

Disaster, Resilience, International Affairs, and Planning Committee (2023-2025) on 2024-02-21 1:30 PM

Meeting Time: 02-21-24 13:30

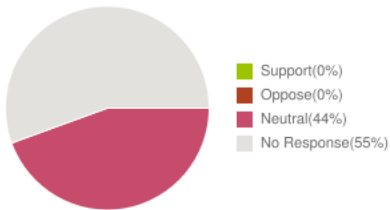
eComments Report

Meetings	Meeting Time	Agenda Items	Comments	Support	Oppose	Neutral
Disaster, Resilience, International Affairs, and Planning Committee (2023-2025) on 2024-02-21 1:30 PM	02-21-24 13:30	2	9	0	0	4

Sentiments for All Meetings

The following graphs display sentiments for comments that have location data. Only locations of users who have commented will be shown.

Overall Sentiment



Disaster, Resilience, International Affairs, and Planning Committee (2023-2025) on 2024-02-21

1:30 PM

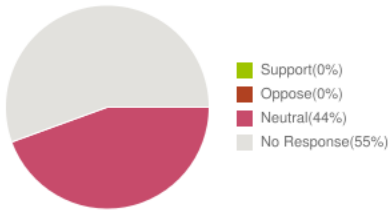
02-21-24 13:30

Agenda Name	Comments	Support	Oppose	Neutral
DRIP-2(14) ALTERNATIVE 2023 WILDFIRE DEBRIS PROCESSING SOLUTIONS (DRIP-2(14))	9	0	0	4

Sentiments for All Agenda Items

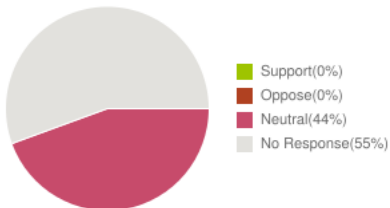
The following graphs display sentiments for comments that have location data. Only locations of users who have commented will be shown.

Overall Sentiment



Agenda Item: eComments for DRIP-2(14) ALTERNATIVE 2023 WILDFIRE DEBRIS PROCESSING SOLUTIONS (DRIP-2(14))

Overall Sentiment



Brian Lehmann

Location:

Submitted At: 3:48pm 02-21-24

Pursuant to my call-in testimony of 2/21/24, these are links to H Power in Honolulu:

<https://www.covanta.com/where-we-are/our-facilities/honolulu> and <https://www.honolulu.gov/opala/trash-collection-and-disposal/hpower.html>. As I mentioned, they purport to be processing 85-90% of post-recycling municipal solid waste already, and also providing 10% of Oahu's energy use. I may have incorrectly applied the term pyrolysis to this facility, so I want to clarify also, such may be coming soon to Oahu as well, as per this link: <https://www.civilbeat.org/2024/02/oahus-construction-waste-could-become-food-for-crops-at-a-new-kapolei-facility/> Thank you.

Guest User

Location:

Submitted At: 3:21pm 02-21-24

Part 2/2

Public health and safety:

- No need for double loading and unloading the debris will mean half the exposure for the workers to the toxic debris. At a lower intensity than the workers, but still considerable, the whole community will be spared of the extra exposure to toxins that will become airborne and that will contaminate the roads.
- Contamination of farm land and the ocean from having the TDS and the PDS located only a short distance away, as well as further contamination by toxins entering the food chain.
- Less trucks on the roads means decreasing the chances for accidents. Also, emergency vehicles can reach the destination faster and conceivably that would save more lives.
- Potential contamination of underground potable water.

Environment:

- Less environmental contamination, as the debris would not be stored in the open TDS, and would not be loaded and unloaded twice, which increases airborne toxins, in a cumulative manner. Daily measurements of PM2.5 are important but not sufficient, considering the large amount of debris and the long span of time for handling the toxic debris; we need to know how much of those under- and over- threshold PM2.5 values account for over time.
- Less contamination on the roads, by limiting what is dragged on the tires, as the trucks would drive over the toxic material to unload and reload. The toxins would spread into every place of Maui, but packing the debris directly into the containers would drastically reduce the contamination. The procedures would be simplified because there would be no need to constantly wash trucks and roads. It is not clear to me where is that water from washing the trucks and the roads draining? Just suspending the dirt in water and moving the water around doesn't remove the toxins from the environment. That water should be collected, otherwise it's like we keep washing our hands in the same water bowl over and over and then using that water for like making soup. Also, we've been told the trucks drive over a platform to empty the debris, but videos are showing how trucks drive directly into the pit, over where debris was previously laid and flattened by bulldozers driving over it and mixed with clean soil, spread by the same bulldozer. Also, dust is created as the bulldozer drives over the debris to flatten the burrito.
- More environmentally friendly, because less material would become contaminated (the operations layers at the TDS). Would the permanent site also need the same clean soil added as operations layers (over the liner and daily)?
- More environmentally friendly because 6.7 times less truck trips would be needed, just for the transportation from the TDS to the PDS. To this the transportation from Lahaina to the TDS would be added. However, the containers would need to be shipped to Maui, which has its own environmental impact. Also the environmental impact of the production of the containers needs to be balanced out, though hopefully containers that had already served previous purposes would be procured. On the flip side, if loading in containers, possibly the burrito plastic liners would not be necessary anymore.
- No need for the management of the toxic water from the rain that falls over the TDS and PDS, and if PDS at CML that will continue operations the management of leachate from the added organic matter and from the rain water, for the years to come until the section is filled at capacity and finally covered.

In essence, less exposure and contamination to the 'ina, the ocean and the people, less hazards, less resources would be needed: less materials, less trucks, less gas, less working force, less monitoring and possible remediation and way less time, because the work would be less than half that is needed with the current plan. More of the resources could go to the reconstruction, like the extra soil to cover the toxic material could go into filling the scrapped lots from Lahaina. The trucks and the labor force could be used for the reconstruction, instead of carrying the toxic debris from one site to another. The concrete extracted and recycled from Lahaina could be used to prepare a site to place the containers.

For perspective, to touch on two other aspects that has been brought up regarding the acquisition of containers (Kahului Harbor operations volume and supply issues):

- Statewide cargo volumes per year, for the past 5 years are at about 1.6-1.7 million TEU (1TEU is a 20 ft

container). We need 11,905 TEU;

- Kahului Harbor yearly cargo volume, for the last 5 years was ~ 2-2.3 million tons; cargo volumes were even higher prior to 2018 (sugarcane era), at 2.5-3 million tons. I could not find statistics on how many TEU were processed per year, but for a very rough estimate: if loaded at maximum capacity, 2 million tons would correspond to about 60,000 TEU. Probably much more, because most containers are not filled at maximum weight. Considering the statewide volume, maybe somewhere around 100,000-150,000 TEU would be conceivable.
- To get an idea for the number of existing containers on the market: today over 17 million shipping containers are used worldwide.
- The big container ships carry 20,000 containers.

FEMA and the Army Corps of Engineers affirmed that the Maui wildfire disaster is in many ways nothing like they've seen before. We have a small island, with challenges to finding a permanent debris site. Everywhere we look for it is either too close to the ocean, over potable water sources, with difficult relief and/or geology, a place of high cultural significance, in close vicinity to thousands of people's homes or relatively close (3-6 miles) from where hundreds of thousands of people live and work (the central Valley), considering that the Valley is being scored by steady moderately strong winds and frequently by strong winds in different directions, and with a lack of natural barriers (dense forests, large water bodies, hills, or mountains) in between the potential landfill and the residential areas. We need to think out of the box, to implement a solution that will address all these issues. Actually it seems like we need to think about the box (the container), because that seems to be the one solution that would address, in the best way possible, the contamination of land, the impact on the environment, the impact on the infrastructure, and the most important of all: the safety and long term health of Maui's people. Do we all not want what is best for our community? Aren't we all interested in getting done with the debris removal process in the safest and shortest way possible? It seems like the container solution is the one that would benefit all of us, except for the few that would benefit when more work needs to be done. We need that "more work" focused on reconstruction and increasing the island's resilience in face of more and more adverse weather events.

Bringing 11,905 containers to Maui within the next months will be a challenge. But having the traffic impacted for the next year on the west side, and for another year or even longer across most of the island (if PDS would be at CML) in 39,900 truck trips, would not be anything less than a "massive undertaking". If somebody told us a year ago that in the next 6-12 months we'd have to find housing on the island for 8,000 new people, and to consider using only 97% of the residential housing stock (because 3% is gone), nobody would have thought that is even close to being possible, as we were already struggling with a housing shortage. Despite that, we are putting in all the efforts into getting that done, because we have to! And so, if we really want to, we will manage to procure 11,905 20 ft containers. When there is a will, there is a way. It is in the DNA of this country to make what seems impossible possible!

I appreciate your attention to this matter and believe that advocating for the use of containers for the direct storage of the Lahaina fire toxic debris aligns with our shared commitment to what is pono for our community. Your support in championing this cause would be invaluable.

Thank you for your consideration of my testimony, and I look forward to the positive impact it could bring to our community.

Gabriela Odent, DVM, PhD

Guest User

Location:

Submitted At: 3:17pm 02-21-24

I had already submitted this document through email, but because I don't currently see it posted as a document under the agenda, I will submit it again here, in 2 parts

Part 1/2

“Aloha Chair Tamara Paltin and Members of the DRIP Committee,

My name is Gabriela Odent. I am a Maui resident, testifying because I am concerned about the environmental and health impacts regarding Lahaina toxic debris removal and disposal. I advocate for utilizing 20 ft open-top containers for the toxic debris disposal, as opposed to depositing it in a Maui Landfill. My testimony will elaborate on the myriad of benefits associated with this approach, related to efficiency, flexibility, the environment, and public's health.

I want to start by addressing the two practical limitations that have been brought up in previous Public meetings against using the containers:

- The way a container is loaded from the back end and operations would be impossible: There exist “open-top” containers that, once loaded from the top with debris, can get covered with a steel roof (Corten steel roof) and can then be stacked like any other containers. Here is a link for some information on open-top containers <https://www.mobilemodularcontainers.com/blog/open-top-shipping-container> (I have no affiliation with this website or any related businesses.)

- The containers have a weight limit that makes them not so efficient for dealing with heavy debris (1:1 tons to cubic yards). Because, in our case, the limitation is the weight, the most efficient are the 20 ft containers. The 40 ft containers are way less efficient. Please see below (container specifications are from the website mentioned in the previous paragraph):

20 ft container (Tare 2.48 tons) has a capacity of 41.85 cubic yards and payload of 33.6 tons. If tons are equivalent to cubic yards: we would be using 80% of the 20 ft container's volume.

40 ft container (Tare 4.2 tons) has a capacity 85 cubic yards, and payload of 29.4 tons. If tons are equivalent to cubic yards: we would only use 35% of the 40 ft container's volume.

If filling 20 ft containers with 33.6 tons then 11,905 20 ft containers will be needed. They will take the space and volume of 5,952 40 ft containers.

Benefits for directly containing the toxic debris at the burn site in 20 ft containers

Volume and mass: taking the debris from the burn zone to Olowalu, each day a (1-2 ft?) layer of clean soil (operations layer) is added to it, so we will get to a much larger final volume in the PDS. It is conceivable that that daily operations layer will add for an amount of more than 20% to the initial 400,000 tons, which would exceed the volume that we would lose by using containers. Also, this added clean soil mass will far exceed the weight of the empty containers, which is 7.4% of 400,000 tons (total containers' tare weight 29,524 tons). If we knew how many tons/cubic yards a truck carries, then we could compute how much more material has been estimated to be added at the TDS (39,900*tons per truck - 400,000). 11,905 20 ft containers might sound like a lot of containers, but there is no way of going around the huge volume of debris that we are removing. No matter if we put it directly in the landfill or in containers, we have that much volume and mass of debris. And actually by using containers, we will finish with less debris in total, because we will skip the operations layer at the TDS and potentially at the PDS (? I am not sure if it is managed in the same way).

Surface area: Containers can be stacked 3-4 high, or even more. The space needed for 11,905 20 ft containers in stacks of 3 is 14.6 acres, and in stacks of 4 is 10.9 acres. We might consider 40% more area needed for storage,

to accommodate for 16 ft wide alleys. That would be about 20, and respectively 15 total acres needed. Identifying a space on the island to store contained toxic material will be much easier because there will be less limiting factors in finding an acceptable place on the island. Preparing the land to store the containers will be probably cheaper and easier than building a landfill. Maybe the recycled concrete that comes out of Lahaina can be used for this purpose.

Transportation: A truck can carry 1*40 ft container or 2*20 ft containers per trip, so 5,952 truck trips will get it done. That is 6.7 times less than if we compare it to the 39,900 truck trips to move the debris from the TDS to the PDS plus the number of truck trips needed for moving the debris from Lahaina to TDS (If we would know how many tons/cubic yards a truck carries, then we could compute how many trucks are needed to move the 400,000 tons from Lahaina to the TDS). The transportation aspect is important because it has many ramifications: impact on traffic (residents' time and gas - specially as many survivors had/have to accept housing in South and Central Maui, emergency traffic access, weather related emergency situations, and Lahaina reconstruction), direct cost of more trucks driving, increased road deterioration (further restrains on traffic and cost for repairs), higher risk of death or injury from traffic accidents, higher risk of environmental contamination with the toxic debris (either from a truck being involved in an accident or because of the containment of the debris failing for various reasons).

Time: At 133 trucks per day, it will take 44.75 days to transport all the containers, instead of adding 300 more days to finish the debris removal and disposal phase, once the PDS will be constructed (another 8-12 months). Also the time for loading and unloading twice will be saved. Strong winds that occur quite often on our Island will further delay removal and disposal operations, prolonging the process even more. If the debris gets loaded into containers directly at the burn zone, the process from start to finish will be much faster and more resources can be then redirected towards the rebuilding phase, which will put residents back in their homes faster.

Cost: The price per 20 ft open top container (without the steel roof) is about \$3,300 (from the prices that I have seen on the website mentioned in the beginning). I do not have information about the cost of the steel roof, but maybe 25% of the container price would be a reasonable guess. So the total estimate for the containers may be around \$49.1M. This cost might not include the containers' delivery cost to Maui.

If everything is directly loaded into containers, it spares the cost of:

- Labor for double loading/unloading (FEMA pays for it);
- Extra material that will be added over the debris every day at the TDS (and at the PDS?) (FEMA pays for TDS, County will pay for the PDS);
- Transportation cost from Lahaina to TDS and from TDS to PDS (FEMA pays for it);
- Monitoring and managing the TDS (FEMA pays for it);
- Remediation and closing of the TDS once the debris is moved (FEMA pays for it?);
- Building a subtitle D landfill for the PDS (County pays for it; part of the building price will be indirectly supported by FEMA paying the tipping fees);
- Monitoring and managing the PDS during the phase that the debris is moved (FEMA pays for it?), and for after the operations are finished: forever (County pays for it). We leave that as a burden for the future generations. And if PDS will be at CML a more complicated and costly maintenance, as it will be continued to be in use as the island's main Landfill. Dealing with the leachate that will contain considerably more toxins than if it's just used for municipal waste, which will make it more expensive to treat and discard. Also the testing for the type of toxins that come from the fire debris is more expensive and sophisticated than what is needed for common municipal waste.
- Potentially environmental contamination remediation at the TDS and PDS and of the environment (land, air, water, ocean) in the vicinity of these sites during the debris moving phase.
- Remediation on the roads if potential spilling accidents happen during the long stretch of time (and distance if PDS will be at CML) over which the moving operations will take place.
- Extra repairing the road infrastructure if 39,900 truck trips will be needed (TDS to PDS) plus the ones needed from Lahaina to TDS, as compare with only 5,952 if containers are used;
- 20 years from now, potentially a Governmental Fund for paying health care bills for the many cancers and other health issues that Maui residents might suffer from the extra exposure to toxins from the repeat removal/moving of the debris from Lahaina, Olowalu and the PDS. These might include residents in the neighborhoods in the direction of wind, residents driving daily on public roads behind the trucks carrying the

debris, or on the roads contaminated with the debris. Or if, God forbid, toxins seep into the underground drinking water, residents who have consumed such contaminated water.

- Not last: time is money. Delayed allocation of resources towards reconstruction and implementing changes that can increase our preparedness and resilience in face of future severe weather events. A lot of trucks will need to be on the Maui roads, a lot of materials will need to be brought on the island and transported. If we choose the most efficient debris removal process, our limited resources can go to reconstruction and resilience, which can save us billions in future wildfire seasons, and who knows how many lives.

Flexibility: having the debris contained makes room for us or for future generations to much more easily have access to the debris and to apply debris management technologies or alternative solutions that are not currently available.

-part 2/2 in a new comment

Guest User

Location:

Submitted At: 2:57pm 02-21-24

I can't unmute

My questions are, is there any emissions?

What is your history of EPA compliance, ect.?

After a sadi donation of equipment, what kind of agreement are you envisioning?

Guest User

Location:

Submitted At: 2:41pm 02-21-24

I am submitting this comment in concern for Councilmember Kama. It looks like she is nodding to sleep at this meeting and if she is also feeling under the weather, she deserves to take some time off to get well. These are long meetings for her to keep awake for. Please get well soon Councilmember Kama!

Guest User

Location:

Submitted At: 11:31am 02-21-24

Good morning County Council,

Thank you for taking the time to listen to the presenters at this DRIP session. I am confident you quickly realize they are leaders in their respective fields and have a high degree of integrity. They have offered sincere efforts for months now to provide solutions to Lahaina fire debris, as well as continued solutions to our conventional waste streams we generate on this beautiful island everyday. I hope this time allotment allows you an open window, from which you can see how Maui can transform how we dispose of waste, and close the waste to resource loop. It is a critically important issue and, as I stated, they are leaders in this field.

Appreciate your time and open mind.

Spencer Headley

Guest User

Location:

Submitted At: 3:17pm 02-20-24

Aloha Chair Tamara Paltin and Members of the DRIP Committee,

I have a series of questions that are related to the process, monitoring and management of the 2023 Fire Debris removal, transportation, and storage. I appreciate that they might not seem directly relevant for the Agenda. However, in the context of considering directly containing the debris at the burn site in 20 ft open-top containers,

for which I have submitted written testimony for a detailed benefit analysis, these questions become relevant. If possible, and of interest to the Committee members, I would like them to be addressed:

How many tons does a truck carry? How much material is it estimated to be moved from the TDS to the PDS considering the added operations layer (the one on top of the geotextile fabric and the one added daily)?

How many tons of debris was brought to CML from the Kula debris removal? How many tons of debris was brought so far to Olowalu from the 100 properties that are already done with the debris removal? How many tons of clean dirt has been brought so far to Olowalu for the operations layer on top of the geotextile fabric and for managing the debris from the 100 properties? Where is this clean dirt coming from?

How is the cumulative PM2.5 quantified over the long period (a year or more) of daily toxic debris deliveries to the PDS? Even with daily good readings of PM2.5, chronic accumulation of the toxins over the miles of land around the PDS (which are residential areas) and chronic exposure to below threshold PM2.5 levels (as an indirect indicator of exposure to asbestos, dioxin, furans, heavy metals) over a period of a year and beyond (accumulation in the soil) will impact residents' health.

What are the wind limitations for an accurate reading for the particulate matter sensors that are being used (Purple and E-BAM sensors)? How many E-BAM sensors do we currently have on the island and can we get more of those because they are specifically designed for tracking ash, compared with the inexpensive commonly used Purple air sensors? How many sensors are at Olowalu, how many of those are E-BAM and, if not many, are they moved around to accommodate for the change of wind direction, to make sure the scattering of the debris is always being monitored downwind? How many sensors have been used at CML when the Kula debris was getting dumped? Did they had a fixed position or were they moved around to always measure PM2.5 downwind?

What protocol was used at CML to prevent the debris from becoming airborne for the Kula debris? Similar with how it happens at Olowalu or similar with the protocol at the PDS (if it is different)? Was the debris brought in a separate cell of the Landfill, and how was that closed (if) once the debris removal phase was finished?

If the new PDS is built at Central Maui Landfill, and the place will continue to operate as our regular Landfill, considering that County of Maui is not collecting Organic waste separate, and that the organic waste is known to decompose and generate liquid (leachate), this liquid, and additional water from rain, will seep into the toxic debris from Lahaina (the bottom layer). How will be dealt with all this highly toxic water? How will it be collected, tested, and how often and where will it be discarded? It seems that the advantage of having a dedicated landfill for the Lahaina toxic debris is that that landfill will be much easier to be managed, as it will be sealed from the top (as we've learned the old Olowalu dump site is), and that will prevent water infiltration into the toxic debris and the consequent drainage in the soil and ground water (at least theoretically). Is this why the County was able to consider as feasible Crater Village and parts of Wahikuli area as PDS, knowing that they stay on top of potable water? What are the proposed solutions to ensure contamination of underground water will not happen if PDS chosen at west Maui locations? The Landfill would still be open and exposed to rain water during the long phase of debris disposal.

I learned that debris loading and delivery operations are stopped at winds blowing over 35 mph. Is that including the maximum speed of the gusts or just the prevailing wind speed? Was that the process that was followed at CML for the Kula debris removal? Why is the limit not set much lower? Is this the limit that was used at previous wildfire debris removal sites? A mass of air that travels 20 mph will be 5 miles away in 15 minutes. It will carry the debris that it picked up at the Landfill. If we consider Central Maui Landfill as PDS, the residential neighborhoods (Kahului, Kihei, Wailuku, Waikapu, Pukalani, Haliimaile, Lower Kula, Paia) start at 3-5 miles away. There are no natural barriers (dense forests, large water bodies, hills, or mountains) in between all 3 proposed PDS and the residential areas. So that air that carries the toxic debris will get there in 15 minutes. What will be the protocol at the PDS to prevent the constant moderate-strong winds and the often strong winds from picking up the toxic debris? If it will be the same as at the TDS, with covering at the end of the working period, 12 hours or so of winds of 15-30 mph will pick up and deposit toxic debris downwind all over the land for miles around, over populated areas or over cultivated farm land. In the Valley the wind is blowing predominantly northeast at an average of 10-20 mph. Kihei is 5 miles away. That means that in 15-20 minutes the debris lands in the yards of people, over schools, playgrounds, parks and beaches in Kihei. Every day, for 300 days! Actually some days the wind blows towards Kahului, residential areas are 3 miles away, so debris will be there in 10 minutes, and other

days towards Waikapu, Maalaea, Pukalani, but mostly towards North Kihei and South Kihei. South Maui is 27,000 residents, 350 residents in Maalaea, 4,000 in Waikapu, 30,000 in Kahului, 18,000 in Wailuku, 8,000 in Pukalani, 6,000 in Lower Kula. About 2/3 from the fire survivors moved to Kahului and South Maui, so 4,000 more people. That is about 100,000 people. When there are Kona storms the wind blows in the opposite direction, so now all the toxic ash accumulated on the ground will be blown to Paia, Makawao, Halimaile. That is another 10,000 residents. Not to mention so many of the farms are in Lower Kula; Mahi Pono will be the most contaminated land.

Is all the data (since August 8th) from the toxicological tests performed for monitoring the environment and the municipal water posted in one place on the County page, or could it be?

Thank you for the opportunity to share my questions.

Sincerely,
Gabriela Odent, DVM, PhD

Jerry Isdale

Location:

Submitted At: 1:11pm 02-20-24

Councilmember Tamara Paltin

Chair of the Disaster, Resilience, International Affairs, and Planning Committee

RE: Testimony for DRIP Committee 21Feb2024

From Jerry Isdale, Haiku, HI

Respectful Greetings to Chair and Committee Members

Relating to the "Alternative 2023 Wildfire Debris Processing Solutions", I have some questions and suggestions.

First a bit about the use of ash debris encapsulation in construction materials.

These materials will certainly be cut during construction, releasing dust and finer debris. At some point the construction will be demolished. In both construction and deconstruction the materials disposed of somehow. That debris will contain the toxic materials, except for what may have leached out.

Questions:

What conditions need to be imposed on the disposal of that debris to keep the toxins sequestered?

How will those be enforced during construction and decades later during deconstruction?

As for the sequestering of toxins in the building materials, what is the leech rate of various toxins over time?

Are there any studies for the types of materials found in Lahaina ash in the proposed encapsulation techniques?

Does this unproven process expose our citizens to the release of such?

Observation:

I am concerned that the bulk of the comment submissions are marketing materials for general waste stream processing. While this is of concern for Maui County, it is not all that relevant to the discussion of fire debris from Lahaina. Very little is provided to document the safety of the proposed methods for the fire debris.

Perhaps sequestering most of the debris in the conventional long term storage while such studies are conducted would be the prudent approach. The companies involved should be willing to at least partially fund studies of their products.

This also applies to the use of Biochar and Mycoremediation (remediation by fungi). These are not proven techniques for remediation of the broad range of toxins reported in our fire debris. Before committing County funds to broad application of such, I suggest test plots be established with detailed monitoring of the materials and any surrounding area to determine the efficacy of the techniques and any leeching of toxins into the environment. I further recommend that similar monitoring be established around both the temporary and long term disposal sites, with the data being publically available for analysis on a timely basis.

Thank you for your time.

Sincerely

Jerry Isdale

Guest User

Location:

Submitted At: 12:55pm 02-20-24

My main recommendation is that the toxic waste from the Lahaina fire should be shipped off island and that the proposals by Clean Harbor, Pasha & Matson be implemented. If it is kept on island, it should be bio-remediated as much as possible with pyrolysis and mycelium etc. and then taken to the land near the Kahului Dump, not near water sources.

Mahalo,

Kathleen Gildred

Environmental consultant