

**To:** Comments@efsec.wa.gov

**From:** efsec@efsec.wa.gov

**Received:** 2024-10-08T23:01:51+00:00

**Subject:** FW: Best Practice for Lithium BESS incidents after 5 BESS fires in San Diego: Alternative Energy Emergency Response Coordinator

**Has attachment?** False

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**From:** James DeLay <jamesdelay@hotmail.com>

**Sent:** Tuesday, October 8, 2024 3:16 PM

**To:** DOR King County Leg Authority 2 <kcxec@kingcounty.gov>

**Cc:** Reagan.Dunn@kingcounty.gov; dow.constantine@kingcounty.gov

**Subject:** Best Practice for Lithium BESS incidents after 5 BESS fires in San Diego: Alternative Energy Emergency Response Coordinator

External Email

Dear Executive Constantine, King County Council Vice-Chair Dunn, and local Council Members, Board Members, Mayors, Legislatures, and leaders and influencers of WA State,

Here's a good article about San Diego's new best practice as the first county in America which has experienced five (5) BESS fires since the first BESS fire in April 2022:

US, CA, Escondido 120 5 September 2024

US, CA, Santa Ana 17 July 2024

USA, CA, San Diego 15 May 2024

US, CA, Valley Center 18 September 2023

US, CA, Valley Center 5 April 2022

[https://storagewiki.epri.com/index.php/BESS\\_Failure\\_Incident\\_Database](https://storagewiki.epri.com/index.php/BESS_Failure_Incident_Database)

They have created a job/position called, Alternative Energy Emergency Response Coordinator, where the fire expert focuses on being a resource on active lithium battery fires... Every County should have one if they have EVs/BESS located in the County!

A couple good quotes:

"Battery fires are notoriously difficult to put out because they include so many types of combustibles — plastics, flammable liquids, electrical components and metal. They burn extremely hot and can spew toxic fumes and explosive gases. Exploding batteries can blow out windows or doors of a home."

"In late 2022, crews fighting a warehouse fire where pedicabs and lithium-ion batteries were stored in the East Village thought they were being shot at because of the noise from exploding batteries sending material into the building's metal walls."

"Firefighters say applying water won't extinguish the fires — and can create other problems with runoff and gases — so they often choose to let them burn themselves out."

“The chemical reaction that’s happening in the batteries cannot be extinguished,” Rezende said. Crews applying water are trying to prevent the next battery from going into thermal runaway, known as propagation, he said.

"When responding to a fire involving batteries," Rezende said "an incident commander will look at several factors, including the location of the fire and the risk to public safety, before choosing whether to fight it defensively or offensively."

“Either we flood it with water and do the best that we can to cool it. Or we let it self-consume — consume all the fuel and then it kind of self-extinguishes,” he said."

So, the Mattson Middle School location would be a prime example of where the environmental risks are too high to flood it with water and instead they would let it burn and the focus would/should be on evacuating all the school children/staff, families and animals, all businesses, and everyone else in the area for the days to weeks while it self-extinguishes...

Who pays for the evacuations of 800 kids and staff and the 1,000s of families/neighbors forced out of their homes for up to two weeks?

Who pays for missed school days and make up days?

Who pays for housing? Where will 1,000s of families stay- there aren't enough hotels nearby...

Who pays for their food?

Who pays for lost income and revenues for people and businesses?

Who pays for all the cleanup of the smoke and ash out of Mattson Middle School's campus and people's yards and from inside people's homes?

Here's the full article:

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**"San Diego Battalion Chief Shares Lithium-Ion Expertise in New Role**

Sept. 25, 2024

**As the region's alternative energy response coordinator, Rob Rezende responds to incidents as a technical advisor.**

**By** Karen Kucher

**Source** The San Diego Union-Tribune (TNS)

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Alejandro Tamayo (TNS)

San Diego Battalion Chief Rob Rezende was heading home from a hazmat conference in Sacramento when people started texting him about a lithium-ion battery fire in Escondido.

Before his plane took off, he watched drone footage on his phone showing smoke and flames erupting from a container at the SDG&E energy storage facility on Sept. 5.

This was the second battery storage facility fire in San Diego County since Rezende became the region’s alternative energy emergency response coordinator in April. It is a role carved out especially for him as fires involving lithium-ion batteries grow more common, locally and elsewhere.

Rezende, a battalion chief with San Diego Fire- Rescue and a 17-year department veteran, is a nationally recognized expert in lithium-ion battery fires. In his new role, other agencies like Escondido can call on him to look at their fire response.

“I don’t show up at these incidents to question the incident commander or to take over, I just come there to be a technical adviser,” said Rezende, who headed straight to Escondido after landing.

Crews were letting the fire burn out while sending water streams to cool down a nearby container. Nearby businesses were evacuated as air quality was tested. The incident was over in 12 hours. “They knew what they were doing,” said Rezende.

Battery fires are notoriously difficult to put out because they include so many types of combustibles — plastics, flammable liquids, electrical components and metal. They burn extremely hot and can spew toxic fumes and explosive gases. Exploding batteries can blow out windows or doors of a home.

In late 2022, crews fighting a warehouse fire where pedicabs and lithium-ion batteries were stored in the East Village thought they were being shot at because of the noise from exploding batteries sending material into the building’s metal walls.

Firefighters say applying water won’t extinguish the fires — and can create other problems with runoff and gases — so they often choose to let them burn themselves out.

“The chemical reaction that’s happening in the batteries cannot be extinguished,” Rezende said. Crews applying water are trying to prevent the next battery from going into thermal runaway, known as propagation, he said.

In recent years, firefighters in San Diego and elsewhere began seeing more fires involving lithium-ion batteries, but there wasn’t clear direction on how to handle them. Recognizing that no one was knowledgeable about the issue, Rezende — then the hazmat program manager — immersed himself in the topic. He traveled to conferences in the U.S. and abroad, meeting experts in the private and public sectors. He helped figure out best practices and pushed the training out to local agencies.

He became so busy with that work, fire officials agreed he should hand off his hazmat manager role and focus on lithium-ion battery fires and other alternative energy technologies full-time.

“It was just consuming so much of his time,” newly retired Fire-Rescue Chief Colin Stowell recalled. “He’s very smart and he had a lot of passion for it and he was trying to assist everybody he could, but it was just overwhelming.”

At Stowell’s urging, Rezende secured an Urban Area Security Initiative grant which funds the job as a regional resource. He now focuses on batteries and other alternative energy sources such as hydrogen fuel cells and alternative fuel vehicles. The rapidly changing technology brings new and unexpected challenges to fire crews figuring out the safest and most effective way to tackle fires.

“California is leading the way on alternative energy so we are going to be the state seeing the most and the fastest and the soonest,” Rezende said.

### **Helping out after the Maui fires**

Even before he took his regional role, Rezende was viewed as a national expert on the topic. He was asked to consult with the U.S. Environmental Protection Agency in the aftermath of the devastating wildfires on the Hawaiian island of Maui in August 2023 that killed more than 100 people.

The team figured out what to do with all the batteries found in burned-out electric vehicles and homes in and around Lahaina. They used a liquid solution containing salt to de-energize the batteries so they could be safely transported for recycling. In all, batteries from 94 electric and hybrid vehicles and 274 residential energy-storage systems were shipped to a processing facility in Reno, Nev.

Back in San Diego, Rezende had only been in his new job a few weeks when a fire broke out May 15 at the 250-megawatt Gateway Energy Storage in Otay Mesa. A fire ignited in one of seven buildings where racks of lithium-ion batteries are stored.

Crews sprayed millions of gallons of water onto the building. Officials initially thought it was out the next evening, but the batteries kept reigniting. It took 17 days before crews were released from the fire.

Fire officials said the lithium-ion batteries experienced “thermal runaway” — a condition in which excessive heat results in a chemical reaction that spreads to other batteries.

When responding to a fire involving batteries, Rezende said an incident commander will look at several factors, including the location of the fire and the risk to public safety, before choosing whether to fight it defensively or offensively. “Either we flood it with water and do the best that we can to cool it. Or we let it self-consume — consume all the fuel and then it kind of self-extinguishes,” he said.

### **Early career goals didn’t include firefighting**

Rezende didn’t grow up wanting to be a firefighter.

The son of a Brazilian diplomat, he was born in Los Angeles and moved to Brazil with his family before returning to the U.S. when he was 12.

Tall and athletic, he initially wanted to be a fitness trainer for a pro soccer team and earned master’s degrees in exercise physiology and nutritional sciences at San Diego State University. Armed with two graduate degrees, he briefly considered pursuing a doctorate before deciding instead to work as an exercise physiologist in the Fire Department’s wellness program. He eventually opted to make the fire service a career and graduated from the academy in 2007.

In his new job, he’s a frequent speaker at conferences and meets with elected leaders and fire officials around the region as they consider energy storage facilities in their jurisdictions. Rezende said he will ensure training keeps up with emerging technologies, and he’s pushing for departments to better track fires that involve lithium-ion batteries. The city of San Diego had 104 fires involving lithium batteries in 2023 and 63 this year as of late August.

The city has put out public service announcements warning residents not to leave e-bikes unattended while charging them. The city also urges residents to use cords and power adapters provided by the manufacturer and to be aware of signs a battery is failing, such as overheating or emitting an odd odor.

Rezende would also like to see better options for residents looking to discard old or damaged lithium-ion batteries, which cannot be tossed into municipal trash because of the risk of sparking a fire or causing explosions in trash trucks or landfills. The city’s hazmat team has helped test prototypes of battery disposal containers, which Rezende envisions one day could be placed at drop-off locations at some city facilities. The team also is working with a UCLA researcher who is measuring contaminants on firefighter gear from battery fires — and who is trying to find the best way to clean them.

“My top priority is keeping my guys safe,” he said. “If we can protect the firefighters, we can protect the public.”

As for the future, Rezende would like to see an outreach program in high schools to educate teens about how to use and store batteries safely and provide warnings about the danger of altering e-bikes and e-scooters to go faster.

Here's the link:

[https://www.firehouse.com/operations-training/news/55142458/san-diego-battalion-chief-shares-lithium-ion-expertise-in-new-role?fbclid=IwY2xjawFyjtgleHRuA2FlbQlxMAABHbuMbBWKpqzje\\_cl\\_c-E0mvZ-1nkGy2gLw9Y3NtkQWreSxzZY7eRmamVnA\\_aem\\_d3z5xXGf1ND6CehcOTo9bA](https://www.firehouse.com/operations-training/news/55142458/san-diego-battalion-chief-shares-lithium-ion-expertise-in-new-role?fbclid=IwY2xjawFyjtgleHRuA2FlbQlxMAABHbuMbBWKpqzje_cl_c-E0mvZ-1nkGy2gLw9Y3NtkQWreSxzZY7eRmamVnA_aem_d3z5xXGf1ND6CehcOTo9bA)

My Best,

James

**Attachments:**

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