

7. Consider oral report on response and recovery activities from Moss Landing Vistra Power Plant Fire ()



County of Santa Cruz Board of Supervisors

Agenda Item Submittal

From: Office of Response, Recovery and Resilience

Subject: Report on Response and Recovery Activities from Moss Landing
Vistra Power Plant Fire

Meeting Date: January 28, 2025

Formal Title: Consider oral report on response and recovery activities from Moss
Landing Vistra Power Plant Fire

Recommended Actions

Accept and file oral report on response and recovery activities associated with the Moss
Landing Vistra Power Plant Fire.

Executive Summary

A lithium-ion battery fire broke out at the Moss Landing Vistra Energy Power Plant on
Thursday, January 16, 2025. The event included a large fire including burning of lithium
batteries, damage to private property on the facility grounds, smoke and potential
hazardous fumes, and resulted in evacuation and road closures in the Moss Landing
area. This oral report presents a summary of the incident, response activities by
Monterey County, Vistra Energy, and actions taken by Santa Cruz County.

Discussion

This oral report presents a summary of the incident, response activities by Monterey
County, Vistra Energy, and actions taken by Santa Cruz County. When the lithium-ion
battery fire broke out at the Moss Landing Vistra Energy Power Plant on Thursday,
January 16, 2025, the County Emergency Management Organization, Office of
Response, Recovery and Resilience, activated to monitor, respond and coordinate with
Monterey County, county agencies and community partners as needed.

The event included a large fire including burning of lithium batteries, damage to private
property on the facility grounds, smoke and potential hazardous fumes, and resulted in
evacuation and road closures in the Moss Landing area. The primary impact seen in
Santa Cruz County was smoke from the fire being blown into Santa Cruz County the
evening of Thursday, January 16th through Friday, January 17th.

Financial Impact

There is no financial impact from this item.

Strategic Initiatives

Operational Plan - Comprehensive Health & Safety, Sustainable Environment

Climate Action - Energy

Submitted By:

David Reid

Recommended By:

Carlos J. Palacios, County Administrative Officer

Artificial Intelligence Acknowledgment:

Artificial Intelligence (AI) did not significantly contribute to the development of this agenda item.

Moss Landing Vistra Power Plant Battery Fire

1/21/2025





Incident Overview

16 January 2025 – On Going

A battery fire at the 300-MegaWatt Phase I energy storage facility at the Moss Landing Power Plant site (Moss 300) began on Thursday, January 16, 2025.

The site is an alternative energy storage facility operated by Vistra Energy Corporation.

The facility contains Lithium-Ion Batteries and is one of the world's largest battery energy storage system sites.



Lithium-Ion Battery Threats and Hazard

While Lithium-Ion Battery Energy Storage Systems are an added value to critical infrastructure and key resources, generally they also pose a new and emerging threat to public health and safety. Generally, lithium-ion batteries can:

- Overheat creating thermal runaway
- Fire and explosions
- Hazardous materials releases in the form of toxic plumes and toxic runoff due to fire suppression tactics.

Thermal Runaway: Thermal runaway is one of the primary risks related to lithium-ion batteries. It is a phenomenon in which the lithium-ion cell enters an uncontrollable, self-heating state. In ideal conditions, the heat is able to dissipate from the cell. However, in thermal runaway, the lithium-ion cell generates heat at a rate several times higher than the rate at which heat dissipates from the cell. A short circuit, physical damage, improper design, or assembly can cause heat and pressure to build up in the battery.

A thermal runaway often results in one or more of the following events: heat generation, gas and smoke formation, cell breach/cell explosion, fire or gas explosion. Gas releases can typically occur at lower temperatures and without the occurrence of a thermal runaway.

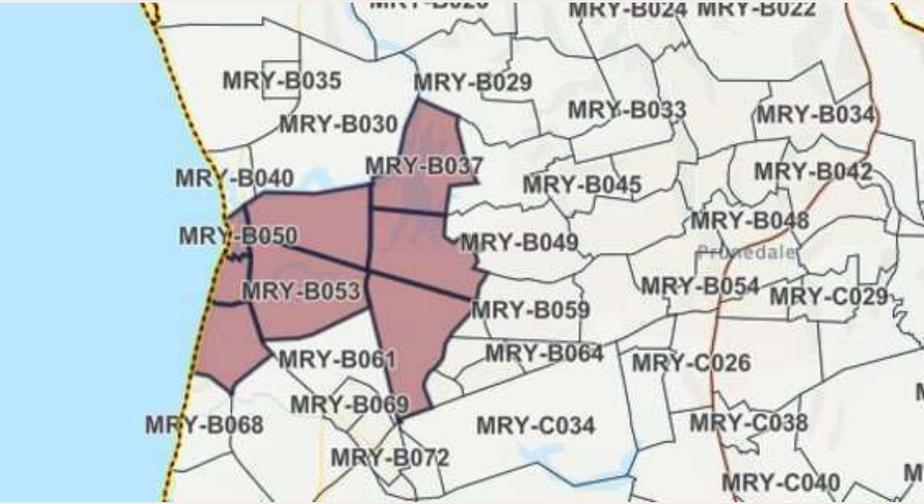
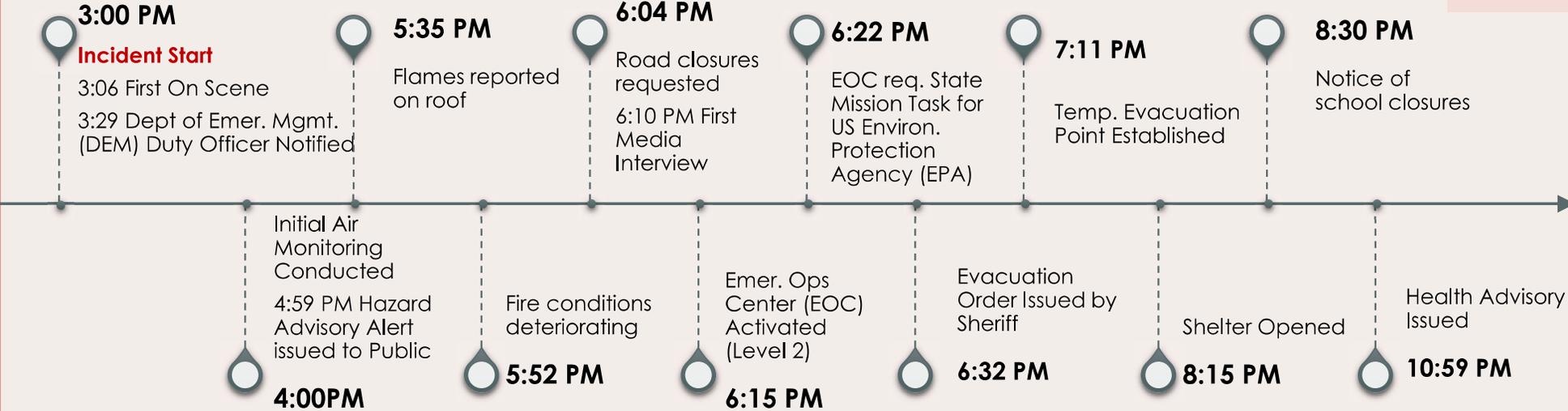
Cell Ignition / Fires: When thermal runaway occurs, the cell is undergoing an unstable chemical. When oxygen mixes with the toxic flammable gases the battery cell may ignite, causing surrounding cells to do the same.

Cell Breach / Explosions: If the pressure within the cell reaches a critical point, the cell can rupture, releasing flammable gases and in some examples; projectiles at high speeds. These gases have the potential to combine with oxygen in the air and form an explosive mixture.

Hazardous Materials - Toxic Gas/Smoke/Plumes: Lithium-ion battery fires generate intense heat and considerable amounts of gas and smoke. The gases that are released from battery energy storage systems are highly flammable and toxic. The type of gas released depends on the battery chemistry involved but typically includes gases such as: carbon monoxide, carbon dioxide, hydrogen, methane, ethane, and other hydrocarbons.

Hazardous Materials - Toxic Runoff: Massive quantities of water over an extended period is the only established means of preventing continuous thermal runaway in a lithium-ion battery. This can result in hazardous runoff.

Incident Start – 1/16/2025



Air Quality Monitoring

100 9 7

Mobile Air
Monitoring
Locations

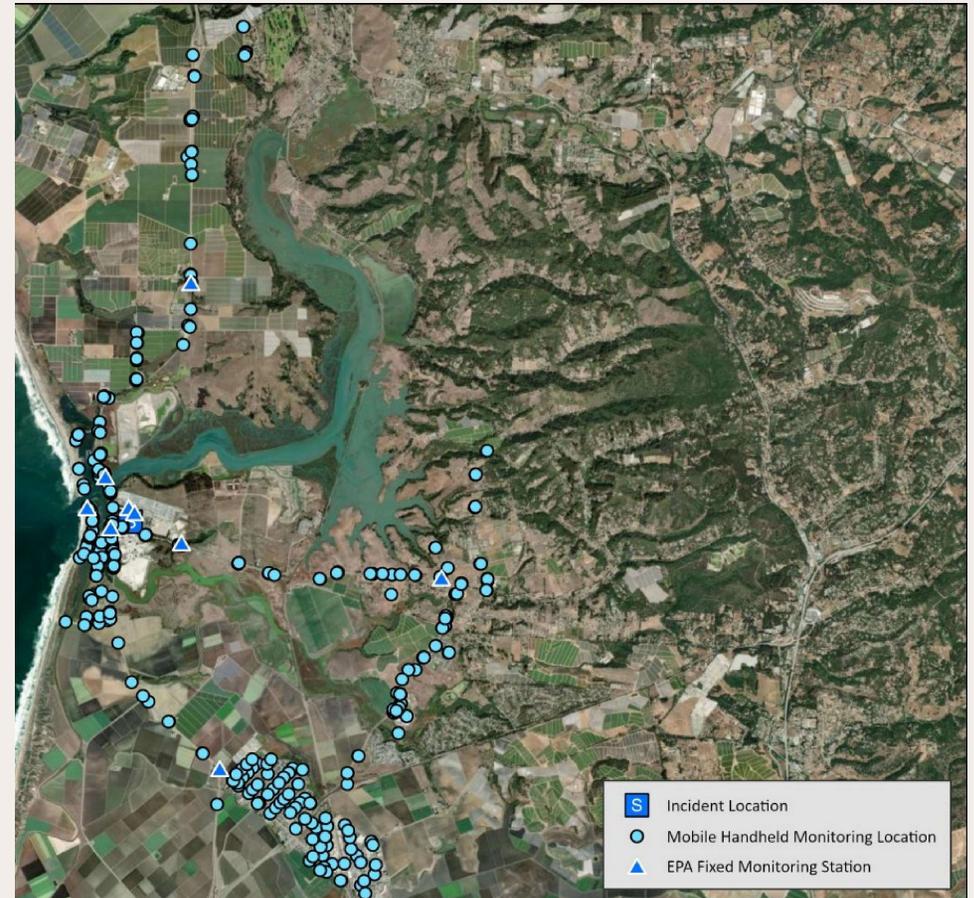
(CTEH)

Stationary
Monitoring Units

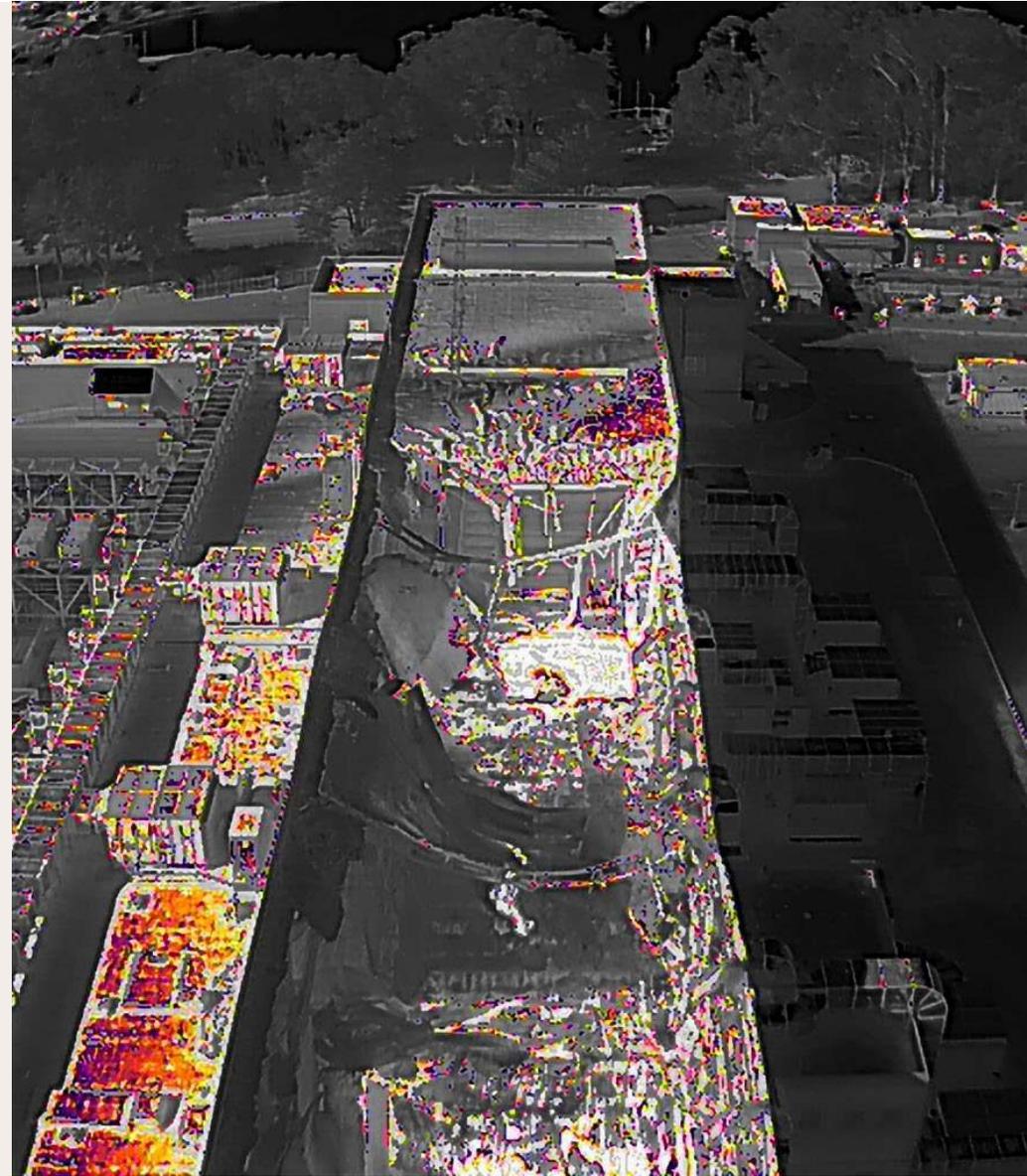
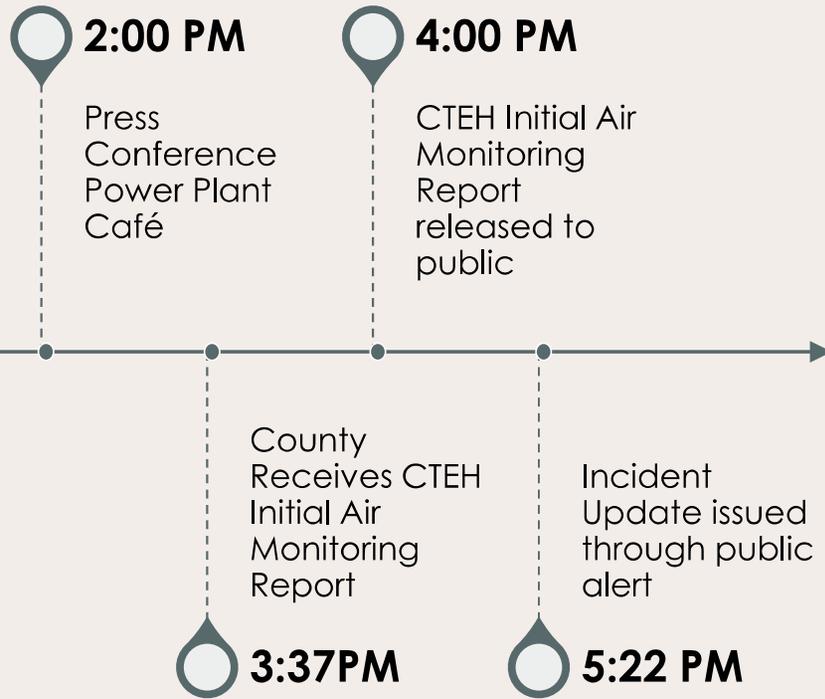
(U.S.
Environmental
Protection
Agency)

Air Constituents
Tested

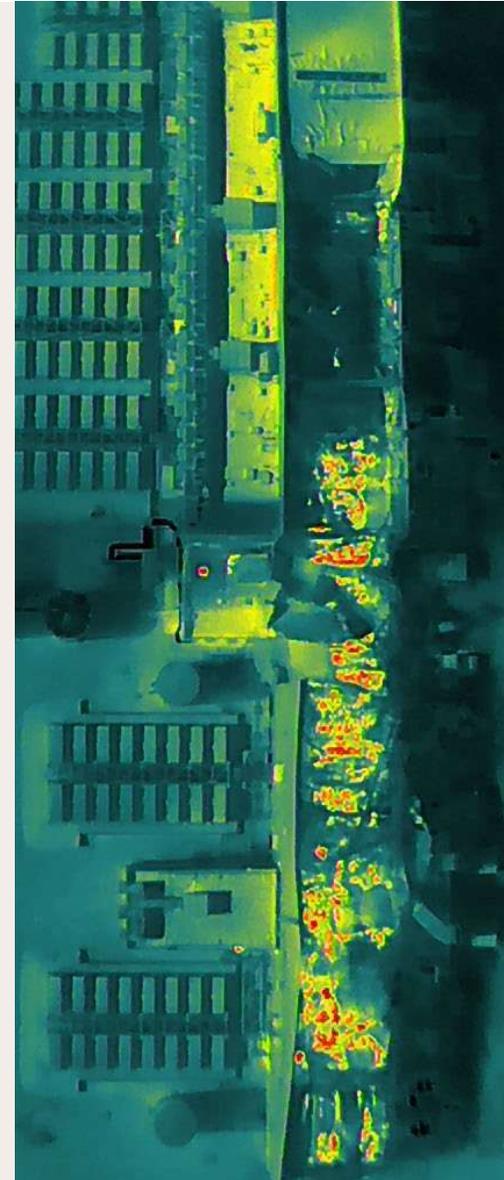
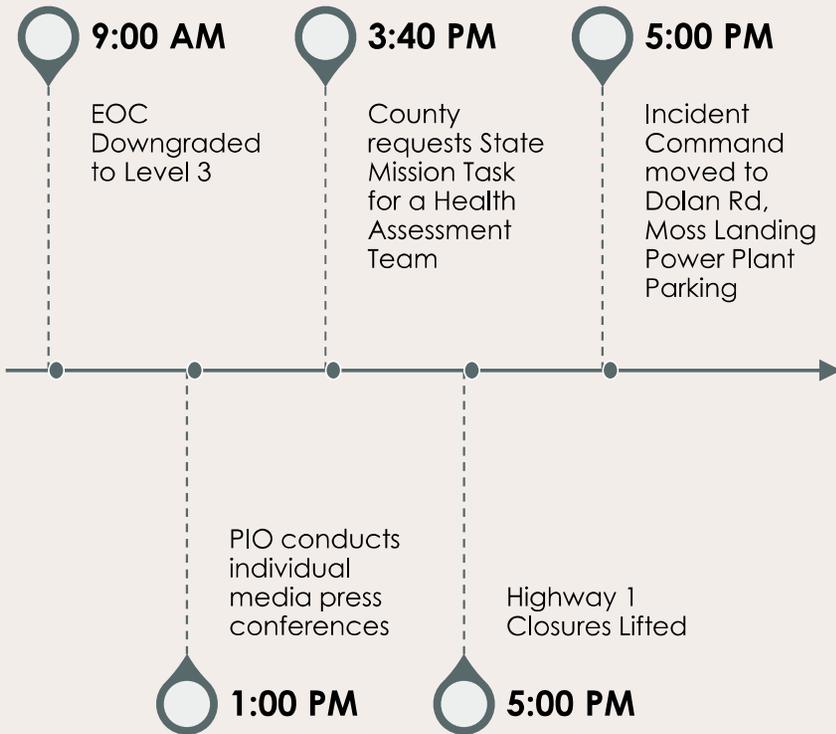
Monitoring to date has not detected hazardous compounds, and all particulate matter readings were low and within expected air quality index (AQI) bands deemed safe for the general public.



Day 3 – 1/18/2025



Day 4 – 1/19/2025



Day 5 – 1/20/2025

- Joint Information Center Established
- Schools notified of return to classes 1/21/2025
- Structural Engineer conducts initial assessment of stability of Moss 300.
- US EPA Demobilized
- State Health Assessment Team Mobilized



Emergency Operations Center Stats



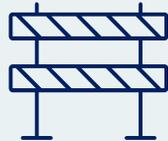
7

Emergency Alerts



1

Temporary Evacuation Point/Shelter



4

Road Closures



1,200

Persons Evacuated



37

Sheltered



24

Hours Evacuated

Public Information Officer / Joint Information Center Stats



3

Press
Conferences



7

Media
Advisories



200

Media
Contacts



5

Public Information
Officers



31

Interviews



57

Social Media
Posts

Resources

- [Incident Webpage | County of Monterey, CA](#) - Current updated emergency information
- [Moss Landing Response](#) - Vistra's Incident reporting page
- [Current Air Quality & Forecast - Monterey Bay Air Resources District](#) - Current real time air quality forecasts
- [Air Quality FAQs | News & Information | County of Monterey, CA](#) - Public Health and air monitoring FAQs
- [County of Monterey MGTV YouTube Channel](#) - Press Conference recordings and EPA segment

Thank You

- North County Fire Protection District
- Salinas Fire Department HAZMAT Team
- Monterey County Sheriff's Office
- County of Monterey Administrative Office
- County of Monterey Communications Bureau
- County of Monterey Contracts/Purchasing
- County of Monterey Clerk of the Board
- County of Monterey Information Technology Department
- County of Monterey Emergency Communications Department
- Monterey County Free Libraries
- County of Monterey Department of Emergency Management
- County of Monterey Department of Social Services
- County of Monterey Health Department
- County of Monterey Public Works, Facilities, and Parks
- County Elected Officials
- CAL FIRE
- California Highway Patrol
- California State Parks
- California Dept. of Fish and Wildlife
- California Department of Transportation
- US Environmental Protection Agency (EPA)
- Chevron Fire Department
- Castroville Recreation Center
- Moss Landing Harbor
- California Energy Commission
- Monterey Bay Air Resources District
- American Red Cross
- City of Watsonville
- County of Santa Cruz
- The Whole Enchilada
- Lighthouse Harbor Grill
- Power Plant Coffee

From: [wadens25](#)
To: [Board Of Supervisors](#)
Subject: Fire at Moss Landing and proposed new storage facilities
Date: Sunday, January 26, 2025 7:46:19 AM

*****CAUTION:** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ***

For mental and physical health, please do not consider any more battery storage facilities in the county before MUCH better assurances can be made that there will NOT be any more possibility of raging fires. I grow our own organic food and spend many wonderful hours in the garden. It is extremely frightening to be told to stay indoors because of possible toxic fumes, and then have to wonder if our backyard food is safe to eat. The proposed installation near Minto Road in Watsonville is right near neighborhoods. Please consider our health, both mental and physical. Thank you.

Rita

From: [Board Of Supervisors](#)
To: [Jesseka Rodriguez](#)
Subject: FW: battery farm
Date: Thursday, January 23, 2025 1:54:15 PM

From: [REDACTED]
Sent: Thursday, January 23, 2025 12:22 PM
To: Board Of Supervisors <boardofsupervisors@santacruzcountyca.gov>
Subject: battery farm

*****CAUTION:** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ***

To Santa Cruz County Supervisors;

You are about to vote on weather or not to put a battery farm in the Watsonville.

I for one highly disagree with this proposal for several reasons.

First is the fire in the Moss Landing plant and the toxic cloud it created, and than god for the winds that took it away.

As you all know Watsonville sits in its own little valley. If you were to watch the weather you can see that Watsonville has less, if any wind. What that means is that you would be putting a toxic cloud over the city of Watsonville.

AND IT WOULD STAY THERE FOR HOW LONG NO ONE KNOWS.

The passing of this to take out 16 acres of apple trees for a battery plant is morally wrong and possible criminal.

Daniel R. Murphy

[REDACTED]

Watsonville Ca. 95076

From: [Board Of Supervisors](#)
To: [Jesseka Rodriguez](#)
Subject: FW: Battery locations
Date: Wednesday, January 22, 2025 3:12:14 PM

-----Original Message-----

From: kimberly martin harding <kelpgal@mac.com>

Sent: Tuesday, January 21, 2025 9:05 PM

To: Board Of Supervisors <boardofsupervisors@santacruzcountyca.gov>

Subject: Battery locations

****CAUTION:This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email.****

I DO NOT WANT BATTERY STORAGE IN MYBACK YARD OR ACROSS FROM THE HIGH SCHOOL!!!!!!
Kimberly Martin Harding

From: [Board Of Supervisors](#)
To: [Jesseka Rodriguez](#)
Subject: FW: Battery No!
Date: Wednesday, January 22, 2025 2:55:50 PM

From: [REDACTED]
Sent: Tuesday, January 21, 2025 12:40 PM
To: Board Of Supervisors <boardofsupervisors@santacruzcountyca.gov>
Subject: Battery No!

*****CAUTION:**This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email.***

Please do not approve battery installations until they are safe and not threatening our existence. The technology is not at the point of guaranteed safety.

Elizabeth Williams

[REDACTED]

Watsonville, CA 95076

[REDACTED]

[REDACTED]

Sent via the Samsung Galaxy A14 5G, an AT&T 5G smartphone

From: [Board Of Supervisors](#)
To: [Jesseka Rodriguez](#)
Subject: FW: Battery Plants
Date: Wednesday, January 22, 2025 2:57:22 PM

-----Original Message-----

From: Steve Baldwin [REDACTED]
Sent: Tuesday, January 21, 2025 3:13 PM
To: Board Of Supervisors <boardofsupervisors@santacruzcountyca.gov>
Subject: Battery Plants

****CAUTION:This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email.****

No battery plants in east side Santa Cruz area!!!

S. W. Baldwin

From: [Board Of Supervisors](#)
To: [Jesseka Rodriguez](#)
Subject: FW: Battery storage disaster
Date: Wednesday, January 22, 2025 3:17:13 PM

From: [REDACTED]
Sent: Wednesday, January 22, 2025 1:21 PM
To: Congressman Jimmy Panetta <ca20jpima@mail.house.gov>; Board Of Supervisors <boardofsupervisors@santacruzcountyca.gov>; Justin Cummings <Justin.Cummings@santacruzcountyca.gov>; [REDACTED]
Subject: Battery storage disaster

*****CAUTION:**This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email.***

To Whom It may concern:

That the largest battery storage facility in the country was built a stones throw from the Monterey Bay- a Marine Sanctuary and the Elkhorn Slough, another wildlife sanctuary, surrounded by wild life, farm lands, cow pastures, and people is bad enough. That the 4th fire in 5 years and by far the most environmentally catastrophic burned for 3 days straight emitting toxic plumes of carcinogenic smoke and debris is devastating and unacceptable on many levels. The debris landing in our bay and farmlands poisoning our children, food supply and farm animals!

Hearing the EPA spokesperson telling us the air is fine is a lie. Listening to the PR person from Vestra make excuses and telling us they cannot guarantee that this will not happen again with propaganda and lies to try to make us believe them is laughable. That the Coastal Commission was obviously not present to make a statement, did not fight this plant and was not at the press conference shows us that they were complacent with the building of this battery storage facility and are also at fault for its creation given their severe oversight of every inch of our coast and now all we hear are "crickets" from them and our county leaders who are also at fault.

My last point is this, who paid you all off to allow this to be built with another being planned in Watsonville as we speak? YOU promoted this plant voting to support it with subsidies and environmental waivers. You who preach about the environment you swore to protect but ignored. All should be removed from office for your betrayal of our Marine Sanctuary,

the people and our fragile environment that you took an oath to "represent".
What a betrayal. What a disgrace.

J. Hansen
Monterey Bay

From: [Board Of Supervisors](#)
To: [Jesseka Rodriguez](#)
Subject: FW: Battery storage plants in Santa Cruz County
Date: Tuesday, January 21, 2025 5:03:15 PM

From: Jeanne Chaikin [REDACTED]
Sent: Saturday, January 18, 2025 10:29 PM
To: Board Of Supervisors <boardofsupervisors@santacruzcountyca.gov>
Subject: Battery storage plants in Santa Cruz County

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This was the fourth fire at the Moss Landing battery storage plant.

These instances are stark reminders of what has been hauntingly equated to the aftermath of the "3 Mile Island" disaster. The potential fallout to the health of human life, our delicate ecosystems, and the incomparable beauty of our county is immeasurable. Yet, it seems our concerns fall on deaf ears, as more battery supply areas are being proposed in Watsonville, Aptos, and Santa Cruz.

The logic is simple: where there is smoke, there is fire. We need no more evidence than the smoke billowing from the Moss Landing facility to understand that this is a significant problem that requires immediate resolution. What's more, our county's status as a global produce supplier adds another layer of concern. The potential contamination of our produce could have far-reaching implications on global food chains.

Therefore, we demand immediate action. We call upon our local representatives and governmental bodies to halt the establishment of additional battery storage facilities in the county. This is about preserving Santa Cruz County, the health of its residents, the integrity of our produce, and the future of our world-renowned ecosystem.

From: [Board Of Supervisors](#)
To: [Jesseka Rodriguez](#)
Subject: FW: Do not want a battery plant in our backyard
Date: Tuesday, January 21, 2025 5:00:30 PM

-----Original Message-----

From: Marilyn [REDACTED]
Sent: Tuesday, January 21, 2025 8:57 AM
To: Board Of Supervisors <boardofsupervisors@santacruzcountyca.gov>
Subject: Do not want a battery plant in our backyard

CAUTION:This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email.

I hope you reconsider this after what happened in Moss Landing. I have lived here all my life and feel this can be put somewhere far from a populated neighborhood, hospital and schools. This is absolutely crazy. Are you serious that you want to live by this? Please please reconsider this.

Marilyn

Sent from my iPhone

From: [Board Of Supervisors](#)
To: [Jeseka Rodriguez](#)
Subject: FW: Make sure grid-scale battery storage sites have battery units OUTDOORS not INDOORS
Date: Tuesday, January 21, 2025 4:43:19 PM

From: [REDACTED]
Sent: Saturday, January 18, 2025 10:05 AM
To: Board Of Supervisors <boardofsupervisors@santacruzcountyca.gov>
Subject: Make sure grid-scale battery storage sites have battery units OUTDOORS not INDOORS

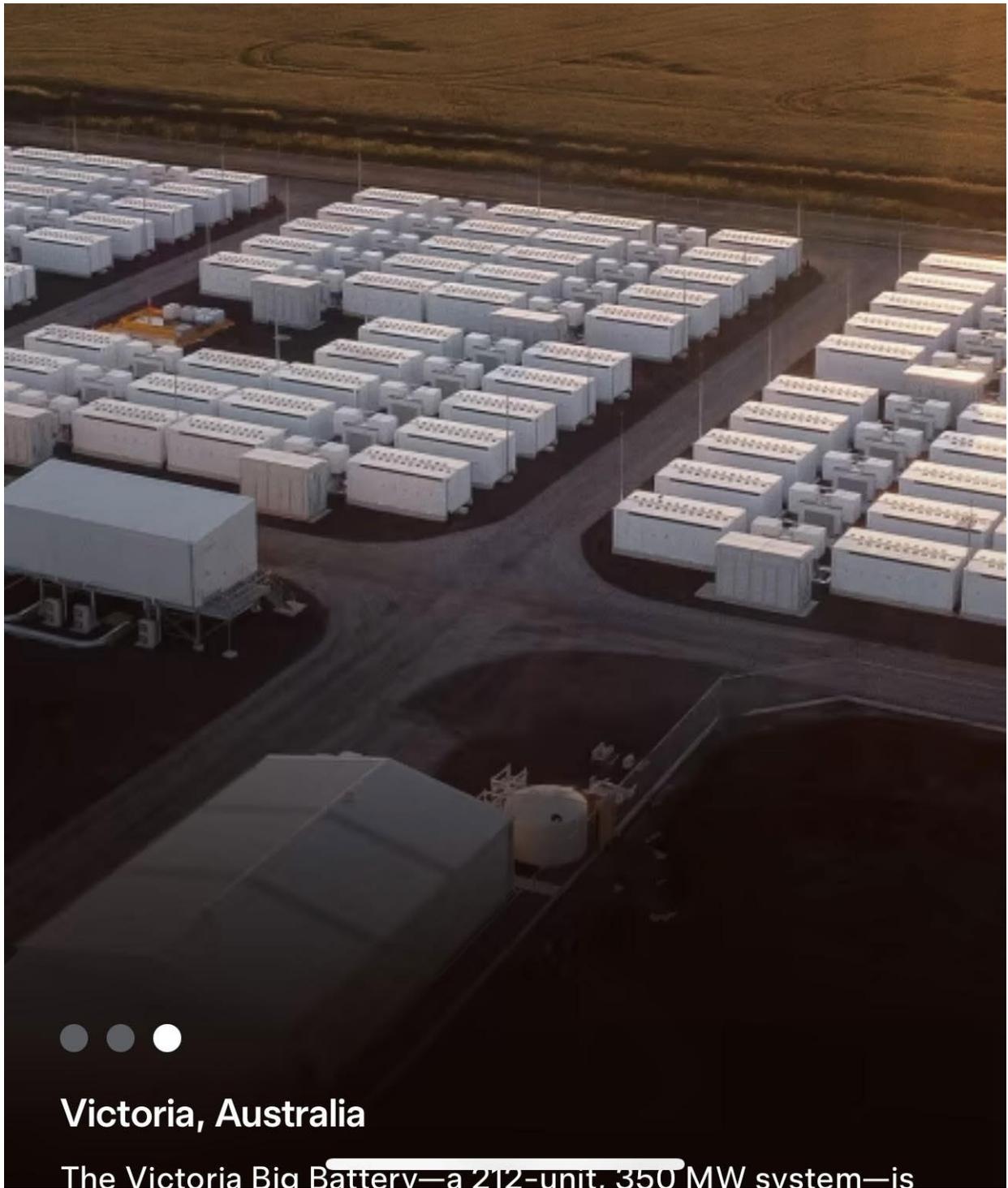
****CAUTION:This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email.****

Dear Santa Cruz County Board of Supervisors -

Please ensure that any lithium ion-based grid-scale battery storage systems use battery subunits that are outdoors and will vent superheated gases skyward in the event of a fire. The Moss Landing disaster, in which an entire turbine hall full of container-size batteries burned up, was a readily-foreseeable outcome of the flawed installation design. Placing the containers within a reinforced concrete building ensured that when any single unit caught fire, the structure would concentrate superheated gases, causing overheating and thermal runaway of adjacent units and the loss of the entire building.

Literally everyone who reads the news knows that lithium batteries are subject to ignition and thermal runaway if they overheat, that they can randomly overheat due to manufacturing defects that can't always be detected up front, and that often once these fires ignite they often must be allowed to burn themselves out as it's often impossible to extinguish them. Therefore, if you're going to build one of the world's largest grid-scale energy storage systems, you need to ASSUME that a battery WILL overheat and experience thermal runaway and design the system in such a way that the ignition of one battery won't cause any of the others to ignite. You could straightforwardly satisfy that design requirement through some combination of spatial separation of the subunits, physical separation of the subunits by earth, reinforced concrete, or similar, and venting of each subunit to the sky so hot gases will dissipate upward instead of being contained with the other batteries increasing the risk of chain-reaction overheating and thermal runaway.

Here is a photo of a Tesla grid-scale storage implementation. It appears that's exactly the strategy they use: numerous subunits in the open air separated by gaps so a burning unit will mostly heat the sky not the adjacent units.



Victoria, Australia

The Victoria Big Battery—a 212-unit, 350 MW system—is

Yet the below system from Vistra using LG container-size battery subunits was designed in the exact opposite fashion: all the subunits were contained within a closed concrete building so hot gases would be concentrated not vented, maximizing the risk of the any fire spreading to consume the adjacent containers and then the entire building.

Moss Landing: World's biggest battery storage project is now 3GWh capacity

By [Andy Colthorpe](#)

August 2, 2023

[US & Canada, Americas](#) [Grid Scale](#)

[Business, Market Analysis, Technology](#)



Owner Vistra Energy has announced the completion of work to expand its Moss Landing Energy Storage Facility in California, the world's largest lithium battery energy storage system (BESS) asset.

It requires no expertise in grid-scale battery systems design to foresee this scenario. I have no such expertise at all. If you've watched one YouTube video of a laptop battery or an EV igniting and one YouTube video of how hot gases behave during a fire inside a structure, you can foresee this scenario.

This appears to have been a failure at every step of the way:

- The solution architects at Vistra Energy who proposed enclosing a grid-scale lithium ion battery storage system within a reinforced-concrete building
- Anyone at LG who reviewed Vistra's integrated solution design from a safety standpoint
- Every county planner and government body that approved this implementation

I strongly support implementation of grid-scale power storage to smooth out power supply-and-demand gaps, reduce the number of power plants needed, and reduce the need for natural gas-based "peaker" plants. But the companies who design, build, and operate these systems will also need to use at least minimal intelligence in their safety design to prevent readily foreseeable disasters like this from occurring, giving the entire industry a bad name, and creating public resistance to future battery system construction. And local permitting authorities will need to have staff who read the news and ask "What if?" instead of just assuming the service provider's design is good and rubber-stamping it.

Please make sure we learn from this needless error by Vistra Energy and the Monterey County Board of Supervisors and don't ever repeat it. Lithium ion-based grid storage batteries must be placed outdoors, not indoors.

Sincerely,

Eric Krock

Sunnyvale, CA 94087

From: [Board Of Supervisors](#)
To: [Jesseka Rodriguez](#)
Subject: FW: Moss Landing Fire Affects
Date: Wednesday, January 22, 2025 3:16:18 PM

From: Cindy Scott [REDACTED]
Sent: Wednesday, January 22, 2025 8:05 AM
To: Board Of Supervisors <boardofsupervisors@santacruzcountyca.gov>
Subject: Moss Landing Fire Affects

*****CAUTION:**This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email.***

Honorable Supervisors,

I live in south county just outside the Watsonville City limit. Since the plume of toxic smoke from the battery fire was blowing directly our way during most of the worst of the inferno, I would like to know if there are any plans for testing in Santa Cruz county for potential fall-out of heavy metals and chemical toxins?

So far I have only been aware of air quality testing, and not anything done on ground surfaces, like on all of the food crops grown between here and there, for example.

Thank you for your consideration of this important health issue.

Sincerely,
Cindy Scott
Corralitos resident

From: [Keith McHenry](#)
To: [Board Of Supervisors](#)
Subject: Please ban the placement of Lithium-ion Battery Storage Facilities in Santa Cruz County
Date: Saturday, January 25, 2025 7:41:33 PM

****CAUTION:This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email.****

Attention Santa Cruz Board of Supervisors:

I am writing in support of a total ban on the placement of Lithium-ion Battery Storage Facilities in Santa Cruz County and that the county initiate a study on the damage to our community by the world's largest Lithium-ion Battery fire at the Moss Landing Lithium-ion Battery Storage Facility.

Any energy storage facility that can have a fire that can't be put out needs to be discontinued.

Thanks for your attention.

Keith McHenry

 Santa Cruz CA 95061 USA

From: [Paul/Sue Stephens](#)
To: [Board Of Supervisors](#)
Subject: Re: Moss Landing battery fire
Date: Saturday, January 25, 2025 2:15:56 PM

****CAUTION:This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email.****

You must join together with the other elected officials to investigate this very dangerous fire.

Let me touch on two problems.

First: We had never heard about the location of this storage building or what was in the building.

Second: I want to touch on one subject. It is about the food in our area. No one seems to know if the food is safe. What about the people who choose to eat organic food. I doubt it is organic now. What about our milk. How about the animals who produce the milk. They are eating the grass and drinking the water that has probably been contaminated. How about the people who grow their own food because they think it's safer.

Now we hear they want to place another storage building in Watsonville or possibly even here in Santa Cruz.

I don't care if they say another storage building will be much safer. Enough is enough. I say NO!! You must fight against this and keep our citizens healthy and safe

Suzanne Stephens

From: [Karen Asherah](#)
To: [Board Of Supervisors](#)
Cc: lisa@elkhornslough.org
Subject: Test dead seagulls post Moss Landing
Date: Friday, January 24, 2025 7:40:14 AM

CAUTION:This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email.

Supervisors,

Please note that seagulls have been found dead after this toxic event. PLEASE have them tested to determine cause of death.

We need to document the effects on wildlife!!

Thank you,

Karen Asherah

Sent from my iPhone

A night photograph of an industrial facility, likely a lithium-ion battery manufacturing plant, with a large fire and smoke plume. The scene is illuminated by the fire and the facility's lights. Two tall smokestacks are visible on the left side of the image. The background is dark, suggesting a night sky.

NEVER AGAIN!

BAN INDUSTRIAL LITHIUM-ION BATTERY FACILITIES IN SANTA CRUZ AND MONTEREY

#7, 1/20/2025

Hand-delivered
1/28/2025
please include
in record
Becky
Steinbruner

High Levels of Metals Detected in Elkhorn Slough Reserve

From: Becky Steinbruner (ki6tkb@yahoo.com)
To: boardofsupervisors@santacruzcountyca.gov; justin.cummings@santacruzcountyca.gov;
felipe.hernandez@santacruzcountyca.gov
Cc: david.reid@santacruzcountyca.gov; ann@farmworkerfamily.org; ki6tkb@yahoo.com
Bcc: b.wiser@k6rmw.net; nlyellin@comcast.net; rosie@santacruzvoice.com; bill@santacruzvoice.com;
michael@santacruzvoice.com
Date: Monday, January 27, 2025 at 07:12 PM PST

Dear Supervisors,

I want to make sure you are aware of the information that became available today by the Moss Landing Marine Laboratories that shows very high levels of metals in soils around the Elkhorn Slough Reserve against records of baseline soil sampling levels.

What is Santa Cruz County doing to test agricultural soils in the Pajaro Valley following the Moss Landing Vistra Battery Energy Storage System (BESS) Fire?

Are farmworkers still being expected to work in these areas of unknown contamination?

Please respond.

Sincerely,
Becky Steinbruner

https://www.indybay.org/uploads/2025/01/27/moss_landing_marine_lab_vistra_fire_press_release.jpg

High Concentrations of Heavy Metals Found in Elkhorn Slough Following Vistra Fire

by via Moss Landing Marine Laboratories

Mon, Jan 27, 2025 4:17PM

MOSS LANDING, Calif. — Research scientists at San José State University's Moss Landing Marine Laboratories (MLML) have detected unusually high concentrations of heavy-metal nanoparticles in marsh soils at Elkhorn Slough Reserve following the recent fire at the nearby Vistra Power Plant's lithium-ion battery storage facility.



[original image](#) (5184x3456)

As part of a decade-long monitoring program of the Elkhorn Slough estuary, Dr. Ivano Aiello's research team analyzed the marsh soil properties, including the composition of major and trace elements, in the days immediately following the Vistra battery fire that began on Thursday, January 16. The fire burned for several days, causing road closures, evacuation of the area and air quality concerns.

The field surveys, conducted within a radius of approximately two miles from the power plant, measured a dramatic increase in marsh soil surface concentration (hundreds to thousand-fold) of the three heavy metals Nickel, Manganese and Cobalt. This dramatic increase relates to both the shallow subsurface and the baseline measurements conducted in the area before the fire. Samples of the heavy-metal layer were examined at high magnification and reveal that these metals are contained in nanoparticles that range in diameter between about 1 and 20 microns.

These nanoparticles are used in cathode materials for lithium-ion batteries, commonly referred to as "NMC" (Nickel Manganese Cobalt), clearly connecting the occurrence of the heavy metals to airborne cathode material from the Vistra battery fire. These heavy metals will chemically transform as they move through the environments and potentially through the food web, affecting local aquatic and terrestrial ecosystems.

Monterey County officials have been made aware of the team's findings.

"These findings and the research that follows are crucial not only to the impacted community but to the national and international community because of the need to store more power and thus build more and larger battery storage facilities," said Dr. Aiello, marine geology professor and department chair at MLML. "This is a new and fast-growing technology, and we must understand

the ecological impacts in the event that accidents like this happen again.”

Dr. Aiello’s team and colleagues at SJSU and the Elkhorn Slough Reserve will continue monitoring the soils and waterways on a short—and long-term basis.

[Photo: Elkhorn Slough with view of Moss Landing Power Plant in the distance (Photo Taken November 2016). Credit: Susan Gerbic]

[§Press Release](#)



High Concentrations of Heavy Metals Found in Elkhorn Slough Following Vi...

MOSS LANDING, Calif. — Research scientists at San José State University’s Moss Landing Marine Laboratories (MLML...

by via Moss Landing Marine Laboratories
Mon, Jan 27, 2025 4:17PM



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FOR IMMEDIATE RELEASE

MOSS LANDING, Calif. — Research scientists at San José State University's Moss Landing Marine Laboratories (MLML) have detected unusually high concentrations of heavy-metal nanoparticles in marsh soils at Elkhorn Slough Reserve following the recent fire at the nearby Vistra Power Plant's lithium-ion battery storage facility.

As part of a decade-long monitoring program of the Elkhorn Slough estuary, [Dr. Ivano Aiello](#)'s research team analyzed the marsh soil properties, including the composition of major and trace elements, in the days immediately following the Vistra battery fire that began on Thursday, January 16. The fire burned for several days, causing road closures, evacuation of the area and air quality concerns.

The field surveys, conducted within a radius of approximately two miles from the power plant, measured a dramatic increase in marsh soil surface concentration (hundreds to thousand-fold) of the three heavy metals Nickel, Manganese and Cobalt. This dramatic increase relates to both the shallow subsurface and the baseline measurements

conducted in the area before the fire. Samples of the heavy-metal layer were examined at high magnification and reveal that these metals are contained in nanoparticles that range in diameter between about 1 and 20 microns.

These nanoparticles are used in cathode materials for lithium-ion batteries, commonly referred to as "NMC" (Nickel Manganese Cobalt), clearly connecting the occurrence of the heavy metals to airborne cathode material from the Vistra battery fire. These heavy metals will chemically transform as they move through the environments and potentially through the food web, affecting local aquatic and terrestrial ecosystems.

Monterey County officials have been made aware of the team's findings.

"These findings and the research that follows are crucial not only to the impacted community but to the national and international community because of the need to store more power and thus build more and larger battery storage facilities," said Dr. Aiello, marine geology professor and department chair at MLML. "This is a new and fast-growing technology, and we must understand the ecological impacts in the event that accidents like this happen again."

Dr. Aiello's team and colleagues at SJSU and the Elkhorn Slough Reserve will continue monitoring the soils and waterways on a short- and long-term basis.

From: [shirley](#)
To: [First District](#); [Board Of Supervisors](#); [Second District](#); [Justin Cummings](#); [Felipe Hernandez](#); [Fifth District](#)
Subject: battery plants
Date: Tuesday, January 28, 2025 1:38:43 AM

******CAUTION:**This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email.****

To the Santa Cruz Board of Supervisors,

I am not able to attend this morning's meeting to review the circumstances about the battery plants.

1. I do not want them to be build in Santa Cruz County under any circumstance.
2. I do not want any assembly bill to address preventative measures that will not help if fires from the plant are impacted by the great wind storms we have experienced in Santa Cruz county over the past few years.
3. We just saw the damage that took place with fire and wind in Los Angeles and realized how fortunate we are that when Moss Landing plants were burning, there was no great wind or we would have experienced a fate like southern California.
4. In Santa crud county tourism and agriculture are mainstay economies and the toxic chemical released from a battery fire will cause a negative effect on the local economy, public health, animal poisoning, and a terrible impact on the ocean and its sea life.
5. I do not want these plants to be built in Santa Cruz County and I am terrifically upset that they have been planned near a hospital, school and agricultural land!

Is this why property owners here pay \$19,000 a year property tax!

thank you,

Shirley Flores Munoz

836 balboa avenue, capitola, 95010

From: [Nancy Chavez-Bucio](#)
To: [Felipe Hernandez](#)
Cc: [Ramon Gomez](#); [Maria Orozco](#); [Board Of Supervisors](#)
Subject: Concerns regarding proposed battery storage facility at Minto Road
Date: Monday, January 27, 2025 10:20:18 PM
Attachments: [Battery.Facility.concerns.pdf](#)

******CAUTION:**This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email.****

Dear Felipe Hernandez and members of the Santa Cruz County Board of Supervisors:

I am a resident in the 4th county district, living 8 streets over or 1.2 miles from the proposed 90 Minto Road battery storage facility. I am writing to express my deep concerns regarding this proposed project.

Reasons for Concern:

- **Potential Impact on homeowners' insurance:**

With the increased risk of wildfires and homeowners' insurance companies leaving the state, we have increasingly seen individuals, including in our county, be dropped by their insurance carriers. How can we guarantee that homeowners in the Interlaken area will not lose their insurance coverage?

If we don't lose coverage, how can we be sure premiums will not skyrocket? Insurance companies look at various factors to determine coverage, they will surely look at the Moss Landing facility fire to determine risk and probability factors when we renew our insurance.

- **Lack of infrastructure for an emergency evacuation:**

In case of an emergency there are limited roads for residents to leave. We all depend on the use of Green Valley Road (one lane road), or poorly maintained roads such as Paulson Road, that typically flood or require repairs. I don't foresee a safe, quick and efficient way for people to evacuate if needed.

- **Toxins in our environment:**

A recently published article, effective 1/27/2025, is already reporting heavy metal spikes in the soil 1 mile from the Moss Landing battery facility from their fire on January 16th. Let's not forget this was the 4th fire at the facility. Considering the number of homes next to the facility, the parks, Amesti Elementary school and agriculture fields, some right on Green Valley Road (lakeside organics, dirty girl produce, Vallejo Street Dahlias, local nurseries, my own garden) this is extremely concerning.

- **Potential Financial Burden on the county:**

Flooding, landslides, fires, and more climate disasters (inevitable) have and will hit our county. The county is already strapped for money and have ended fiscal years with deficits due to the costs of disaster repairs. Do we have the resources for emergency planning and responding for a battery facility fire? What would the financial impact for the County be? Moss Landing facility didn't even have a complete emergency response action plan! A clearly outlined plan reviewed and approved by all stakeholders needs to be in place. Who will foot the bill in these situations? What resources are needed in place?

I respectfully request that the Board of Supervisors investigate the issue further, although the facility being proposed would be smaller in comparison to the Moss Landing facility, and the batteries would be

half the size, we continue to learn and make mistakes with this novel technology. Error will occur. Don't rush into this project until you've determined the economic impact of a potential disaster, if it's worth the risk and invite the community to voice their concerns and be part of the process. I for one am also looking forward to seeing where California Assemblymember Dawn Addis newly proposed battery storage bill plan goes.

Best,

Nancy Chavez,

4th district constituent

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Best,

Nancy Chavez,

4th district constituent

From: [Becky Steinbruner](#)
To: [Board Of Supervisors](#); [Justin Cummings](#); [Felipe Hernandez](#)
Cc: [David Reid](#); [Ann Lopez](#); [Becky Steinbruner](#)
Subject: High Levels of Metals Detected in Elkhorn Slough Reserve
Date: Monday, January 27, 2025 7:13:05 PM

*****CAUTION:**This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email.***

Dear Supervisors,

I want to make sure you are aware of the information that became available today by the Moss Landing Marine Laboratories that shows very high levels of metals in soils around the Elkhorn Slough Reserve against records of baseline soil sampling levels.

What is Santa Cruz County doing to test agricultural soils in the Pajaro Valley following the Moss Landing Vistra Battery Energy Storage System (BESS) Fire?

Are farmworkers still being expected to work in these areas of unknown contamination?

Please respond.

Sincerely,

Becky Steinbruner

https://www.indybay.org/uploads/2025/01/27/moss_landing_marine_lab_vistra_fire_press_release.jpg

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by via Moss Landing Marine Laboratories

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[original image](#) (5184x3456)

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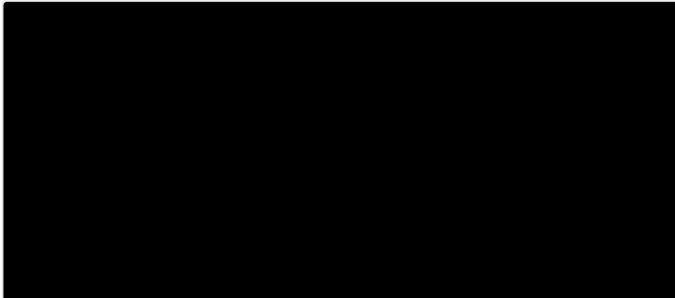
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"These findings and the research that follows are crucial not only to the impacted community but to the national and international community because of the need to store more power and thus build more and larger battery storage facilities," said Dr. Aiello, marine geology professor and department chair at MLML. "This is a new and fast-growing technology, and we must understand the ecological impacts in the event that accidents like this happen again."

Dr. Aiello's team and colleagues at SJSU and the Elkhorn Slough Reserve will continue monitoring the soils and waterways on a short—and long-term basis.

[Photo: Elkhorn Slough with view of Moss Landing Power Plant in the distance (Photo Taken November 2016). Credit: Susan Gerbic]

[§Press Release](#)



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by via Moss Landing Marine Laboratories
Mon, Jan 27, 2025 4:17PM

From: [Deborah Peronto](#)
To: [Board Of Supervisors](#)
Subject: Meeting on Fire at Battery Storage Plant
Date: Monday, January 27, 2025 9:38:22 PM

*****CAUTION:**This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email.***

Santa Cruz County Board of Supervisors,

It is my understanding that you're having a meeting regarding the fire at the battery storage plant at the Elkhorn Slough tomorrow. I wanted to take this opportunity to express my concerns and relay a conversation I had at a staff meeting years ago at the Texas Instruments Plant near Natural Bridges.

We were discussing the possibility of a chemical spill from an equipment malfunction or human error. The Plant Manager discussed the critical nature of secondary containment and proper training of all personnel. To highlight the seriousness of the issue, he stated that if one drop of chemical was leaked into the Santa Cruz Bay, he would expect to be personally jailed for the infraction. The picture was vivid to all of us and we took developing, training and following procedures by all personnel as job number one.

This was the first thing that occurred to me when I heard of the battery storage plant fire. I would have expected to hear that night what the procedures were and whether they were followed. A week later we still do not know root cause of the issue and what systems failed. I am relating this story to share how our plant of over 600 employees were able to develop and implement procedures to avoid issues similar to those that occurred last week. If the criteria is set and followed, safety of personnel and the environment is possible. Please be firm in setting expectations for future systems at the battery storage plant.

Deborah Peronto
Retired Semiconductor Manager and Aptos Resident

From: [Diane Dutton](#)
To: [Board Of Supervisors](#)
Subject: Sharing "Burning Batteries" Informative Article
Date: Monday, January 27, 2025 8:59:34 PM

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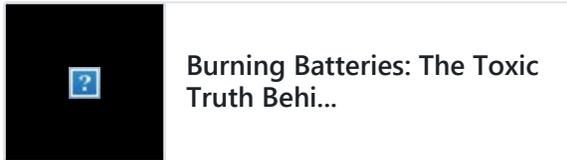
Hello to all of You,

I want to share this information so we are all aware of the harm from Lithium-ion batteries.

Take care,

Diane Dutton Jones

[Burning Batteries: The Toxic Truth Behind Our Green Energy Illusion](#)



REGULAR AGENDA

Scheduled and Regular Departmental items – 9:00 AM or thereafter

7. Consider oral report on response and recovery activities from Moss Landing Vistra Power Plant Fire

Name: Nina Audino

Comment - 01/28/2025 11:11 AM: (No Vote)

Dear Members of the Board:

Good Morning.

I am speaking on behalf of many residents of Santa Cruz County who have suddenly become aware of County plans to construct grid-scale BESS facilities on several sites in the County and who are very concerned about the safety of siting these facilities in or very near dense urban and suburban residential neighborhoods, schools, hospitals, farmland and protected natural sanctuaries.

It is unacceptable for a foundational infrastructural change on the scale of a 14 to 16 acre BESS facility literally on Watsonville's doorstep to be virtually absent from civic dialogue for 5 years, from when Supervisor Hernandez (according to local news articles) and former Supervisor McPherson proposed it to the board in 2019 and up to and including the Seahawk Energy Storage application for permitting.

I ask respectfully that you, the Board, immediately make information about these plans readily, transparently and completely available to the public. The current placement of the Seahawk Energy Storage project is nearly impossible to navigate to on the County website, requiring navigation through 5 website pages.

I also ask that you support Assemblymember Dawn Addis' bill AB 303 – 2025, which returns siting decision-making power to local communities.

Furthermore, I support California's carbon footprint and EV mandates and the need for sweeping infrastructural change to meet current set deadlines focused on 2035 and 2045 successfully. However, achieving those green goals cannot come at the cost of toxic disasters bred from technology that has outstripped in its application the means to safely regulate it.

That means BESS installations must be aligned with effective fire suppression techniques. Clearly, self-combusting, lithium-ion battery using BESS facilities are unsafe.

New Leaf Energy Storage is proposing the newer LFP battery for their Seahawk Energy Storage project, citing the industry standard that this lithium using battery does not self-ignite and therefore is safe enough to use. It is not immune to burning, however. Severe short circuit from faulty wiring can result in combustion. Our central coast area is disaster prone, with both high earthquake and wild fire risk. What

happens in the event of a larger disaster or in the event that for any reason an LFP using BESS facility or sections of it goes up in flames?

Right now, lithium batteries are a dominating technology, but their continued use into the next decades as we go green is increasingly under question. This is because the lithium battery is dirty technology, involving dirty extraction, a high production footprint and a high recycling footprint. There are other, safer, cheaper and more environmentally friendly battery technologies being explored aggressively right now and they will certainly be available in the near future.

If we invest in LFP technology today, would we be able to upgrade the facility likely shortly later to safer, cheaper and cleaner battery technology? At what cost?

We need to slow this infrastructural change down, so that we can ensure that the battery energy storage technology we commit to in Santa Cruz County is fully supported by safety protocols and regulations that keep up with its installation and future evolving use.

Thank you.
Nina Audino