other thing is, PFAS is all over the world now. It is in the Arctic Ocean. Like leaded gas, we were all using it in those nonstick fabrics, nonstick pans, firefighting foams. We have all been using it and because of that it is all over the world, even where people did not use it. There is a background level caused by humans. We have to compare it to unaffected areas that were not affected by releases. Again, I cannot speak to Red Hill specifically, I am speaking in general terms on the types of issues we are facing with PFAS.

C17: (Mr. Lau) Thank you, and just a note that firefighting foams containing PFAS were stored and used at Red Hill and spilled at Red Hill too.

C18: (Dr. Pierro) Firefighters everywhere still use [PFAS-containing foam] for the most dangerous fires that happen all over. Because there is nothing like it that is as heat resistant.

C19: (Mr. Lau) I guess I would just like to point out that, as far as I can tell, the use of firefighting foams only happened at Red Hill in that area. If there is information about sharing where firefighting foams were used at other locations nearby Red Hill that could be a source of contaminants, I would be open to hearing that. Right now, I see that Red Hill is the big suspect here, and I would encourage the Navy to remediate to the 4 parts per trillion, which I think is the RSL identified as part of this investigation.

C20: (Dr. Pierro) That is the RSL. But that is up to the Navy, they are in charge of the cleanup, we just help with oversight.

C21: (Mr. Lau) I just would ask that please as regulators, as the EPA, please hold our friends at the Navy accountable, to correct their actions to clean up to the RSLs or even lower, for the sake of our community. Thank you.

C22: (Ms. Lin) I appreciate your comments. I sense that there is a lot of interest from RAB members on background and groundwater restoration. Under the CERCLA framework, EPA guidance on groundwater restoration is publicly available online. The background guidance is a very good read.

C23: (Dr. Pierro) How background is established and the factors that go into it, it is very thorough.

C24: (Ms. Lin) CERCLA is a very systematic and step-wise approach. Department of War, nationwide, has close to 600 installations that are moving forward with remedial investigations for PFAS. It is not just Red Hill; it is all over the country. And there is a lot of public interest, and a lot of resources and funding that go into PFAS. Superfund is really about cleaning up the release, that is our goal. Monitoring and characterization in a very thoughtful manner. With the [Superfund] law, you have technical guidance. IRIS is part of it, the risk piece. The groundwater restoration guidance for Superfund, the background guidance, how we are applying Superfund cleanup decision making. There is a lot of good information out there, we are happy to provide them, and we welcome future conversations with the Navy and regulatory agencies and stakeholders.

C25: (Dr. Pierro) This is my email for technical questions [pierro.jocylin@epa.gov]. If you have a risk management question I can connect you with the project manager.

Q13: (Mr. Helelā) Thank you. I appreciate your presentation and your Q&A. And I want to thank everyone who asked questions or comments. Something that I need clarification on, I do not feel like Rob's [Mr. Huber] question was answered adequately. It seemed kind of nebulous. And you had mentioned IRIS now but that is changing as far as how these levels are set and who decides. I think that is a really important question as we try to power map this thing. Who makes this decision? And you mentioned IRIS but it was said that IRIS is a database so can we nail it down to the actual positions, the titles of people who make the decisions? And if it is changing from IRIS, what is the new setup for these levels.

A13: (Dr. Pierro) If you look at the IRIS database, it is more than a database. There are sheets on each chemical and it has all the information. It has the citations from the studies they used and the studies that they did. It is a document per chemical. It is very thorough; it is not just a number. It has a lot of details about where it came from. It is changing from this current situation and it has not been decisive but with guidance we have something called the toxicity hierarchy. With the toxicity hierarchy, IRIS was at the top for developing those toxicity values because they looked at peer-reviewed experimentation, articles, things like that. They also looked at state values, for instance California and Hawaii. They took into account the research and the experimentation that was done at the lower levels, integrated it, and then went above and beyond it with further studies. We do not know what the future at the EPA holds, but according to our current guidance we still can rely upon peer-reviewed literature. We can still use IRIS; we just do not know where the future of IRIS is going.

Q14: (Mr. Helelā) My question specifically is who are the actual decision makers, what are their names? Who makes the final decision? When it gets into this new system, who will be the decision makers?

A14: (Dr. Pierro) So with IRIS it is a whole office. With science, you cannot make a decision on your own.

C26: (Mr. Helelā) But somebody makes the call eventually. Since Red Hill, I think it was 2022 or 2023 when the levels were reassessed.

C27: (Dr. Pierro) Yes, when it was the 4 parts per trillion. So that is risk management. We give the risk assessment [to the risk manager], and they have something called the nine criteria. They take into account financial parts of things; they take into account the community.

C28: (Mr. Helelā) I want to know the "they".

C29: (Dr. Pierro) The risk managers, project managers.

Online Comment (C30): (Mr. Chesnutt) Cleanup is determined based on a comparative analysis of cleanup alternatives relative to nine specific evaluation criteria - this is done in the feasibility study phase - after the investigation and risk assessment is done.

C31: (Mr. Helelā) But there has got to be someone at the end of the road, a commander, someone in charge. Somebody is making this decision, right, in the end?

C32: (Ms. Kawasaki) We are going to start wrapping it up. I will let Jocelyn [Tamashiro] answer the question. But I want to make a note for the meeting minutes saying that we are deferring the new business as well, that is Section E [on the agenda].

C33: (Ms. Tamashiro) So the answer to Hanaloa's [Mr. Helelā] question, for the Department of War, the Assistant Secretary of the Navy and all of the different services have a group that decides collectively what the services are going to use as values for cleanup. And they direct us from the very top at the Pentagon what values to use. Those are the decision makers.

C34: (Mr. Helelā) So the military decides, not the EPA.

C35: (Ms. Tamashiro) The military bases follow the cleanup levels on what the EPA puts out. So, we do not come up with our own values. We take into account what the EPA puts out and then the department has to direct us. They do their own independent check of those values that EPA puts out and then they tell us to go ahead and follow it.

Online Comment (C36): (Mr. Chesnutt) The Navy and EPA, with State consultation, jointly select cleanup methods at Pearl Harbor Superfund sites, after also considering community input.

C37: (Ms. Lin) Red Hill and Pearl Harbor are federal facilities, so CERCLA Section 120 governs how Superfund law applies to federal facilities. It lays out really clearly what the role of the federal facility is and what the role of the regulatory agency is. So, it is a little different than an EPA-lead cleanup for a PRP- (or Potentially Responsible Party) lead cleanup. That section of CERCLA speaks to the roles and responsibilities of how Superfund law applies to federal facilities. So, when you hear that the Navy is the responsible agency, they are in charge of responding to the release. EPA and DOH (State of Hawaii Department of Health) are the regulatory agencies. And with that, we have a Federal Facilities Agreement that lays out the roles and responsibilities.

C38: (Ms. Le) I want to give an opportunity for people online to provide any questions as well. I just wanted to make that point because they did not get to talk, they just listened the whole time.

C39: (Ms. Dayna Yoshizaki) There were some questions online but I am wondering if maybe we can address them in the meeting minutes, or the next meeting as parking lot items. We took note of the questions.

Q15: (Ms. Le) If the questions online are related to risk assessment, will [Dr. Pierro] be available to provide answers to those?

A15: (Dr. Pierro) I can provide answers by email [a response is forthcoming; the meeting minutes will be updated and redistributed upon receipt].

Q16: (Ms. Whitfield) Can we have the questions announced right now?

A16: (Ms. Yoshizaki) Melanie Lau had a question "How do you make a risk assessment of a substance for which the safe level is not known? For example, petroleum fuel in water ingestion by humans was never intended, but has happened, so how do you determine what is the safe level and so can calculate a risk assessment?".

> **C40:** (Dr. Pierro) The question is bigger than petroleum, it is a question of if we do not have toxicity values for these new chemicals. There are so many PFAS, we do not have toxicity values for them and the question is how we evaluate whether they are harmful. And that is another conversation.
>
> **C41:** (Mr. Huber) That was established by Judge Kobayashi on the final settlement with the lawsuit. That is why it was only 17 million dollars for all the people that were sick.
>
> **C42:** (Ms. Yoshizaki) John Chesnutt [EPA] had some comments that we can include in the minutes [denoted as "**Online Comment (C#)**" throughout these meeting minutes, where C# represents the comment number].

Ms. Kawasaki turned the meeting over to Col Hammond for closing remarks. He thanked the community and the RAB members for their participation. He acknowledged those affected by Hurricane Lowell on Kauai.

Mr. Whitfield noted that a statement for the Sunshine Law is online and will be included in the minutes (Attachment B).

Ms. Kawasaki closed the meeting at 8:00 p.m.

For additional information, please contact:

Public Affairs Officer, Code 09PAO
Naval Facilities Engineering Systems Command (NAVFAC), Hawaii
400 Marshall Road
JBPHH, HI 96860-3139
(808) 471-7300
Email: NFHI_PAO_DL@us.navy.mil

Project reports discussing environmental investigation and restoration efforts that were discussed tonight can be obtained from the following Navy information repositories:

Naval Facilities Engineering Systems Command, Pacific *258 Makalapa Drive, Suite 100* *JBPHH HI 96860* *Tel. (808) 472-1428*	*University of Hawaii at Manoa Hamilton Library Hawaiian and Pacific Collection* *2550 McCarthy Mall* *Honolulu, HI 96822* *Tel. (808) 956-8264*	*Pearl City Public Library* *1138 Waimano Home Road* *Pearl City, HI 96782* *Tel. (808) 453-6566*

ATTACHMENT A

LIST OF ATTENDEES

PEARL HARBOR-HICKAM-KALAELOA RESTORATION ADVISORY BOARD MEETING

OAHU VETERANS CENTER, HONOLULU, HAWAII

September 9, 2026

1. Chuck Anthony
2. Audrey Asahina
3. Travis Brinkman
4. Lynn Brockway
5. John Chesnutt
6. Matthew Cohen
7. Mike Dau
8. Karen Davis
9. Ben Dunn
10. Danielle Espiritu
11. Seth Fischer
12. Paige Gibbons
13. Rachel Gilhooly
14. Susan Gorman-Chang
15. Danny de Gracia
16. Col Hammond
17. Niels Heidner
18. Hanaloa Helelā
19. Lawrence Higa
20. Robert Huber
21. Guy Inouye
22. Randi Jeung
23. Jeff Johnson
24. Lucrina Jones
25. Kyle Kajihiro
26. Steff Kawasaki
27. Jenifer Larson
28. Ernie Lau
29. Melanie Lau
30. Joyce Le
31. Sharon Lin
32. Karen Luke
33. Kim Markillie
34. Susan Pcola-Davis
35. Michael Plowman
36. Jocylin Pierro
37. Aaron Poentis
38. Charlotte Rangel
39. Tiare Ribeaux
40. Tonya Russi
41. Brittany Schwendiman
42. Helene Takemoto
43. Bryce Takenaka
44. Jocelyn Tamashiro
45. Belinda Turran
46. Cruz Vina
47. Francie Whitfield
48. Stacey Whitten
49. Nick Wood
50. Dayna Yoshizaki
51. Kristen Young
52. Hanna Zheng

ATTACHMENT B

2026 RABs AND HAWAII'S SUNSHINE LAW

2026 RABs and Hawai’i’s Sunshine Law

Restoration Advisory Boards are established through Federal entities to provide a forum for community input on environmental cleanup activities at sites within federal jurisdictions. Under federal law, the federal agencies are required to hold public meetings at key points in the cleanup process, publish notices, and allow for public comment periods. These requirements are part of the Remedial Action Process and are designed to ensure two-way communication between the federal agencies and the local communities.

The Sunshine Law (Hawaii Revised Statutes Chapter 92) governs the open meetings and records of state and county boards. Because Restoration Advisory Boards are federal advisory bodies created under the Department of Defense’s Environmental Restoration Program, it is not a state or county board and therefore is not subject to the Sunshine Law.

Instead, RABs operate under their own Charter and federal/state environmental regulations. Its meetings are open to the public, and meeting materials, minutes, and recordings are made available for public review. This public access is consistent with both the Sunshine Law’s intent to promote transparency and with federal requirements for public participation in environmental cleanup activities.

https://ags.hawaii.gov/oip/rules/

https://ags.hawaii.gov/oip/wp-content/blogs.dir/11/files/2025/08/SL-unofficial-version-2025.pdf

Prepared by: Joint Base Pearl Harbor-Hickam-Kalaeloa RAB Members
Downloaded: September 21, 2026