



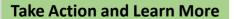
With the ever-increasing use and popularity of electric vehicles, e-bikes, e-scooters, and other lithium-ion batterypowered electronics, the risk of related fires has grown as well. The fire service plays a vital role in educating community members about potential hazards of lithium-ion batteries. Having a strong community risk reduction program in place can make a tremendous impact, helping ensure that populations and demographics at highest risk have the tools and information needed to use, maintain, store, and dispose of them safely.

In addition, lithium-ion fires can become quite serious within a very short window of time, requiring that people are alerted to them as quickly as possible. Reinforcing to the public the importance of smoke alarms, home escape planning, and home fire sprinklers is critical to keeping the community safe.

Educational Resources

You can utilize existing resources to help enhance your lithium-ion battery public education program. These include:

- <u>Tip sheet</u> from the NFPA on Lithium-Ion Battery Safety
- <u>Resources</u> from the NFPA on how to use, store, and maintain e-bikes and e-scooters
- <u>Social media graphics</u> on lithiumion battery safety from the U.S. Fire Administration
- <u>Safety tips</u> for lithium-ion batteries from the FDNY



Visit <u>www.safetystandown.org</u> for more information and resources.



Electric Vehicles

Basic safety guidelines and recommendations can help prevent hazards associated with electric vehicles:

- ✓ Home charging equipment must be installed by a qualified electrician and use equipment that has been listed by an independent testing laboratory. Never hotwire a charger on electrical equipment.
- Never charge a vehicle that has been submerged in water.
- ✓ If involved in an accident, check with the manufacturer to make sure that the battery pack has not been damaged.



LITHIUM-ION BATTERIES: PUBLIC EDUCATION MESSAGING

Built Environment

It's easy to identify hazards associated with facilities that house a battery plant. However, simple techniques for *all* buildings should be implemented and monitored – and not only by inspectors but the entire fire service community, as follows:

- ✓ Basic charging principles should be used for all equipment. Do not leave equipment charging when the building is unoccupied.
- ✓ Only use the manufacturer's charging equipment and batteries that are listed and intended to be used on the equipment.
- ✓ Battery collection programs should be limited and meet Chapter 14 of NFPA 855.
- ✓ Develop programs for identifying possible damage to battery packs and best use of separating from other batteries and combustibles.

Fire Station

The same key safety points for the built environment should be applied to fire stations, which increasingly use lithium-ion batteries to power devices and equipment. From developing charging strategies to using the right charger for equipment, potential hazards can be limited in the following ways:

- Make sure everyone is fully aware of the potential fire hazards associated with charging batteries and knows if/when battery packs may have been subject to damage or moisture.
- Develop means for proper recycling and capture of battery packs.
- ✓ Only buy batteries that are listed for use with equipment, understanding that use of off specification or modified battery packs can lead to catastrophic failure.

Energy Storage Systems in the Home

Use of energy storage systems in the home can be a great way to add reliability to the home's power system. Recommendations for doing so safely include the following guidelines and recommendations:

- Installed equipment shall be listed per UL 9540 and installed per the listing and manufacturer's instructions. This means the right equipment must be used in the space for which it was designed. (For example, some equipment is designed to be installed on the exterior of the home vs. a garage.)
- ✓ Use a licensed contractor who is familiar with energy storage systems and the associated hazards.
- ✓ Homeowners should never make a DIY battery pack and energy storage system. These lack the basic safety features found in listed equipment.
- ✓ Work with local code officials (such as an electrical and/or building inspector) to highlight the requirements of home ESS systems found in the National Electric Code[®] (NEC[®]) and NFPA 855, Standard for the Installation of Energy Storage Systems.

How Many Incidents?

Every department must find a means to capture incident data when batteries are involved.

How can your community capture response data to lithium-ion batteries?

www.safetystanddown.org/



