CONCURRENCE IN SENATE AMENDMENTS
CSA1 Bill Id:AB 841¶Author:(Patel)
As Amended Ver:August 29, 2025
Majority vote

SUMMARY

1) Requires the State Fire Marshal (SFM) to develop, in consultation with the Division of Occupational Safety and Health (Cal/OSHA), a working group to make recommendations regarding personal protective equipment used in responding to lithium-ion batteries.

2) Requires the working group to include members of the State Board of Fire Services (Board), academia, health and safety experts, a representative from Cal/OSHA, and a labor organization representing the utility workforce, as determined by the SFM.

3) Requires the working group to review and, for the purposes of making recommendations, to consider specified equipment, technology, and practices, as defined.

4) Requires the recommendations developed pursuant to this bill be delivered to the Legislature no later than September 1, 2026, as specified.

5) Includes a repeal date on the above reporting requirement of January 1, 2030, and includes a repeal date for this statute of January 1, 2031.

Senate Amendments

1) Adds a sunset date for this statute and associated reported requirement.

2) Adds a representative from Cal/OSHA to the working group.

3) Modifies legislative findings and declarations related to lithium-ion battery fires in Orange County in 2021 and Otay Mesa in 2024.

COMMENTS

Firefighting remains one of the Nation's most hazardous professions: According to the Administrator of the United States Fire Administration, "Fire is a public health and safety problem of great proportions, and firefighting remains one of the Nation's most hazardous professions. On average there are more than 1.2 million structure fires, nearly 3,000 deaths, thousands of injuries, and scores of individuals displaced annually from fires. Although disasters such as fires can affect everyone, fires can also exacerbate pre-existing challenges in underserved communities across the country. These impacts are further compounded by poor implementation and enforcement of national building codes and fire risks associated with technology that make fires more common, more intense, and more destructive. These challenges pose heightened risks to the public and to first responders who safeguard our communities, and the challenge continues to evolve. For example, emerging technologies like Lithium-ion (Li-ion) powered devices and harmful chemicals including polyfluoroalkyl substances (PFAS) introduce new and continued risks to our communities and firefighters."

Lithium-ion Batteries and Risk of Thermal Runaway: One of the primary risks related to lithium-ion batteries is thermal runaway. Thermal runaway is a phenomenon in which the lithium-ion cell enters an uncontrollable, self-heating state. Thermal runaway can result in extremely high temperatures, violent cell venting, smoke, and fire. Faults in a lithium-ion cell can result in a thermal runaway, and these faults can be caused by internal failure or external conditions. Lithium-ion battery fires and explosions are triggered by the thermal runaway reactions inside the cell and, when stored near or next to another battery or batteries, can set off a chain reaction, making an already tough fire to fight even worse. When they reach thermal runaway, lithium-ion battery fires can burn for hours or even days, until all the flammable chemicals in the battery have been consumed by the combustion reaction.

One such example occurred in Rancho Cordova in June of 2022, when a Tesla Model S, which had been badly damaged in a collision was sitting in a wrecking yard and suddenly erupted in flames. When firefighters arrived the car was engulfed, according to the Sacramento Metropolitan Fire District, "[e]very time the blaze was momentarily extinguished, the car's battery compartment reignited." Eventually, the firefighters used a tractor to create a pit in the dirt, were able to get the car inside, and then filled the hole with water. That allowed the firefighters to suffocate the battery pack and ultimately extinguish the fire, which burned hotter than 3,000 degrees and took more than an hour and 4,500 gallons of water to extinguish.

Lithium-ion batteries and PFAS: Lithium-ion batteries are used globally as a key component of clean and sustainable energy infrastructure, and emerging Lithium-ion battery technologies have incorporated a class of per- and polyfluoroalkyl substances (PFAS) known as bis-perfluoroalkyl sulfonimides (bis-FASIs). PFAS are recognized internationally as recalcitrant contaminants, a subset of which are known to be mobile and toxic, but little is known about environmental impacts of bis-FASIs released during Lithium-ion battery manufacture, use, and disposal.

Growth of Battery Storage in California and Projected Need: Over the past several years, the deployment of battery storage systems has grown significantly in California, growing from 500 megawatts (MW) in 2019 to over 13,300 MW statewide in 2024. According to the CPUC, "Battery storage systems are one of the key technologies California relies on to enhance reliability and reduce dependency on polluting fossil fuel plants. Battery storage systems soak up clean energy in the daytime when the sun is shining, store that electricity, and then export it to the grid in the evening hours when the sun is down. In 2024, California made historic progress in clean energy deployment. The state brought more than 7,000 MW online—the largest amount in a single year in California's history. This includes over 4,000 MW of new battery storage. California's current installed battery storage capacity is over 20% of California's peak demand. The state's projected need for battery storage capacity is estimated at 52,000 MW by 2045."

The Vistra Fire Incident at Moss Landing Power Plant: On January 16, 2025, a fire started at the Vistra Battery Energy Storage Facility and soon engulfed the Phase 1 battery energy storage building on the grounds of the Moss Landing Power Plant. The massive fire and thermal runaway event burned for days, destroyed tens of thousands of lithium-ion batteries, and resulted in shelter-in place and evacuation orders. Prior to the Vistra Fire, there had been three safety incidents at separately owned battery energy storage facilities located at the Moss Landing Power Plant, which occupies one of the largest battery energy storage systems.

According to the Author
Our state has made great strides toward utilizing electricity and batteries over fossil fuels. As such, lithium-ion battery storage systems have proliferated and California has the most amount of utility-scale battery storage facilities and electric cars, second only to China. While positive in many ways, this battery expansion has also come with unintended consequences, as the recent fire in Moss Landing—among others—demonstrated. Our firefighters are there to fight the fire to the best of their ability and keep our communities safe from further spread. But their current Personal Protective Equipment (PPE) and decontamination procedures have not been updated with this new form of fire that is becoming more common. As a result, they are exposed to toxic metals and semi-volatile organic compounds, exposing them to cancer and other serious health risks. To safeguard firefighters' health amid the rapid expansion of lithium-ion battery use, California urgently needs updated PPE and more effective decontamination procedures.

Arguments in Support
The California Professional Firefighters write, "There has been a recent spate of incidents involving lithium-ion batteries and energy storage systems (ESS). These incidents have been increasing in frequency and severity and have resulted in widespread community impacts, severe toxic exposures, and the injuries of our members as they respond to try and mitigate the damage. It is necessary to take a critical look at the standards surrounding firefighter health and safety issues when responding to these fires. The dangers of lithium-ion battery fires cannot be understated, both to the safety personnel responding to them as well as to the surrounding communities."

Arguments in Opposition
None on file.

FISCAL COMMENTS

According to the Senate Appropriations Committee, "the Department of Industrial Relations, which houses OSHA, notes costs of approximately $169,000 in the first year and $157,000 ongoing to consult with the SFM and participate in the working group (Occupational Safety and Health Fund). The California Department of Forestry and Fire Protection, which houses the SFM, anticipates the fiscal impact to convene the working group to be absorbable."

VOTES:

ASM EMERGENCY MANAGEMENT: 7-0-0
YES: Ransom, Hadwick, Arambula, Bains, Bennett, Calderon, DeMaio

ASM LABOR AND EMPLOYMENT: 7-0-0
YES: Ortega, Flora, Chen, Elhawary, Kalra, Lee, Ward

ASM APPROPRIATIONS: 14-0-1
YES: Wicks, Arambula, Calderon, Caloza, Dixon, Elhawary, Fong, Mark González, Hart, Pacheco, Pellerin, Solache, Ta, Tangipa
ABS, ABST OR NV: Sanchez

ASSEMBLY FLOOR: 79-0-0

YES: Addis, Aguiar-Curry, Ahrens, Alanis, Alvarez, Arambula, Ávila Farías, Bains, Bauer-Kahan, Bennett, Berman, Boerner, Bonta, Bryan, Calderon, Caloza, Carrillo, Castillo, Chen, Connolly, Davies, DeMaio, Dixon, Elhawary, Ellis, Flora, Fong, Gabriel, Gallagher, Garcia, Gipson, Jeff Gonzalez, Mark González, Hadwick, Haney, Harabedian, Hart, Hoover, Irwin, Jackson, Kalra, Krell, Lackey, Lee, Lowenthal, Macedo, McKinnor, Muratsuchi, Nguyen, Ortega, Pacheco, Papan, Patel, Patterson, Pellerin, Petrie-Norris, Quirk-Silva, Ramos, Ransom, Celeste Rodriguez, Michelle Rodriguez, Rogers, Blanca Rubio, Sanchez, Schiavo, Schultz, Sharp-Collins, Solache, Soria, Stefani, Ta, Tangipa, Valencia, Wallis, Ward, Wicks, Wilson, Zbur, Rivas

UPDATED

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