



AGENDA NO: PC

MEETING DATE: September 27, 2022

**AGENDA CORRESPONDENCE
RECEIVED BY THE CITY COUNCIL FOR
PUBLIC REVIEW PRIOR TO THE MEETING**

From: [Joan Behrick](#)
To: [Council](#)
Subject: For 9/27/2022 City Council Meeting Agenda
Date: Friday, September 23, 2022 2:33:40 PM

CAUTION: This is an external email. Please take care when clicking links or opening attachments.

Please add my comments to the next City Council meeting.

Dear Morro Bay Council Members,

I request that this be included as an agenda item for the 9/27/22 City Council Meeting.

By now each of you, as well as Mayor Headding, will have had an opportunity to read the email that I sent each of you individually on 9/24/22 expressing my opposition to the proposed Vistra Energy Lithium-ion Battery Plant to be located in the heart of Morro Bay.

Here is a copy for the record:

“I am in opposition to the proposed Vistra lithium-ion battery plant in Morro Bay. The City and Vistra project manager recently held a workshop for residents to discuss a wish list of secondary projects for the plant site once the project is approved. This is premature. The City should properly explore more thoroughly community opposition to the BESS project and proactively answer crucial questions. Among them are:

- 1.) How does the City propose spending the money generated by this project to benefit residents, businesses, and visitors?
- 2.) What infrastructure changes and expenses will be required to accommodate the increased traffic, housing, water, utility, and emergency services demands during and after construction of this plant?
- 3.) What are the safety implications if a fire or other disaster breaks out in the plant?

As the City continues its review process and considers the upcoming environmental impact study report, I hope you will agree that having such a plant located in close proximity to our populated areas is a bad idea.”

I ask that the Mayor and each council member answer the three questions stated above at the 9/27/22 City Council meeting. Also, please state whether or not you support this project moving forward and include your rationale in support of your position. This will provide much needed clarity for those of us that you represent and for all stakeholders in this proposed project.

Thank you.

Joan Behrick
Morro Bay, CA

Sent from my iPhone

Heather Goodwin

From: Barry Branin <[REDACTED]>
Sent: Sunday, September 25, 2022 4:09 AM
To: Heather Goodwin
Subject: Correspondence for council meeting 9/27/2022 for Public Comment
Attachments: City Council Correspondance for 9-27-2022.docx

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H Goodwin,
Please make this a part of the written record for the public comment section for the Morro Bay Council meeting for 9/27/2022.
Thank you,
Barry Branin
Morro Bay
>
>
>
>
> Sent from my iPad

To hgoodwin@Morrobayca.gov

From Barry Branin Morro Bay Resident

Subject: "Agenda Correspondence for 9/27/2022 Morro Bay City Council Meeting-BESS Safety Issues".

Morro Bay is considering a project by Vistra to build a Battery Storage project on the old powerplant site.

The technology is still developing and there have been fires at many locations.

I am going to read excerpts of a September 21, 2022 report by reporter Christian Balderas of Television Station KSBW of Salinas which serves the Monterey Bay.

MOSS LANDING RESIDENTS WORRIED FOR THEIR SAFETY AFTER PG&E'S TESLA-BATTERY FIRE.

Residents say they feel unsafe in their neighborhood after a Tesla Battery caught fire early Tuesday morning at PG&E's newest power plant. The fire caused a day-long shelter-in-place advisory for the entire Moss Landing Community.

"We like to maintain our windows open. So it's concerning. What is in the air? What kind of chemical and what kind of effect can that have on our health?" one resident said.

The population of Moss Landing is below 50 people, with all residents living within a 3-mile radius.

Richard Stedman, an Air pollution officer for the Monterey Bay Air Resources District said "We know that in battery fires, lithium battery fires, there are toxics that are released. Among those are hydrogen fluoride gas and hydrochloric acid, which is also a gas".

These toxic gas emissions can cause nausea, headaches and eye irritation. Limited studies have been done on a battery fire's long-term health consequences.

Battery power plants, like the tesla-powered PG&E facility, are a relatively new technology

The utility service was aware of the fire as early as 1:30 am.

The North Monterey County Fire Department, issued a shelter-in-place advisory at 9:18 am, almost 8 hours later.

One of the Moss Landing residents said "By time the county called to tell us to close out windows and shelter in place a lot of time passed".

The reporter went on to say "The cause of the fire is still not known. PG&E and Tesla will conduct a joint investigation".

I would add that the adjacent Vistra Battery Storage has had two fires with the last one in September of 2021. I believe that the proposed battery Storage plan for Morro Bay is dangerous and should be stopped.

From: [Tim Hixson](#)
To: [Council](#); [John Heading](#); [Scott Collins](#); [Heather Goodwin](#)
Subject: Agenda Correspondence For The Next Regular Meeting
Date: Monday, September 26, 2022 9:11:37 AM

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The new proposed battery farm off of Coleman Dr. seems Very Unsafe to me. What about the danger of a massive fire? With the 1 small road in & out of the battery site getting shut down you can't get in or out of there. The negatives concerning having this Dangerous Monster at the proposed location in our small town far outweigh any good that can come of it.

Please do not allow this Dangerous Monster to go into its proposed location in Morro Bay. There is a huge percentage of Morro Bay's population that are downwind of this proposed site.

Vote No on the battery farm at its proposed site.

Please review the recent Moss Landing video below.

<https://www.youtube.com/watch?v=f0srRxoWz0>

Thank you for your attention to this very important matter.

Tim & Kim Hixson



Heather Goodwin

From: GARRY JOHNSON [REDACTED]
Sent: Sunday, September 25, 2022 9:07 PM
To: Heather Goodwin
Subject: Agenda Correspondence for council; meeting on 9/27/22
Attachments: Lithium Storage MEETING FACTS 3bx.docx; dangers of lithium-ion batteries storage facilities.docx

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Morro Bay Lithium battery storage facility

Morro Bay City Manager and Council are considering one of world's largest Lithium storage facilities within a few blocks of a neighborhoods where hundreds of people are now living and near Morro Bay high school.

After doing my research on the subject, it is my opinion that downtown Morro Bay is not the right place to put a highly dangerous Lithium-ion battery storage facility. I believe in Li-ion battery technology, but not a facility this large in a residential neighborhood. The technical literature I have been reading states that a storage facility this large is still not a well-developed technology. There is currently not enough data and experience available to understand the possible implications of this site.

The State of Arizona near Phoenix had a lithium-ion battery fire. When first responders opened the door to the enclosure, it exploded sending several of them to the hospital. The manufacturer claims, after the investigation that it was a great learning experience, this is how they get information for the next generation.

In addition, Chandler Az, had a huge Lithium- ion fire they evacuated people in a one mile area due to toxic fumes.

There were at least 23 South Korean plants which caught fire; including South Korea's Chungnam Solar Station.

In China. An electric bus exploded due to a faulty battery. There was a lithium-ion battery explosion on board a diesel-electric ferry In Norway. Germany has problems too.

The module design may be a good one, but it can also have problems. Li-ion batteries are very sensitive to mechanical damage and water, which could lead to battery explosions and fires. This facility will be near earthquake faults. If and when a tsunami hits this area, we are all in trouble. Remember, the decision was made to move our sewer system because of a possible tsunami. This storage facility is at the same sea level as our former sewer plant .

Also, the chemicals used in Li-ion batteries are known by the state of California to cause cancer and birth defects.

FINALLY

I am not against the Lithium battery storage projects, but because of the dangers inherent in the currently proposal. It should be located at a safer location like the Diablo Canyon plant.

The Moss landing facility has had three fires in modules including the recent one September 20th.

After the fire, the facility was shut down and taken off the grid.

Also, they had to shut down Highway 1 because there could be toxic fumes coming from the fire. The traffic was stacked up for miles.

Morro Bay estuary is a fragile, natural area and needs to be protected.

With local groups concerned about climate change and ocean rise, I don't understand why these group are not actively fighting this Morro Bay location.

Garry Johnson


DANGERS OF LITHIUM STORAGE FACILITIES

By Garry Johnson

Are lithium ion polymer batteries dangerous?

Hazards. Lithium batteries are generally safe and unlikely to fail, but only so long as there are no defects and the batteries are not damaged. When lithium batteries fail to operate safely or are damaged, they may present a fire and/or explosion hazard. Jun 20, 2019

***WARNING: Lithium-ion batteries and products that contain lithium-ion batteries can** expose you to chemicals including cobalt lithium nickel oxide, and nickel, which are known to the State of California to **cause cancer** and birth defects or other reproductive harm.

***Lithium** extraction harms the soil and causes air contamination. In Argentina's Salar de Hombre Muerto, residents believe that **lithium** operations contaminated streams used by humans and livestock and for crop irrigation.

***Despite its overall advantages, lithium-ion has its drawbacks. It is fragile and requires a protection circuit to maintain safe operation. Built into each pack, the protection** circuit limits the peak voltage of each cell during charge and prevents the cell voltage from dropping too low on discharge.

*Will we run out of lithium?

spoiler: at today's prices, **lithium** might **run out** by 2025. And as electric cars begin to take over the roads, **lithium** stocks could turn **out** to be some of the biggest winners.

*Will a swollen battery explode?

It's possible for a **swollen** lithium-ion **battery** in your device to catch fire or **explode**. While this may not happen every time, **swollen batteries** are dangerous and should be handled with extreme caution.

*Why are electric car batteries bad for the environment?

Nevertheless, at the end of the manufacturing process, **electric cars** are the ones generating more carbon emissions, according to the Union of Concerned Scientists. Why is this? Because **electric cars** store energy in large **batteries** (the larger they are, the bigger their range is) that have high **environmental** costs.

*Why is mining lithium bad?

The biggest environmental danger posed by **lithium mining** is the amount of water the process uses up: an estimated 500,000 gallons of water per ton of **lithium** extracted. This can endanger the communities where the **lithium** is being **mined** because it can cause droughts or famine if operations are not kept in check.

*Is swollen battery dangerous?

Swollen batteries, while not common, are a significant **risk**. They are the result of too much current inside a cell of the **battery**, which causes a build-up of heat and gas. This can be caused by overcharging, manufacturer defect, deep discharge, or damage to the **battery**.

*Where does China get its lithium?

It also produces nearly two-thirds of the world's **lithium-ion** batteries and controls most of the world's **lithium** processing facilities, according to data from Benchmark Mineral Intelligence. **China** now **gets** most of **its lithium** from Australia, but is looking to expand **its** capacity in the future.

*Who makes the best lithium battery?

Four Companies Leading the Rise of Lithium & Battery Technology

- Ganfeng **Lithium**: A leading Chinese **lithium** mining company that has evolved into refining and processing **lithium, battery** manufacturing, and recycling.
- Panasonic: A **top-3** global EV **battery** manufacturer from Japan.
- Livent: A **top-5 lithium** producer from the US.
- **DANGERS OF LITHIUM STORAGE FACILITIES**

The explosion at APS' **storage facility** made apparent another **hazard**: When lithium-ion **batteries** heat up, they emit flammable gasses. Hill said the explosion was triggered when firefighters agitated the air inside the structure housing the **batteries**, causing that gas to combust.

*The safety of energy storage systems is under scrutiny after firefighters were injured in an Arizona battery plant explosion in April, and it emerged that at least 23 South Korean plants caught fire in a series of incidents dating back to August 2017.

***New problem for firefighters**

The problem is compounded by the fact that newer lithium-ion batteries store more electricity than other electrochemical storage systems. "The lead-acid battery has been around a long time" and is a mature technology, said Redfield. "The energy levels of lithium-ion batteries are much, much, much greater than that of lead-acid storage."

In addition, in the case of a thermal runaway, it's usually not the batteries that catch fire but their fumes, though lithium itself is flammable. Even after the fire is extinguished, the batteries can still generate tremendous amounts of heat and reignite fumes, hampering rescue efforts.

One solution is to separate batteries into modules, making it easier to isolate a failed battery from the rest. Another trick is to have a master kill switch, a mechanism that quickly disables the electrical system and discharges the batteries.

The Department of Energy and the National Fire Protection Association are working together to train firefighters and rescue workers to identify these switches in vehicles and grid storage systems as well as in how to respond to battery fires, according to the NHTSA.

Sensitivity of Li-ion batteries to mechanical damage and electrical transients Contrary to existing conventional battery technology, Li-ion batteries are very sensitive to mechanical damage and electrical surges. This type of damage can result in internal battery short circuits which lead to internal battery heating, battery explosions and fires. The loss of an individual battery can rapidly cascade to surrounding batteries, resulting in a larger scale fire.

"The U.S. energy storage market nearly doubled in 2018 and is expected to double again in 2019, so this marks an ideal time for the industry to demonstrate their commitment to corporate responsibility," ESA CEO Kelly Speakes-Backman said in a statement.

While most industry stakeholders declined to comment on the incident in Arizona, citing a lack of facts, an NEC executive told Utility Dive that the April 19 fire correctly puts greater emphasis on the safety of energy storage systems along with robust protocols for first responders, and highlights the importance of codes and standards.

"Energy storage is safe as long as it's designed and integrated in a responsible manner, and proper training for operators and first responders is provided. It's important that the failure analysis of this incident is made available so that we as an industry can continue to improve our protocols, processes and products," Roger Lin, energy solutions VP of marketing at NEC, said.

Lin believes that the biggest danger associated with energy storage comes from a lack of adherence to best design safety practices and a lack of robust training for first responders.

Will water ruin a lithium battery?

Batteries must not get wet or be exposed to **water**. **Li-ion batteries** should not be kept in the open where they **can** get damaged. They should be stored in a secure, dry, and cool place, and away from flammable materials, as well as separated from metal objects.

What causes lithium batteries to explode?

Most **lithium-ion battery** fires and **explosions** come down to a problem of short circuiting. This happens when the plastic separator fails and lets the anode and cathode touch. And once those two get together, the **battery** starts to overheat. ... Other external factor **can cause a lithium-ion battery** to fail, too.

What happens if you put a lithium battery in water?

Lithium reacts intensely with **water**, forming **lithium** hydroxide and highly flammable hydrogen. The colourless solution is highly alkaline. The exothermal reactions last longer than the reaction of sodium and **water**, which is directly below **lithium** in the periodic chart.

What happens if you cut open a lithium battery?

Lithium reacts with moisture and may spontaneously ignite. Don't allow it to come in contact with **your** skin. Also, **cutting** into a **battery** often causes a short circuit, which may produce a fire.

[Lithium Ion Battery Storage Safety & Regulations | Jensen ...](#)

Recent fires at energy storage facilities raised lithium ion battery storage safety concerns impacting future regulation.

In recent months, there have been several reported fires at grid-connected lithium-ion battery energy storage facilities in South Korea and the United States. This included a fire with subsequent explosion at a relatively new 2MW installation in Arizona. These fires have raised questions about the safety of the technology and the impact on future lithium ion battery storage regulations.

Lithium-ion battery technology provides a versatile energy storage option that has been successfully used for powering consumer electronics, tools, electric vehicles, as well as backup power systems. Grid scale energy storage has reached a new dimension as megawatts of electrical power are being stored. Compared to other battery technologies, lithium-ion batteries are more resilient to damage from excessive discharging and can cycle more times without significant loss of capacity. Lithium-ion batteries also have a higher energy density than traditional battery designs providing a footprint advantage.

So are these systems safe? Energy Storage Systems (ESS) using lithium ion can be susceptible to catching fire under certain conditions. For instance, an internal failure of one or a small number of cells can lead to an internal short circuit that generates enough heat to initiate thermal runaway. Other triggering events could be overcharging, mechanical abuse, or an ordinary electrical fire inside the ESS container near the battery cells. When thermal runaway occurs, the fire propagates through an entire module unless the batteries are adequately cooled. This is mainly achieved with water spray as clean agents are typically only effective to suppress the conventional fire. Aside from the high heat during thermal runaway, lithium-ion battery fires can also produce toxic and flammable gases. Upon bursting of a battery cell, the electrolyte is discharged under high pressure. The discharged cloud may be flammable

and is water reactive forming hydrofluoric acid (HF) by reacting with the humidity in the air. HF is noxious and poses a serious inhalation danger. That's where ventilation comes in.

Energy storage systems are being adapted quickly—faster than policymakers can create standards for them. The National Fire Protection Association has recently released the second draft version of NFPA 855, Standard for the Installation of Stationary Energy Storage Systems, which provides useful guidelines to suppliers, system integrators, and operators/owners. The final draft is scheduled for release and comment next year with the final version scheduled for release in 2020.

Many companies are looking to get ahead of any forthcoming regulations and assess the safety and fire protection of their energy safety systems.

References

] Power Engineering, 4/18/2017, "What you need to know about energy storage."

[2] www.bbc.co.uk/news/business-38714461

[3] www.theguardian.com/business/2016/oct/14/samsung-galaxy-note-7-smartphone-profits-warning

[4] www.greentechmedia.com/articles/read/battery-room-fire-at-kahuku-wind-energy-storage-farm#gs.yfr=ERQ

[5] The Property Insurance Research Group (PIRG), comprising representatives of seven major insurance companies supports the activities of the Fire Protection Research Foundation (FPRF), itself part of the US National Fire Protection Association (NFPA).