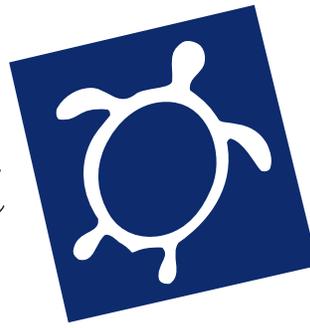


Environment



Hawai'i

a monthly newsletter

Red Hill and High Water

The Navy's Red Hill tank farm sits directly atop O'ahu's most valuable aquifer, with around 100 feet separating the bottom of the tanks from the top of the precious groundwater. And that installation, with its millions of gallons of fuel stored at any one time, leaks.

A recent meeting of the state's fuel tank advisory committee brought to the forefront the difficulties in balancing the Navy's needs against the need to protect the public's right to safe, clean drinking water.

Teresa Dawson writes up the latest developments in our cover story. Meanwhile, even though the landowners have withdrawn the petition for a boundary amendment to allow the development of HoKua Place on Kaua'i, the reasons behind that decision are made clear in recent Land Use Commission hearings. Patricia Tummons reports.

Latest Red Hill Fuel Spill Complicates Contested Case On Operating Permit

At the May 20 Zoom meeting of the state's fuel tank advisory committee, Hawai'i Sierra Club attorney David Kimo Frankel cracked up laughing at what Capt. Gordie Meyer, commanding officer of NAVFAC Hawai'i and regional engineer, told Asami Kobayashi, legislative office manager for state Sen. Donna Mercado Kim.

Kobayashi had asked Meyer how many gallons of fuel were released during a May 6 spill at the Navy's Red Hill fuel tank facility before the loss was detected. It had been reported that around 1,000 gallons of fuel had leaked into the lower access tunnel beneath the tanks, which hold about 180 million gallons of jet fuel.

"We were told by the Navy they installed safeguards," Kobayashi said, referring to measures implemented in recent years to prevent a repeat of what

happened in January 2014, when 27,000 gallons of fuel leaked from faulty patch weld in Tank 5 and facility personnel chose to silence the fuel release alarm that went off, rather than immediately respond to it.

"When the event occurred, the release was stopped immediately. All fuel was captured," Meyer answered to Kobayashi's question. He said this despite Department of Health staff reporting that soil vapor monitoring data suggest that some fuel made its way out of the facility and into the ground.

At Frankel's outburst of laughter, mediator Peter Adler asked Frankel to mute himself.

"Why don't you ask *him* to mute himself? He doesn't give us any answers!" Frankel replied.

Throughout the meeting, Navy

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Legislature Recognizes Connection Between Maladies and Kunia Tunnel



PHOTO: EPA

Red Hill fuel storage facility lower access tunnel.



NEW AND NOTEWORTHY

Hu Honua Re-Remand: The Hawai'i Supreme Court has tossed back to the Public Utilities Commission – for a second time – a decision in the case of the Big Island biomass power plant. The first court case, resolved in 2019, found the PUC at fault for failing to allow Life of the Land to raise the issue of the plant's life-cycle greenhouse gas emissions in its deliberations.

On remand, the PUC never got to the point of weighing the impacts of the plant on climate change. Instead, it determined that the waiver of the bid requirement that Hu Honua was granted when the commission first considered its request – back in 2008 – was no longer valid.

This time, Hu Honua appealed, challenging the PUC's decision to void the waiver. Last month, the court issued its unanimous ruling. By not considering greenhouse gas emissions at all but by preemptively voiding the waiver, the PUC had not complied with the court's earlier ruling, requiring it to

weigh greenhouse-gas impacts of the plant's operations.

In its conclusion, the court reaffirmed its order in the first case, quoting from that ruling: The PUC hearing on remand must "include express consideration of [greenhouse gas emissions] that would result from approving the [power-purchase agreement, or PPA], whether the cost of energy under the [PPA] is reasonable in light of the potential for GHG emissions, and whether the terms of the [PPA] are prudent and in the public interest, in light of its potential hidden and long-term consequences."

Maui Water Win: First Circuit Judge Jeffrey P. Crabtree has sided with the Sierra Club, Hawai'i Chapter, in its lawsuit over the Board of Land and Natural Resources' ongoing issuance of year-to-year revocable permits for water use to Alexander & Baldwin and its related companies. The permits allow the diversion of up to 45 million gallons a day from four areas in East Maui.

On May 28, Crabtree issued an interim order finding that the club's due process rights were violated when the board approved the renewal of the RPs last November. The club had asked for a contested-case hearing on the extensions, but the board denied the request.



PHOTO: HU HONUUA

Hu Honua power plant.

Last year, Crabtree heard arguments in an earlier Sierra Club challenge of the permits awarded in 2018 and 2019. In his decision in that case, handed up in early April, Crabtree upheld the RPs, agreeing with the state and the diverters (A&B and Mahi Pono) that the new, diversified agricultural uses on land irrigated with the East Maui water deserved some time to figure out actual water needs.

Crabtree addressed the apparent disconnect between that decision and the one issued in late May, writing: "Defendants' arguments that Sierra Club already got the required due process because water permits were litigated in a trial in this court in 2020 are not persuasive. ... [T]he Sierra Club offered or had available to it new evidence on the permit renewals – information and issues which apparently arose after the trial. As just one example, [the Department of Land and Natural Resources's] own Division of Aquatic Resources recommended that restoring four more of the streams should be a high priority. In addition, more recent reports showed significantly less water was needed for off-stream uses than previously estimated, yet the proposal for the revocable permit extensions was to take more water out of the streams, not less."

While Crabtree ordered the RPs vacated, he stayed the effective date of that order to June 30. During this time, the parties may submit to the court requests "on whether or not the court should modify the existing permits, and how, or whether the court should leave the existing permits in place until their current expiration date." "If no such further requests are filed by 4:00 p.m. on Wednesday, June 30, 2021, the stay ... is lifted" and the revocable permits "shall automatically be vacated without further order of this court."

Environment Hawai'i

421 Ka'anini Street
Hilo, Hawai'i 96720

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Environment Hawai'i is published monthly by Environment Hawai'i, Inc., a 501(c)(3) non-profit corporation. Subscriptions are \$70 individual; \$120 non-profits, libraries; \$150 corporate. Send subscription inquiries, address changes, and all other correspondence to

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Environment Hawai'i is available in microform through University Microfilms' Alternative Press collection (300 North Zeeb Road, Ann Arbor, Michigan 48106-1346).

Production: Tim Officer

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ISSN 1050-3285

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Quote of the Month

"It seems incredible to imagine that there aren't going to be things that aren't fixed. The risk is way too high. It's just not a reliable system."

— Honolulu Board of Water Supply attorney Ella Foley Gannon on the Red Hill fuel storage facility

HoKua Place Witnesses Grilled On Housing, Water, Wetlands

“Put it this way: You’re not just passing on a developer, you’re rendering a decision that has an impact on the value of the land, okay? Keep in mind the value of the land as you go through this.... I want you to think that if you add value to this land, going forward, it may not be the same developer, it may be a better developer. And the county can get in there, do things. At the end of the day, you know, maybe it gets sold. Or they get a partner, or something like that.”

With those words, Paul Richard “Ricky” Cassidy, testifying as a housing market consultant, concluded his appearance before the Land Use Commission as it considered the petition of HG Kaua’i Joint Venture, LLC (HGKJV), to approve a plan to put more than 700 housing units on about 96 acres of land outside of Kapa’ā, Kaua’i.

Cassiday’s words provoked an immediate reaction from commissioner Dawn Chang. In his unguarded, voluble, pontificating way, Cassidy had blessed the very behavior that has troubled the commission for decades: that their approvals of boundary amendment petitions were at times nothing more than a step in the speculator’s effort to jack up the resale price of raw land.

“You said that’s what’s before us, that this petition added value. And you’re absolutely correct. That’s exactly what this petition does. It adds value to this property, with no guarantees that it will be done the way that it’s presented to us. Eighty-three million dollars in infrastructure costs, affordable housing – there is no guarantee. But he could then sell the land at an extremely valuable increase, because of the new zoning. And then somebody else is going to come in and say –”

Chang stopped herself mid-sentence. “And I’m going to apologize. I’m making much more of a comment than a question.”

Additional testimony from other consultants and representatives failed to allay the commissioners’ concerns about the project’s feasibility.



Housing

Cassiday told the commission that he was approached to work on the project some eight years ago by former classmate Peter Young. At the time,

HoKua Files Motion To Withdraw Petition

On May 27, just as *Environment Hawai’i* was preparing to go to press, William Yuen, attorney for HGKJV, LLC, filed a motion with the Land Use Commission asking that the company be allowed to withdraw the boundary amendment petition. That petition was to allow the development of 769 housing units, both single- and multi-family, on about 96 acres of land outside of Kapa’ā, Kaua’i.

The LUC’s hearings on the petition were the subject of a long article in our May issue. And, as readers see here, they are also written up in this issue of the newsletter as well.

We print the article reporting on the May hearings without reference to the withdrawal. The April and May reports together provide, we believe, insight into why HGKJV management decided the best course of action, at this point, was to ask the commission to allow it to pull the petition.

The commission has not set a date to hear arguments on the motion.

Young, a one-time chair of the Board of Land and Natural Resources, was preparing the environmental impact statement for what was called Kapa’ā Highlands. (The draft EIS overseen

by Young was deemed insufficient by the LUC in 2015; following that, the landowner retained Ron Agor, a Kaua’i architect and one-time BLNR member, to take over the job.)

According to Cassidy, the pent-up demand for housing on Kaua’i stood at 1,432 households. But, as the Kauai Planning Department’s Chris Donohoe noted, a study commissioned in 2019 by the Hawai’i Housing Finance and Development Corporation found that the demand for affordable housing alone on Kaua’i was 4,281.

Was Cassidy aware of this?

“I glanced at it,” he said, going on to cast shade on the firm that conducted the study, SMS. “I glanced at the things that I know really well. And I know what I know really well. I’m pretty unique. SMS is what I used to call when I worked in Washington somewhat of a contract researcher. They’ll go all over the place. We called them beltway bandits when I was in D.C. They have grown a pretty good practice on skimming gross numbers, census numbers. ... Yeah, I looked at it... The problem they have is they do surveys. You get called or you get something in the mail. The low end of the market doesn’t speak English or doesn’t have time to work on it. So a lot of the survey part isn’t very good.”

“Four thousand two hundred eighty-one differs from your testimony that only 1,432 units are needed,” Donohoe said.

“And I’m happy it does,” Cassidy said. He went on to explain that his work differs from SMS’s in that he works with builders. “These guys,” he said, referring to SMS, “you know, sit in an office downtown.”

The environmental impact statement had pegged the prices for the 231 “affordable” housing units to be included in the HoKua Place development at between \$175,000 and \$275,000. Cassidy’s study, however, put the projected cost at between \$225,000 and \$480,000 for units deemed affordable to one- to two-person households earning between 80 and 120 percent of the area median income.

Bianca Isaki, representing the intervenor, Liko Martin, noted that Cassidy’s study assumed that 88 percent of the future buyers would be full-time Kaua’i

Continued on next page

HoKua from Page 3

residents, while 12 percent would be investors or non-fulltime residents.

“That was my assumption, given my expertise,” Cassidy replied.

But, Isaki pointed out, a study led by Eugene Tian, the chief economist of the state Department of Business, Economic Development, and Tourism found that statewide, the percentage of out-of-state home buyers is 20 percent, while on the neighbor islands, it is twice that.

“Eugene is a good economist,” Cassidy acknowledged, “but I find the data set needs to be interpreted by somebody who understands the facets of it. One of the things is the addresses on the data set. Say you own a property and you have an address that’s local. You’ll count that as a local unit. But what if your next-door neighbor asks you to send his tax bill to your address. That skews the data. It wouldn’t be my data.”

Dan Giovanni, the commissioner from Kaua’i, asked Cassidy about the impact of the pandemic on housing.

“The pandemic hit, and everything ground to a halt,” Cassidy said. “And then after, around the third quarter, but before that, you saw people seeping into the island to buy homes. That seepage turned into a wave and now it’s engulfing the island. It’s gone from the high end to the lower priced segments.”

Giovanni asked how the pandemic has affected the low-income families that are striving for their first home.

Cassidy: “This is just me looking around Kaua’i. A lot of people are out of work. The Harley-Davidson store ran out of bikes ‘cause people were buying

bikes for their kids. The other thing, surfing. The thing of the stimulus money, that was a big deal. The other thing that happened on Kaua’i that was pretty cool, people sharing resources, the barter economy. The giving economy. To my mind, those families – second, third, fourth generation — they did what they did in every disaster. They all banded together. The stimulus money coming from the outside helped them survive. Guys who didn’t have that either had to belong to an affinity group that would support them.... Ones who didn’t have that grouping, they left the islands.”

“Would you describe overall it as a form of survival during a tough time?” Giovanni asked.

“I might dial it back a little bit,” Cassidy replied. “It wasn’t like there wasn’t any food. The mortgage didn’t need to be paid. The landlord didn’t need to be paid. The status. It wasn’t life or death survival. It was a mental condition that turned out pretty good at the end of the day. So far, so good. Touch wood.”



Water

One of the most anticipated witnesses was Tom Nance, who testified about the availability of fresh water resources to serve the development. A well drilled in 2006 near the southwest corner of the proposed development site punched through a nearly impermeable geologic feature that Nance described as an aquiclude into a deeper aquifer.

This well was drilled “crooked as a dog’s hind leg,” Nance said, and the state Commission on Water Resource Management ordered it years ago to be sealed and abandoned (something that has not yet been done). Nonetheless, Nance continued, pumping tests showed that there was enough quality water in the aquifer to meet the development’s needs.

Nance testified that a new well drilled near the old one would have the same characteristics and would be a viable source of potable water to the HoKua Place development.

Donohoe, the county attorney, questioned Nance on the sufficiency of the proposed well.

“There are three issues to consider,” Donohoe said. “Source, storage, and transmission. So with regard to HoKua, an analysis would be needed to see if the current system has enough of these to serve the water needs of the proposed development.”

Nance demurred. “That’s not exactly the case, but I’m not prepared to testify to that. I’m testifying on the viability of the onsite well.”

But, Donohoe continued, “You said the maximum requirement is 610,000 gallons per day,” a figure that, he added, would translate to 424 gallons per minute.

Again, Nance ducked. That estimate of demand was made by the project engineer, William Bow, he said, and while it might be sufficient for a private water system serving the development, he was unsure whether it would meet the county demands if the development were to be linked to the county water system.

Nance also acknowledged to Donohoe that he had not determined if a new well for the project would affect other water systems and water sources, although he said it could. However, he added, “Because we’re drawing from deep water, the reality is that pumping from this aquifer is not likely to impact surface water, much less other water uses.”

Donohoe pressed Nance on a number of other issues. Had Nance analyzed how the use of the well might affect other public uses? (No.) Had he consulted with the Commission on Water Resource Man-

Continued on next page



The wetland that would have been part of the area to be redistricted to Urban under the HoKua development plan.

HoKua from Page 4

agement? (Yes, but only to determine the status of the well drilled in 2006.) Was Nance familiar with the Kaua'i Water Use Development Plan? (No.)

Was the proposed use of water reasonable and beneficial? (Nance said he believed it would be.)

Would the use harm any public trust or waters in their natural state? (Nance said he didn't think so.)

What about the exercise of Native Hawaiian Rights, would they be affected? ("I don't believe it will," Nance said, "but I'm not aware of any downstream traditional practices using water. This is a deep aquifer that discharges to the ocean.")

Was Nance aware that a public trust analysis of the proposed water use would need to be conducted at the county level? (No, he said, he was not.)

Donohoe's tough questioning reflected the kinds of issues that were raised when the county's Planning Commission was challenged over its denial of a permit to a water bottler. The case, *Kaua'i Springs v. Planning Commission of Kaua'i*, established the rigorous standards applicants for water permits would need to meet. (For background, see "Hawai'i Supreme Court Reaffirms Government Duty to Protect Public Trust," *Environment Hawai'i*, April 2014.)

In response to questioning from Alison Kato, representing the Office of Planning, Nance said he assumed a new well was needed because there was not sufficient water available in the public water system.

Was the new well sufficient to serve both the residences and facilities on the 96 acres subject to the LUC docket and the 16 or so agricultural lots that make up Phase I of the HoKua Place development? Kato asked.

Nance said he assumed it was for both, but was not sure. He hadn't been involved in any discussions about the ag lots, he said.

On behalf of the intervenor, Isaki asked Nance if he was aware that wells in the Lihue basin had experienced reduced productivity in recent years. Yes, he was, he replied, although he was not certain that the proposed well site was within the Lihue basin.

Isaki queried Nance about what Nance described as an aquiclude separating the shallow aquifer from the aquifer that was proposed as a source for the development. Referring to the earlier well drilled on the HGKJV property in 2006, she asked Nance if he was aware that when the Water Commission reviewed the drilling log for that well, staff concluded that no aquiclude was present at that depth.

"I'm aware of that and I absolutely disagree and we just went through a similar analysis for Moloa'a 1," a nearby well that is being drilled for the county, Nance said. "It's unfortunate that the Water Commission staff just hasn't had the experience of drilling through the Koloa volcanics. You've got layers of poorly permeable lava layers of mud and the realities are you can get small little freshwater bodies on some of these impermeable layers and the assumption that there's collective permeability vertically through it is absolutely incorrect."

Commissioner Gary Okuda established that Nance was not involved in the preparation of the final environmental impact statement and that Nance had, in his own words, only "looked briefly" at some of the sections.

"In your review, however brief it was, of the final environmental impact statement, did you see anything ... which you can specifically point out to us, so the record is clear, which included matters that were discussed by the county of Kaua'i attorney today, the Office of Planning attorney, or the intervenor's attorney? Can you point to where in the final environmental impact statement those issues were discussed?" Okuda asked.

"I can't," Nance replied.

Okuda: "Can you recall, to the best of your knowledge, any such discussion of those water or water resource or water impact issues that the three counsels questioned you about? Can you recall any such discussion in the final environmental impact statement?"

"I think a number of those things that have been raised were not addressed in the EIS," Nance replied.

After Nance stated that he had been involved in the preparation of draft and final environmental impact statements, Okuda asked him if he was, in any way,

troubled "that these water issues were not discussed in the final environmental impact statement?"

"Troubled is a strange word, because I haven't been involved in that part of the process," Nance said. "Had I been author of this section, I would've written it in a different and far more detailed way."

Okuda then asked, "If we were just to look at the final environmental impact statement, do you believe there is sufficient information ... for us on the Land Use Commission to make a reasoned decision with respect to the impact and effect and availability of water for this project?"

"I didn't review the EIS for that purpose," Nance replied, adding that he wasn't comfortable answering that question. "I was really just reviewing it to see if they had misrepresented both the existing well drilled and the proposal to drill a new one," he said.

As to what he had testified to on this day, Nance said, it only "represents my opinion of the viability of the new well."

"Your opinion is not in the final environmental impact statement," Okuda said.

"I think that is correct," Nance responded.

Commission chair Jonathan Likeke Scheuer, who has had extensive experience as a consultant on water issues, was the last to question Nance.

Given that the proposed well site is below the Underground Injection Control line, Scheuer asked Nance if pre-existing nearby injection wells would have to be removed in order for the HoKua well to be useful as a domestic water source.

No, Nance responded. "It would be up to us to prove to the Department of Health that existing sources of potential contamination wouldn't be a problem," he said.

Did Nance know how many potential sources of contamination there were?

"Little or none," Nance said.

Had Nance done any survey to verify that?

No, he replied.

Scheuer questioned Nance about the need to obtain approval from the Water Commission to drill a well as deep as that proposed.

Continued on next page

HoKua from Page 5

Nance explained that the Water Commission needed to grant a variance for any wells where the depth is greater than a quarter of the assumed thickness of the basal aquifer. "If it's basal groundwater with saline water beneath," he said, "you have the potential for upconing. It's not only a problem for the well but for the aquifer."

On Kaua'i, however, because of the unique geology of the site, Nance said, "we can put wells far closer to the shoreline than anywhere else in the state. A very large percentage of wells drilled into Koloa volcanics have to drill below what is the basal groundwater assumption... If we stuck to the one-quarter lens thickness, we'd have no water at all."



Return to the Wetlands

Following Cassiday's testimony, archaeologist Nancy McMahon reported on the survey she made of the area, which for decades had been in sugar cultivation. She insisted that if, as some members of the public had suggested, a heiau was on the site, she would have found it in the days that she walked the area.

Ron Agor, who prepared the final environmental impact statement, was the last witness put on by William Yuen, attorney for landowner HGKJV.

One of the more contentious issues raised in previous questioning of the landowner's witnesses was the presence of about three acres of wetland within the area proposed for redistricting. In the final environmental impact statement, the drainage plan – prepared in 2011 – proposed using the area as a detention basin for runoff from the development.

Since then, a new drainage plan had been prepared by William Bow that avoided directing runoff into the wetland area, at the southwestern corner of the area subject to the Land Use Commission petition.

Agor was questioned extensively about this change. In his power-point presentation under direct examination from HGKJV attorney Yuen, Agor acknowledged that an unnamed stream ran along the western edge of the petition

area and that the "wetland area could be .03 acres."

"HoKua Place will not develop the stream bed but wants to include it in the Urban District," Agor stated in the presentation.

The draft EIS – "produced by my predecessor," Agor stated – "spoke about point three acre of wetlands that are on the property but not necessarily within boundaries of the petition area."

The final EIS included in an appendix a soils map prepared in 2018 by the USDA office in Lihue that identified just that small area near the southwest corner of the petition area as "marsh."

"Keep in mind that the USDA is the entity that delineates wetlands in the community," Agor said. "That map, dated May 5, 2018 – the 3.8 acres that suddenly appeared – was not on that map."

The map that the Office of Planning included in its list of exhibits in the LUC proceedings showed 3.3 acres of wetland inside the area proposed for redistricting. It was generated by the Hawai'i Statewide GIS program, based on the U.S. Fish and Wildlife Service's National Wetlands Inventory.

Agor cast shade on the FWS map. After seeing the Office of Planning exhibits, "I went onsite [sic] and searched for the Fish and Wildlife map. And the only map I could find was a map developed in 2019 that shows the 3.3 acres.

"So I believe, I strongly believe, that Fish and Wildlife acted on developing their own map. Once the wetlands are delineated in the community, the U.S. Fish and Wildlife, whose objective is to protect fish and wildlife, have a tendency to develop their own map and expand the wetlands."

"My feeling is that when we sent out the draft EIS to all of the agencies, including Fish and Wildlife, it was then that Fish and Wildlife decided to address the area and it was then that they developed their own map and labeled a 3.3 acre part of kula lands as wetlands.

"So here's the fun part. Fish and Wildlife – and I'm okay with them developing their own map; they have a mission to protect fish and wildlife, so that's okay – they categorized that 3.3 acres as a certain type of wetland."

Agor agreed with the FWS categori-

zation as less than 20 acres, but he took exception to the characterization of the wetland as having standing water. "There's no chance of this 3.3 acres having a body of water. The land slopes a minimum of 15 percent in one area but for the most part it's 30 to 40 percent. So there's no way water can accumulate in a pond-like situation."

He also said the FWS identified the wetland as having characteristics of a coastal wetland, a characterization he disputed. The wetland on the HGKJV property, he said, was instead characterized by silted clay.

A photograph taken by Agor shows what seems to be an overgrown, unpaved cane haul road, with a steep slope on the right side of the photo. He described the vegetation as Java plum on the slope and hau bush where the slope leveled off on the opposite side of the road. There was no standing water visible in the picture.

After Agor stated that there never was any intention of building on the site, Yuen asked him if it was appropriate to include the wetland within the petition area.

"I needed it to be included," Agor replied. "When we start out planning at the county area, if we end up with a density of ... 10 units per acre, 3.3 acres converts into 33 units." And, with the developer's intention to provide 30 percent of the units to be sold at "affordable" rates, that translates to nine affordable units.

"I cannot lose 30 units," Agor said.

On behalf of the Office of Planning, deputy attorney general Kato pressed Agor about plans to protect the wetland area. Agor pledged that even though he disagreed with the Fish and Wildlife Service's map, the developer would respect it and work with the service to come up with a protection plan, including fencing to protect water birds from predators, such as feral cats. At the same time, he said, he would still appeal the service's designation to the state Division of Forestry and Wildlife.

Toward the conclusion of Agor's testimony, Lance Collins, representing the intervenor, asked a question that had left previous witnesses stumped: "How did you folks get the name HoKua Place?"

"HoKua Place was discussed with Mr.

Continued on next page

HoKua from Page 6

[Greg] Allen and myself. And, really it refers to looking out and seeing the horizon meeting the sky. And, certainly from HoKua, looking out, you can see the horizon of the ocean and its integration with the sky and sometimes you don't know the distance between the sky and the ocean. Something like that."



The Developer Is Recalled

Agor was the last witness to testify for the developer. But before Yuen closed his case, he recalled Jacob Bracken, one of the managing members of HG-KJV LLC.

From his office in Utah, Bracken verified certain documents submitted as exhibits, including an overall cost estimate prepared by Agor and William Bow, the engineer retained by the company.

For infrastructure (not including off-site improvements that may be needed to accommodate sewage capacity), project costs were pegged at \$83,411,400. Vertical construction was estimated at \$211,988,800. "Soft costs" – permitting, financing, fees – were estimated at \$44,310,30. The total came to \$340 million. Yuen asked Bracken how he anticipated financing this.

"We have secured some significant lines of credit already," Bracken replied. "We have approximately \$30 million available for the project to get going. We have spent in excess of \$10 million to date in acquiring the land and, you know, getting us to this point. In addition to that, we do plan on getting as much traditional financing as we can. As we [sic] are aware, we're involved in other real estate projects that are currently profitable and are cash-flowing. In fact, you know, we do have the ability from existing operations at sister projects to cover those same cash flows as well. But our goal, our plan, would be to utilize as much traditional financing as possible."

The cost projections from Agor anticipated that about \$85 million would be required at any one time to keep the project moving forward. How, Yuen asked, would HGKJV meet this need?

"We are not a licensed contractor in Hawai'i, so we look on relying on or

selling lots to either partner with or sell lots to local contractors for the vertical construction," Bracken said. "That's typically how we do much of our development."

Collins asked more specific questions concerning the financing. "You previously represented the petitioner has access to a \$5 million revolving loan," Collins said, which is shared with a "sister" company that is undertaking a development in Utah, Sand Hollow Resort.

That development has access to the same funds, correct? Collins asked.

"We have not been using it. We use the Sand Hollow Resort ..."

Collins cut him off. "My question is: But it has access to that same \$5 million, correct?"

"I guess. Yes, it could. From an entity level no, but yes, I'll give you that," Bracken said, adding that HGKJV and the Utah development were both guarantors of the loan.

Collins then questioned Bracken about the claim that the company had paid \$10.6 million for the property.

"The commissioner's deed indicates the property was paid for at \$4 million at the foreclosure sale, but you value the property on the balance sheet at \$10.6 million," Collins stated. "Correct?"

Bracken agreed.

"You had said that \$6 million was a second position, a \$6 million note, correct?"

Again, Bracken agreed, adding that the \$6 million "came from a second position note we acquired at the time."

The conveyance tax paid on the transaction was \$28,000, Collins noted, which would equate to a transaction value of \$4 million.

How was this other note extinguished, how was it characterized to the IRS? Collins asked. Was it a net gain or net loss?

"I don't remember what that was at the time. It was contributed as part of equity into HG Kaua'i Joint Venture, but I don't remember the tax treatment," Bracken said.

"Are you aware of HRS 247-2, which says that the conveyance tax is based on the actual and full consideration" paid for a property, Collins asked, quoting the statute more fully.

"I understand what you're saying," Bracken said. "I would say our transfer value was the auction value. We acquired the note at an earlier time."

Collins soldiered on: "So, if the conveyance tax was paid on \$4 million, that means this other \$6 million value was not reported."

Bracken pleaded forgetfulness. "I don't know how it was done. Again this was in 2013. But I believe the value for conveyance tax purposes was the auction value it was sold at."

Even though the statute says the conveyance tax is to be computed on the total value of the transfer? Collins said.

"Again. This is going back in time quite a bit. I would say our transfer value was the auction value. We acquired the second position note at an earlier point in time," Bracken replied.

Collins posed his last question: "So that was in 2013. You testified previously that the value of this property is being valued on the balance sheet as \$10 million because of something that happened in 2013, but you're not able to explain how this other \$6 million was reported to any tax authority as actually existing in 2013."

Bracken's memory was no clearer than before. "All I can say is, we reported it, and we structured the transaction according to our legal and tax advice at the time," he said. "I can't tell you the details here, eight years later."

Commissioner Dawn Chang asked Bracken if the cost estimates prepared by Agor included traffic improvements that the state might require. "I assume that it does, but I can't say for sure," Bracken replied.

Does it include wetland mitigation, since Agor said he will accept the wetland designations? Chang asked.

"I couldn't tell you specifics, other than these are the best estimates at this time by professionals that are advising me," he replied.

"Your testimony is that it's premature" to require a performance bond, Chang noted. "You don't have development plans at this time and it's too early to tell. Is that what you're saying?"

"A bonding agent would want something, ... specific plans for what they would be bonding. Right now, we have

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guesses, you know, back-of-the-napkin guesses of what things are going to look like. We don't have a specific plan to bond against," Bracken said.

"Well, this is a pretty nice napkin that you gave to us," Chang said. "You've given us vertical construction costs of almost \$212 million. What is that based on?"

Agor and Cassidy got together and put out their best guesses on construction costs, Bracken said.

"You're telling me you don't have any designs, you just have total number of units."

Bracken said it was just on the basis of their "best guesses" of unit size, average cost, and the like.



The End Is Nigh – Not!

Once there were no further questions for Bracken, Yuen rested the petitioner's case.

In the usual course of events in LUC proceedings, the commission would now hear the case presented by the county,

Scheuer said, going on to suggest that this might not be the course followed in this particular docket.

At this point, Collins interjected, stating that he wanted to make a motion. Scheuer called instead on Okuda, who made his own motion to deny the petition. Kauai's commissioner, Dan Giovanni, provided the second.

Okuda then supported his motion with a lengthy recap of many of the issues he had raised in his questioning of the witnesses Yuen had put on. Among other things, Okuda cited the Unite Here! decision of the Hawai'i Supreme Court, in support of his position that the final environmental impact statement for the development was insufficient.

He also pointed to the commission's own statute, HRS Section 205-4(H), which requires the Land Use Commission to approve boundary amendment petitions only "upon the clear preponderance of the evidence that the proposed amendment is reasonable ... and consistent with the policies and criteria" set out in law.

"In this case here," he stated, "I believe even taking a very easy, look-the-other way, and trying to view things somewhat

in the light most favorable to the petitioner, the petitioner has simply not met its burden of proof.... I hesitate to give the entire laundry list, because, frankly, I think we'd be here a long time."

Most of the other commissioners indicated their support for the motion to deny. Edmund Aczon, representing O'ahu, was the only LUC member who openly disagreed.

Just as it seemed that the commission would be voting then and there to reject the HoKua Place petition, Bryan Yee, the deputy attorney general advising the Office of Planning, raised procedural concerns. Linda Chow, counsel for the commission itself, suggested that rather than take a vote at once, the parties should be given a chance to argue their positions.

Heeding that advice, the commission set a deadline of May 27 for the parties to submit their briefs on Okuda's motion. Collins, for the intervenor, indicated to *Environment Hawai'i* that he would be submitting a separate motion instead.

Replies to the briefs are due on June 2. The commission is to hear oral arguments at a meeting tentatively set for June 10.

— *Patricia Tummons*

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representatives stymied efforts by Frankel, Honolulu Board of Water Supply manager Ernie Lau, and others to learn exactly what had happened.

In response to Lau's question about when and how the Navy notified the Health Department about the spill, Meyer would only say that notification happened "rapidly, very quickly." It took the department's Joanna Seto to explain that the Navy called to report the spill twelve hours after it happened.

When Lau tried to probe why the call came so late, given the department's 24-hour reporting hotline, committee member and Navy official Brian Bennett cautioned, "We probably need to be careful with this line of questions. ... [It] now becomes part of the record associated with the reopening of the contested case hearing. ... Ernie is a litigant in this."

Out of concern for O'ahu's main drinking water aquifer, which lies just 100 feet below the tanks, the Sierra Club and the Board of Water Supply have

contested the Navy's 2019 application for a Department of Health permit to continue operating the Red Hill facility for at least the next five years.

A contested case on the Navy's application is ongoing. Although the week-long case hearings concluded in early February, hearing officer Lou Chang ordered that information on this most recent spill be added to the record. That information, including correspondence, vapor monitoring data, and other documentation, was due to be submitted by the parties on May 27. The DOH did not make any of it available to *Environment Hawai'i* by press time.

At the May 20 meeting, Bennett assured participants, "In due course, the information will become available," adding that the DOH is also investigating the incident.

This seemed to assuage no one.

Frankel still pressed Meyer on whether or not the leak had anything to do with the small nozzles at the base of each tank that connect to the pipes down to Pearl Harbor. A 2018 Quantitative

Risk and Vulnerability Assessment of the tank system prepared for the Navy by ABS Consulting had identified the nozzles as the most likely source of a fuel leak. An administrative order on consent between the Navy, the federal Environmental Protection Agency, and the Department of Health calls for the decommissioning of those nozzles, which are too small to properly internally inspect, coat or repair.

Meyer would only admit that the leak occurred at a pipe coupling near tanks 18 and 20, but would not say anything more, citing the Navy's ongoing investigation.

In this way, Meyer deflected Frankel's follow-up questions about whether any of the fuel had flowed near or above any of the tunnel's well lids, and whether the Navy detected the leak visually or with monitoring software. The same went for Lau's questions about how fast the Navy was able to stop the leak and whether parts of the pipeline are controlled remotely.

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Slow Progress

If it turns out that the May leak was due to an issue with the kind of nozzles that are to be decommissioned, it would underscore a point Frankel and attorneys for the BWS made repeatedly during the contested case hearing – namely, that the Navy's planned inspections and upgrades are occurring at a snail's pace.

"It seems incredible to imagine that there aren't going to be things that aren't fixed. The risk is way too high. It's just not a reliable system," BWS attorney Ella Foley Gannon said during the opening day of the hearing.

That day, Navy Commander Blake Whittle, regional fuels center officer at Naval Supply Systems Command Fleet Logistics Pearl Harbor from 2017 to June 2020, said that the pipes below the tanks, and not the tanks themselves, are the most likely site of a catastrophic release of fuel.

With regard to the nozzles, Pearl Harbor fuels deputy director John Floyd testified that only a single nozzle has been decommissioned to date, the one in Tank 5. As for the dozen-plus tanks with fuel currently in them that also have the small nozzles, he said that those will be decommissioned as each tank goes through the "clean, inspect, repair" process, over the next decade.

So the risk remains for those tanks in the meantime? Frankel asked Floyd.

"Yes. We cannot take them out of service until we complete their maintenance cycle," Floyd replied. He added that because the nozzles are an extension of the tank, they are included in the facility's semi-annual tank tightness testing, which is aimed at detecting tank leaks greater than 0.5 gallons per hour. And so far, all of the tanks tested have passed, according to that standard.

Frankel noted that the operating permit the Navy has applied for is only good for five years. If the permit is granted and the Navy requests another in 2026, "I'm going to want to know how many of these nozzles have been replaced," Frankel said.

Floyd said that four tanks are currently undergoing the clean, inspect, repair process and that at least six tank nozzles should be decommissioned during the permit period.

"So the vast majority of the tanks will still have these small nozzles that pose a risk?" Frankel asked.

"Yes," Floyd replied.

Chronic Release

While the May 6 release of possibly less than 1,000 gallons grabbed headlines, the fact that the facility might be leaking thousands of gallons of fuel a year in addition through tiny holes in the quarter-inch-thick steel tank liners is also a major concern of the Sierra Club and BWS. "Coupons" cut from the tanks at Red Hill confirm that despite its concrete casing, the exterior of the sheet metal liner corrodes.

The same ABS report that identified the nozzles as high risk points also estimated how much fuel could be released through chronic losses, should corrosion create holes in the tanks.

"Have you looked at the ABS report that estimates that over 5,000 gallons of fuel are expected to leak every single year through chronic conditions?" Frankel asked Floyd.

"I'm not sure it said that. If there is a release below the minimum detectable threshold, of .499 gallons per hour, I think, if the tank was releasing, it would release up to 4,300 gallons I believe the math comes out to," Floyd replied.

Chris Caputi, an engineer with Michael Baker International, which helps oversee Red Hill's tank tightness testing process, testified that while the method used by its contractor is aimed at detecting leaks as small as 0.5 gallons per hour, in practice, it can detect leaks as small as 0.36 gallons per hour.

While no leaks have yet been found under this process, Frankel pointed out that even Michael Baker engineers believe a groundwater threat exists.

Frankel read from a 2008 report by the company on the Red Hill facility that Caputi helped write. It stated, "One thing has remained constant since these tanks were commissioned in 1940, and that is the technology to detect leaks in the tanks still lags behind the required level of measurement needed to protect the groundwater aquifer system."

"Did I read that correctly?" Frankel asked Caputi.

"That's what it says," Caputi replied.

Secondary Containment

To prevent fuel from reaching the environment through either a catastrophic or chronic release, the Sierra Club wants the Navy to stop using the underground tanks altogether and transition its fuel to above-ground tanks, while the BWS would be satisfied with the installation of a secondary containment system within the existing tanks.

Thick concrete and gunnite walls surround the tanks. Below them is a concrete plug 20 feet thick, according to Floyd. But concrete is porous and also cracks.

"Concrete ... cannot possibility do the job that the Navy says it does," BWS attorney Gannon said during the hearing. She also noted that under the Department of Health's administrative rules regarding fuel storage tanks, a concrete encasement did not seem to qualify as the kind of corrosion protection required.

At Tank 5, there is a large stain on a wall where fuel, presumably from the 2014 spill, had penetrated. Navy witnesses estimated that the fuel traveled through at least eight or nine feet of concrete to make that stain.

Commander Whittle testified that he never saw any evidence of cracking or spalling in the concrete at Red Hill, but admitted that only a very small fraction of what's there has been inspected.

Given concrete's porosity, BWS attorney David Brown seemed to question the Navy's plans, mentioned earlier in the hearing, that the lower access tunnel beneath the tanks could hold a catastrophic release of fuel. "Are you aware of any tightness test of the lower access tunnel?" Brown asked Floyd.

No, Floyd replied, but added that an oil pressure door the Navy has installed within the tunnel was designed to hold the contents of one full tank.

To avoid any leaks due to tank corrosion, the Navy has committed to installing some kind of secondary containment system within the tanks or shutting down the facility by 2045. It's also entered into an agreement with Gaz Transport and Technigaz (GTT) to have the company conduct a feasibility study to determine whether its stainless steel membrane technology developed for liquefied natural gas containers and

Continued on next page

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ships would work at Red Hill.

The Navy's Frank Kern, whose job it is to manage the integrity of the tanks at Red Hill, testified that he was not aware of whether GTT's steel membranes have been used to contain petroleum and that the Navy hoped to have the study results this month.

At the May 20 hearing, Meyer added that the GTT technology could potentially be installed in a single tank in the next few years, and in the remaining tanks between 2025 and 2045.

Meyer also noted the Navy's partnership with the University of Hawai'i College of Engineering. The college has received a \$4 million grant for five initiatives to better understand and mitigate corrosion at Red Hill: 1) corrosion inspection and repair protocols, 2) advanced electron microscopy for corrosion products and assessment of remediation approaches, 3) concrete tank degradation inspection and retrofit, 4) hybrid multifunctional smart and adaptive nanocoating, and 5) friction surfacing coating and crack fill.

Mitigation

Whether or not the Navy did, indeed, capture all of the fuel that leaked last month remains to be seen, although the soil vapor monitoring suggests that some of it escaped the tunnel somehow. If some of it did escape, it's questionable whether anything will be done to recover it.

The 27,000 gallons of fuel that leaked in 2014 were never recovered, in part because the EPA and DOH felt that drilling holes into the basalt to look for the fuel to try to recover it might do more harm than good.

Although Meyer argued that none of the fuel from that release had been detected in drinking water, or at least detected at a level that threatened human safety, Charley Ice, retired from the state Commission on Water Resource Management's geology-hydrology section, countered, "It's actually in the aquifer right now. It's in the top of the aquifer right now."

Lau said there was some debate over what monitoring data suggest about the threat to the drinking water supply. But

in any case, "where all that fuel went, that's a question we don't know," he said.

When asked by meeting participant Melodie Aduja whether the Navy was doing anything to prevent further contamination as a result of the 2014 fuel leak, Meyer noted that natural attenuation is occurring right now.

For any future catastrophic releases, he said there has been significant discussion on building a water treatment plant.

Water Commission staffer Ryan Imata pressed Meyer for more details on the Navy's mitigation plans.

"Does the Navy have enough of an understanding of groundwater flow to have a plan to do remediation in case there's a big spill? Presumably, I assume you would drill a well, treat the water, and dump it back in," Imata said.

Meyer said more information would be included in a supplemental release detection document.

**"We obviously want to protect the water."
— Capt. Gordie Meyer**

Imata continued, "Drilling a well and having a treatment facility is going to be kind of a long process to construct." He asked whether the Navy had a strategic plan for drilling remediation wells, since it doesn't know where the next large fuel release will come from.

The Water Commission is in charge of approving all well drilling permits. And, Imata said, "We can't give a permit for a well tomorrow. We have to review to ensure it doesn't pose any risks in itself."

"We obviously want to protect the water," Meyer said, adding that there is a lot of discussion on groundwater flow in the area and different opinions about it. "Navy studies show there could be mitigation. ... When we agree on a plan, the Navy is ready to move forward," he said.

To Meyer's claim that natural attenuation was mitigating the effects of the 2014 fuel release, Ice said that even though the fuel starts to break down once it enters the soil and rock, the constituents that result "are scary for public health. Our concern is people are drinking those constituents right now."

The DOH's Joanna Seto agreed that was a concern and said her department was requiring the Navy to monitor and sample for those constituents. "We are monitoring that closely. We want to ensure we are providing safe drinking water to the community," she said.

During the contested case hearing, the Navy's counsel, Karrin Minnot, stressed that monitoring shows that the water in the aquifer beneath Red Hill is safe to drink and no petroleum constituents have been detected.

BWS program administrator Erwin Kawata admitted that was largely true, but said the agency's worry is about the possibility of detecting something in the future. "It remains an ever-present concern due to the proximity to the fuel facility," he said.

"The Navy has identified several layers of protection. ... Use of the Navy water source, Red Hill shaft, a pump-and-treat collection type well. All those

processes are testing for something outside the tank after it's released. As of right now we have heard all of these approaches, the pump and treat.

I'm not aware of any type of design or pilot to demonstrate its effectiveness," he continued.

When Frankel asked whether the Navy could treat fuel-contaminated water next week, Kawata replied, "To our knowledge, the treatment facility doesn't exist."

Although it's not meant for drinking, Frankel asked if groundwater from monitoring well Number 2 beneath the Red Hill tanks was safe to drink.

"No," Kawata replied, adding later that the risk to the drinking water supply below was substantial. "We have an extremely large amount of fuel ... 180 million gallons, 100 feet above the groundwater aquifer, information showing past leaks, studies showing high probabilities of acute and sudden releases into the future ..."

It could be months before hearing officer Chang issues his recommended decision in the case. According to Frankel, as of late May, no one had asked about cross examination with regard to the new information submitted about the May spill. Parties were set to submit their post-hearing briefs and proposed findings of fact and conclusions of law by June 14.

— Teresa Dawson

Legislature Recognizes Connection Between Maladies and Kunia Tunnel

On April 19, the state Senate passed the final form of its Concurrent Resolution 47, urging the U.S. Department of Veterans Affairs to recognize that health conditions afflicting chronically ill veterans once stationed at the Navy's underground field station at Kunia, O'ahu, are connected to their service there, "and to provide medical care and long-term services regardless of the veterans' ability to conclusively link their conditions to toxic exposure."

Senators Mike Gabbard, Clarence Nishihara, and Michelle Kidani introduced the measure this year. Last year, a similar resolution from Gabbard and Sens. Rosalyn Baker, Donovan Dela Cruz, Les Ihara, Gil Keith-Agaran, and Maile Shimabukuro never got a hearing.

In May 2019, Hawai'i News Now's Mahealani Richardson reported on the claims made by veterans Matthew Lamb, Tara Lemieux, and about 100 others that the contaminants in and around the facility were the source of their health problems. Those ailments included illnesses ranging from cancer, to respiratory disorders, to cardiovascular and neurological issues, to seizures, muscle pain, spasms, and more.

While some of those veterans have blamed their potential exposure to pesticide-contaminated water and/or soil, others have expressed their concerns about exposures to asbestos, mold, lead and other contaminants in the station, as well.

In 2016, Lamb began compiling testimonies from former field station workers who had either witnessed some type of environmental contamination and/or were suffering from a perplexing health issue following their time at Kunia.

Many commented on an asbestos removal project decades ago where remediation crews wore protective gear while the station personnel continued working around them without any special protections.

"I remember getting stuck on the detail watching the guys doing removal. They were all suited up and we were just standing there," one of them wrote.

The Department of Veterans Affairs'

webpage on the station all but dismisses the claims that the suite of health conditions former personnel are experiencing — or have died from — are tied to the station.

"Veterans might be concerned about health effects from serving at KFS and being in the general area around the facility. The main threat at KFS was exposure to mold and high humidity. Any symptoms from this exposure should have cleared up soon after leaving the area. No other environmental or human health hazards have been found in the area," it states.

As to claims of harmful exposures to pesticide-contaminated water or soil, the site concedes that "Del Monte used pesticides in the area, but not near KFS."

It goes on to note that a pineapple fumigant was spilled in 1980, which resulted in the shutting down of a water well contaminated with trichloroethylene (TCE).

"The Army Public Health Center and the Center for Disease Control and Prevention investigated and concluded that the concentration of TCE and the duration of exposure were not likely to pose a significant health concern," it states.

With regard to soil contamination, the site notes that in 1993, "waste oils, including polychlorinated biphenyls, and lead contamination were found in two spots

in the soil, but testing showed no threat to human health or the environment.

"In June 1994, the Army found that a diesel underground storage tank posed an environmental problem. They removed the tank and the contaminated soil below it. The Army thermally treated the soil and placed a plastic liner over the excavation site to prevent any infiltrating water from reaching the groundwater below."

Army Corps Report

That's it. The Veterans Affairs webpage lists no other possible contaminant sources in or around the field station.

But an April 2012 U.S. Army Corps of Engineers Environmental Condition of Property report does.

It notes that in 1997 asbestos containing material (ACM) was confirmed in Building 9 (floor tile and mastic, baseboard mastic, drywall, pipe insulation, duct mastic, transite panels, and ceiling tile mastic) and in the floor tiles of Building 31. Floor mastic in Building 25 was also assumed to contain asbestos.

"With the exception of some minor physical damage, the majority of the ACM was in good condition. Exposure to asbestos fibers is unlikely, as long as these materials remain in good condition and are not disturbed," the report states.

It did indicate that the station's nuclear, biological, or chemical threat (NBC) units, designed to protect personnel, were also found to contain asbestos.

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Those units consist of a particulate filter, gas filter, and a fan/motor assembly. The original particulate filters were made with pleated layers of heavy asbestos-bearing filter paper.

Although those filters were reportedly replaced with a different material in the early 1990s, the report states, "personnel noted a white, powdery substance on the inside frame of a gas filter, and conducted swipe sampling to check for asbestos in 1999." Testing of the system found that the swipe sample and a connection gasket contained chrysotile asbestos.

Samples collected from the air ducts had ACM.

"The detected concentrations indicate that asbestos or ACM has been airborne at some point in the past; however the dust is found in areas unlikely to be disturbed and there is no immediate threat to human health. Abatement of residual asbestos dust was recommended for the NBC filter units and for HV AC supply ductwork. Cleaning of the entire building of dust was also recommended, as was further investigation of the ventilation area beneath floors. The recommended actions have not been implemented," the report stated.

In 1994, a preliminary investigation/site assessment of a microwave tower area at the station recommended that TPH-, lead-, and PCB-contaminated soil be removed. Removal occurred in 1997.

The report goes on to describe a diesel fuel spill at a site known as the Pineapple Field Fuel Box that occurred during 1970 and 1972 from Fuel Tank No. 8.

"An unknown volume of fuel saturated the adjacent pineapple field and spilled across Kunia Road. No record of additional investigation was found.

"[A]ll remedial action has not been taken to address this issue. ... [A]ction

on this past release will be conducted by the Army. No further investigation or cleanup action has been programmed. Concurrence for no further action has not been received from" the Hawai'i Department of Health.

The report also notes that in 1991, 15 30-year-old transformers within the tunnel complex were removed.

"The transformers were active at the time of removal and some of the transformers were dry, but most of them contained PCBs. The location of the 15 transformers is unknown," the report states.

The Army did not have any plans to investigate the areas around the former transformer areas, the report states. This, despite the fact that the Navy has found PCB contamination of soil and concrete at other naval facilities.

The Army Corps categorized the site as one "that may have had a release of hazardous substances, but have had no sampling or field screening and require such investigations to confirm that a release has or has not occurred."

Silent Sentinels

In her testimony supporting SCR 47, Lemieux wrote, "We were the 'Silent Sentinels of the Pacific' – watching from our hidden perch, unaware of the dangers lurking in the soils overhead. Though the pesticides and other fumigants had been banned for sale in the United States, they were still widely in use by the Del Monte plantation. And, with each new rain their poisons lurched further still; through the porous dirt and cement walls; into the lead pipes which supplied our only water source; through the ventilation intake set ironically in the center of the very same fields. At night, the roads were sprayed to control the clouds of fumigant dusts; as were the fields used for our military

formations."

Lamb, who said he witnessed the asbestos cleanups from 1986 to 1988, testified, "[W]e were not provided any respirators or hazmat uniforms on the ops floor ... during these cleanups."

He added that he saw lead paint being ground off the walls, as well as many days of "a foul stale smell inside, stuffy conditions, unregulated temperatures, smoke entering down into the facility, liquid running down some of the walls especially inside the stairwells. The liquid had a chemical type of smell. Dust clouds would enter inside the facility too and out in front of the entrance when the fields were being cultivated or the pineapple field or parts were being burned around and above the Tunnel. Dust clouds would blow down on top of us sometimes while standing out in formation outside the entrance before and after shifts. It would cause irritation in our eyes and throats plus coughing! We would have fire drills from time to time and go up the stairwells and be standing in those pineapple fields we could smell the chemical pesticides, herbicides, fumigants smell and would go back down inside as quick as we could!" he stated in his written testimony on the resolution.

He listed the many health problems he now suffers from, and noted that his wife, who also worked at the station from 1985 to 1990, later died of cancer.

The Senate committees that heard the resolution also noted that a 1992 EPA report found multiple contaminants in groundwater and soil at the Kunia Field Station, and a 2000 report by the Navy and National Security Agency "indicated the presence of arsenic and lead in the field station's air intake system, as well as moderate to high levels of fungal contamination due to air ventilation problems and high moisture levels." — *T.D.*