File No. 231165 **Committee Item No.** 5
Board Item No. 2

COMMITTEE/BOARD OF SUPERVISORS

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Committee: Land Use and Transportation **Date:** January 29, 2024
Board of Supervisors Meeting: **Date:** February 13, 2024

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Prepared by: John Carroll **Date:** January 25, 2024
Prepared by: John Carroll **Date:** February 2, 2024
Prepared by: **Date:**

AMENDED IN COMMITTEE
1/29/2024

FILE NO. 231165 ORDINANCE NO.

[Fire Code - Lithium-Ion Batteries in Powered Mobility Devices]

Ordinance amending the Fire Code to provide fire protection standards for the charging and storage of lithium-ion batteries used in powered mobility devices (such as electric bikes, scooters, skateboards, and hoverboards), prohibit use of damaged lithium-ion batteries in such devices, prohibit use of lithium-ion batteries assembled or reconditioned using cells removed from used batteries in such devices, and require the Fire Department to conduct an informational campaign; affirming the Planning Department's determination under the California Environmental Quality Act; and directing the Clerk of the Board of Supervisors to forward this ordinance to the California Building Standards Commission upon final passage.

NOTE: **Unchanged Code text and uncodified text** are in plain Arial font.
Additions to Codes are in *single-underline italics Times New Roman font*.
Deletions to Codes are in ~~*strikethrough italics Times New Roman font*~~.
Board amendment additions are in double-underlined Arial font.
Board amendment deletions are in ~~strikethrough Arial font~~.
Asterisks (* * * *) indicate the omission of unchanged Code subsections or parts of tables.

Be it ordained by the People of the City and County of San Francisco:

Section 1. Environmental Findings. The Planning Department has determined that the actions contemplated in this ordinance comply with the California Environmental Quality Act (California Public Resources Code Sections 21000 et seq.). Said determination is on file with the Clerk of the Board of Supervisors in File No. 231165 and is incorporated herein by reference. The Board affirms this determination.

Section 2. Findings under California Health and Safety Code. The Board of Supervisors hereby finds that the following local conditions apply to the amendments to the San Francisco Fire Code enacted by this ordinance:

(a) The City and County of San Francisco is unique among California communities with respect to the possible causes and effects of fires, including fires in residential multi-unit buildings. Among other things, San Francisco is located on an active seismic zone; certain buildings in San Francisco are at an increased risk for earthquake-induced failure and consequent fire because of local hazardous microzones, slide areas, and local liquefaction hazards; and enhanced fire, structural, and other protections are required due to high building density, the prevalence of wood structures, and high occupancy in many buildings.

(b) San Francisco has narrow and crowded sidewalks due to building and population density and unusual topography; and San Francisco has numerous high-rise buildings, including residential buildings with large numbers of people living therein. For these reasons, fires in San Francisco can be especially devastating, and the need for extra measures to prevent, prepare for, and cope with fires is especially pressing.

(c) The number of lithium-ion battery-based fires has increased dramatically with the growing prevalence of such batteries in consumer products. Lithium-ion batteries contain flammable materials and present a fire and explosion hazard, particularly when batteries are damaged or improperly charged or stored. Fires caused by lithium-ion batteries can be particularly devastating, due to the chemical hazards posed by such fires, their tendency to flash and grow quickly in size, and the difficulty of extinguishing them.

(d) The fire risk posed by lithium-ion batteries used in powered mobility devices, such as electric bikes, scooters, skateboards, and hoverboards, is particularly high due to the size of batteries necessary to power such devices, the frequency of collisions and corresponding damage to batteries, and the frequency of re-charging batteries for mobility devices that are

often used on a daily basis. In San Francisco, the fire risk is heightened by local conditions, including narrow streets and traffic congestion, which increase the likelihood that batteries used to power conveyances traveling on City streets are damaged by collision or impact.

(e) In San Francisco, numerous fire incidents have been associated with~~attributed to~~ rechargeable batteries in recent years. In 2020, according to Fire Department records, 36~~21~~ fire incidents were associated with~~attributed to~~ rechargeable batteries. In 2021, 35~~17~~ fire incidents were associated with~~attributed to~~ rechargeable batteries. In 2022, 58~~31~~ fire incidents were associated with~~attributed to~~ rechargeable batteries. In 2023, as of early November, 37~~21~~ fire incidents have been associated with~~attributed to~~ rechargeable batteries, according to Fire Department records.

(f) California Health and Safety Code Sections 17958 and 17958.5 allow the City to make changes or modifications in the requirements contained in the provisions published by the California Building Standards Commission, including the California Fire Code, when those changes or modifications are reasonably necessary because of local climatic, geological, or topographical conditions. California Health and Safety Code Section 17958.7 provides that before making any such changes or modifications, the governing body must make express findings that such changes or modifications are reasonably necessary because of the specified local conditions, and those findings shall be filed with the California Building Standards Commission.

(g) California Code of Regulations, Title 22, Division 4.5, Chapters 11 and 23 define the characteristics of hazardous waste and special handling requirements for batteries. Lithium-ion batteries must be handled as hazardous waste, and as such, cannot be disposed of in recycling, compost, or landfill collection bins. Batteries contain corrosive materials and heavy metals that can contaminate the environment. Additionally, lithium-ion batteries pose a fire risk if placed in a recycling, compost, or landfill collection bin. However, used lithium-ion batteries

possess useful raw materials and therefore should be recycled to conserve valuable natural resources and contribute to a more sustainable economy. Safe recycling methods exist for these batteries in San Francisco, which include battery take-back programs at participating bicycle shops, and battery recycling programs provided by the City's waste hauler.

(h) It is the intent of the Board of Supervisors to explore the creation of a trade-in program to facilitate the disposal and upgrade of unsafe powered mobility devices operating in San Francisco, including through the use and deployment of state and local incentive programs.

(~~g~~i) Pursuant to the applicable California Health and Safety Code sections, the Board of Supervisors finds and determines that the conditions described above constitute a general summary of the most significant local conditions giving rise to the need for variance from the California Fire Code and any other applicable provisions published by the California Building Standards Commission through the proposed regulations to mitigate the significant fire risk associated with use, charging, and storage of lithium-ion batteries used in powered mobility devices. Further, the Board of Supervisors finds and determines that the fire safety regulations in this ordinance are reasonably necessary based on these local conditions, in the densest major city in the State of California, and that these conditions justify more restrictive standards applicable to the use, charging, and storage of lithium-ion batteries used in powered mobility devices, which are becoming ever more ubiquitous on City streets.

Section 3. Part II, Chapter 3 of the Fire Code is hereby amended by adding Section 325, consisting of Sections 325.1, 325.2, 325.3, 325.4, 325.5, 325.6, 325.7, 325.8, and 325.9, to read as follows:

SECTION 325. – LITHIUM-ION BATTERIES USED IN POWERED MOBILITY DEVICES.

***325.1. Definitions**. For purposes of this Section 325, the following definitions apply~~ies~~:*

***"Powered Mobility Device"** means a conveyance with the primary purpose of carrying people and is capable of transporting one or more persons powered by a lithium-ion battery; which includes, but is not limited to, a motorized or powered scooter, an electric bicycle, an electric skateboard, an electric hoverboard, or light electric vehicle (LEV). Notwithstanding the previous sentence, Powered Mobility Device does not include wheelchairs or other mobility devices designed for use by persons with disabilities, or any vehicle capable of being registered with the California Department of Motor Vehicles.*

"***Battery Cabinet***" means a cabinet that is designed for the purpose of storage and/or charging of lithium-ion battery packs or other removable lithium-ion storage batteries that has demonstrated the ability to prevent thermal propagation from a battery pack or a removable storage battery to other adjacent battery packs or removable storage batteries, and has passed testing by an accredited ~~Nationally Recognized Testing L~~laboratory, or has otherwise been approved by the Fire Department.

"***Safety-Certified Powered Mobility Device***" means a Powered Mobility Device for which the Powered Mobility Device, or its electrical system, has been certified for compliance with:

(1) Underwriters Laboratories (UL) standards UL 2849 or UL 2272;

(2) European (EN) standards EN 15194 or EN 17128; or

(3) Other safety standard of an accredited laboratory, approved by the Fire Department.

***325.2. General Requirement**. The use, sale, transfer, charging, and storage of lithium-ion batteries used in Powered Mobility Devices shall comply with Section 325.*

325.3. Powered Mobility Devices*. Powered Mobility Devices using a storage, charging, or repair facility, including any storage or charging area in a Group B, R-1, R-2,* R-3, *F, S, or M occupancy, that is designed, installed, operated, and maintained in accordance with the Building and Electrical Codes, shall comply with Sections 325.4 through 325.7.*

Exceptions:

(a) Storage and charging in a Group R-3 occupancy where each Powered Mobility Device is a Safety-Certified Powered Mobility Device., ~~or its electrical system, has been certified for compliance with:~~

~~(1) Underwriters Laboratories (UL) standards UL 2849 or UL 2272;~~

~~(2) European (EN) standards EN 15194 or EN 17128; or~~

~~(3) Other safety standard of a Nationally Recognized Testing Laboratory, approved by the Fire Department.~~

(b) Storage and charging ~~or~~ *within a* single *dwelling unit*, garage, or storage area *in a Group R-2 occupancy, of not more than* four~~three~~ *Powered Mobility Devices, provided that such Powered Mobility Devices are for* the *personal use* of a person occupying the unit, and where each Powered Mobility Device is a Safety-Certified Powered Mobility Device~~or its electrical system, has been certified for compliance with:~~

~~(1) Underwriters Laboratories (UL) standards UL 2849 or UL 2272;~~

~~(2) European (EN) Standards EN 15194 or 17128; or~~

~~(3) Other safety standard of a Nationally Recognized Testing Laboratory, approved by the Fire Department.~~

~~(b)~~(c) *Charging of a single Powered Mobility Device by and in the presence of its owner or user in occupancies other than Group H or L*, where the Powered Mobility Device is a Safety-Certified Powered Mobility Device, ~~or its electrical system, has been certified for compliance with:~~

~~(1) Underwriters Laboratories (UL) standards UL 2849 or UL 2272;~~

~~(2) European (EN) Standards EN 15194 or 17128; or~~

~~(3) Other safety standard of a Nationally Recognized Testing Laboratory,~~ approved by the Fire Department.

***325.4. Battery Chargers**. Powered Mobility Devices shall be charged in accordance with the manufacturer's instructions and the applicable listing standard using the original equipment, manufacturer-supplied charging equipment, or other charging equipment suitable for the purpose, that is designed in accordance with applicable federal, state, and any other applicable laws, rules, and regulations, and listed:*

*(a) Pursuant to either UL 1564, UL1310, UL1012, or other approved listing from a*n accredited ~~Nationally-Recognized Testing L~~laboratory, approved by the Fire Department*; or*

(b) For use with the Powered Mobility Device in accordance with UL 2271, UL *2272, UL 2849, or other approved listing from a*n accredited ~~Nationally-Recognized Testing L~~laboratory, approved by the Fire Department.

***325.5. Battery Inspection; Damaged Batteries**. A lithium-ion battery used in a Powered Mobility Device shall be inspected for cracks, punctures, leaking contents, or other damage prior to charging or re-charging if the battery was dropped, involved in a collision, or otherwise subjected to a potential mechanism of damage. Damaged lithium-ion batteries shall not be used in Powered Mobility Devices. Damaged lithium-ion batteries and lithium-ion batteries at the end of their useable life shall be promptly and lawfully disposed of.*

***325.6. Battery Charging Areas**. Powered Mobility Devices* and lithium-ion batteries used in such devices *shall be charged in a suitable indoor room or area, or outdoor location, that, in either location:*

(a) Has sufficient natural or mechanical ventilation in accordance with the Mechanical Code to prevent the accumulation of any flammable or other gases that may be discharged during normal charging operations;

(b) For the charging of Powered Mobility Devices with attached or enclosed batteries, h~~H~~*as an adequate electrical supply and a sufficient number of electrical receptacles to allow* ~~the charging equipment for~~ *each device* ~~or item of equipment~~ *to be directly connected to an electrical receptacle. Extension cords and power strips shall not be used. A minimum of 3 feet (914 mm) shall be maintained between each Powered Mobility Device during charging operations.* Subject to the approval of the Fire Department, the minimum 3 feet (914 mm) separation distance while charging multiple Powered Mobility Devices may be reduced to a minimum of 6 inches (152 mm) if the Powered Mobility Device is UL 2272 listed, contains a UL 2271 listed battery tested and certified by an accredited~~approved Nationally Recognized Testing L~~laboratory, and such battery is contained in a completely enclosed non-combustible compartment within the Powered Mobility Device that has been tested and certified by an accredited ~~Nationally Recognized Testing L~~laboratory;

(c) For the charging of detached battery packs or other removable storage batteries, h~~H~~*as an adequate electrical supply and a sufficient number of electrical receptacles to allow the charging equipment for battery packs and other removable storage batteries to be directly connected to an electrical receptacle. Extension cords and power strips shall not be used. Battery packs and other removable storage batteries shall not be stacked or charged in an enclosed cabinet unless the cabinet is* a Battery Cabinet approved by the Fire Department ~~designed for such purpose and approved by a Nationally Recognized Testing Laboratory, or by the Fire Department~~. *Except as otherwise approved by the Fire Department, a minimum distance of 2 feet (610 mm) shall be maintained between each battery pack or other removable storage battery during charging operations, provided that the*

aggregate energy capacity of battery packs or other removable storage batteries that can be simultaneously charged in a single Fire Area does not exceed 20 kWh. A minimum distance of 3 feet (914 mm) shall be maintained between each battery pack or other removable storage battery during charging operations if the aggregate energy capacity exceeds 20 kWh. The aggregate energy capacity of battery packs or other removable batteries that can be simultaneously charged in a single Ff~~f~~*ire* Aa~~a~~*rea shall not exceed 50 kWh*. The minimum separation distance requirements of this subsection (c) shall not apply to battery packs or other removable storage batteries during storage or charging within a Battery Cabinet. Each approved Battery Cabinet shall be considered a single Fire Area with an aggregate energy capacity not exceeding 50kWh*;*

(d) Is not used for the storage of flammable or combustible liquids, combustible waste, or hazardous materials;

(e) Is separated by:

(1) ~~within a Battery Cabinet, or by a~~A *fire barrier with a minimum one-hour fire-resistance rating*, or enclosure within a Battery Cabinet, *from areas in which repairs or other servicing* ~~is~~ are *conducted on the battery or other electrical components of the Powered Mobility Device in* a Group B, R-1, R-2, F, or S occupancy; or

(2) In an M occupancy, a minimum distance of at least 10 feet (3048 mm) from areas where Powered Mobility Devices are displayed for retail sale, stored, or where repairs or other servicing are conducted on the battery or other electrical components of the Powered Mobility Device, and where each Powered Mobility Device for sale is a Safety-Certified Powered Mobility Device~~has been certified for compliance with:~~

~~(A) Underwriters Laboratories (UL) standards UL 2849 or UL 2272;~~

~~(B) European (EN) Standards EN 15194 or 17128; or~~

~~(C) Other safety standard of a Nationally Recognized Testing Laboratory, approved by the Fire Department~~.

(f) ~~Is dedicated for battery charging and secured from unauthorized entry; W~~w*here* five~~six~~ *or more Powered Mobility Devices*, detached battery packs, or other removable storage batteries *are being charged at a single indoor location*, is~~using a Battery Cabinet or~~, *separated by a fire barrier that encloses the entire space with a minimum one-hour fire-resistance rating;* is separated within the enclosure of a Battery Cabinet; or in an M occupancy, is separated by a minimum distance of 10 feet (3048 mm) from areas where Powered Mobility Devices are displayed for sale. The building or occupancy shall be equipped with ~~and protected by~~ *a fire sprinkler system complying with Section 903.3.1.1 of the Fire Code*,~~and having one or more smoke detectors. The building or occupancy shall be equipped with~~ *an automatic fire detection and alarm system complying with Section 907 of the Fire Code*, and have one or more smoke detectors. *If the ambient temperature of the room during battery charging operations exceeds the limitations set forth in the manufacturer's instructions or the equipment listing, the room or area shall be temperature controlled to prevent over-heating or other unsafe battery condition; and*

(g) Is provided with a portable fire extinguisher complying with the requirements of Section 906 of the Fire Code and having a minimum 4-A:20-B:C rating.

325.7. Storage Areas. *Indoor storage rooms and areas, or outdoor enclosures used for the storage, but not for the charging or repair, of Powered Mobility Devices shall comply with the requirements of Section 325.6(d), (e), and (g).*

325.8. Reassembled or Reconditioned Lithium-Ion Batteries. Except as part of a City-authorized recycling program with required permits, and subject to obtaining safety certification from an accredited laboratory and the Fire Department's approval of such certification, ~~I~~it *shall be unlawful to:*

(a) Assemble or recondition a lithium-ion battery for use in a Powered Mobility Device using cells removed from used lithium-ion batteries; or

(b) Sell, offer for sale, give, or transfer a lithium-ion battery for use in a Powered Mobility Device that uses cells removed from used lithium-ion batteries.

325.9. Informational Campaign.

(a) The Fire Department, in consultation with the Department of the Environment, *shall develop an informational campaign to educate the public on the fire risks posed by Powered Mobility Devices and lithium-ion batteries and safety measures that mitigate such risks. Such campaign shall include, but not be limited to, the use of print, online, and social media advertisements, public service announcements, and public forums. Such campaign shall address both commercial and personal use of Powered Mobility Devices and lithium-ion batteries, including, but not limited to, guidance on:*

(1) Powered Mobility Devices and battery equipment that meet established fire safety standards, including Safety-Certified Powered Mobility Devices*;*

(2) Maintenance and care information for Powered Mobility Devices and lithium-ion batteries;

(3) Storage and charging precautions for Powered Mobility Devices and lithium-ion batteries; ~~and~~

(4) Prohibitions on the assembly and sale of second-use lithium-ion batteries as described in Fire Code Section 325.8~~.~~*;*

(5) Proper disposal of, and recycling solutions for, lithium-ion batteries at the end of their life; and

(6) Information about available programs and rebates for consumers to obtain Safety-Certified Powered Mobility Devices.

(b) All forms of public notice provided pursuant to this Section 325.9 shall comply with the requirements of the Language Access Ordinance, Chapter 91 of the Administrative Code, to provide vital information about the Department's programs in the languages spoken by a Substantial Number of Limited English Speaking Persons, as defined in Chapter 91.

Section 4. Chapter 1 of the Fire Code, Division II, Part I, Section 112, is hereby amended by revising Section 112.1, to read as follows:

112.1. [For SF] Unlawful Acts.

(a) It shall be unlawful for a person to erect, construct, enlarge, alter, repair, move, improve, remove, convert, demolish, equip, *charge, store,* use, occupy, or maintain a building, occupancy, premises, system, *conveyance, battery,* or vehicle, or any portion thereof~~:~~, or cause the same to be done, in violation of any of the provisions of this code.

* * * *

Section 5. Scope of Ordinance. In enacting this ordinance, the Board of Supervisors intends to amend only those words, phrases, paragraphs, subsections, sections, articles, numbers, punctuation marks, charts, diagrams, or any other constituent parts of the Municipal Code that are explicitly shown in this ordinance as additions, deletions, Board amendment additions, and Board amendment deletions in accordance with the "Note" that appears under the official title of the ordinance.

Section 6. No Conflict with Federal or State Law. Nothing in this ordinance shall be interpreted or applied so as to create any requirement, power, or duty in conflict with any federal or state law.

Section 7. Undertaking for the General Welfare. In enacting and implementing this ordinance, the City is assuming an undertaking only to promote the general welfare. It is not assuming, nor is it imposing on its officers and employees, an obligation for breach of which it

is liable in money damages to any person who claims that such breach proximately caused injury.

Section 8. Severability. If any section, subsection, sentence, clause, phrase or word of this ordinance, or any application thereof to any person or circumstance, is held to be invalid or unconstitutional by a decision of court of competent jurisdiction, such decision shall not affect the validity of the remaining portions or applications of this ordinance. The Board of Supervisors hereby declares that it would have passed this ordinance and each and every subsection, sentence, clause, phrase, and word not declared invalid or unconstitutional without regard to whether any portion of this ordinance or application thereof would be subsequently declared invalid or unconstitutional.

Section 9. Effective Date. This ordinance shall become effective 30 days after enactment. Enactment occurs when the Mayor signs the ordinance, the Mayor returns the ordinance unsigned or does not sign the ordinance within ten days of receiving it, or the Board of Supervisors overrides the Mayor's veto of the ordinance.

Section 10. Directions to the Clerk. The Clerk of the Board of Supervisors is hereby directed to forward a copy of this ordinance to the California Building Standards Commission upon final passage as required by state law.

APPROVED AS TO FORM:
DAVID CHIU, City Attorney

By: /s/
JEN HUBER
Deputy City Attorney

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FILE NO. 231165

REVISED LEGISLATIVE DIGEST

(Amended in Committee - January 29, 2024)

[Fire Code - Lithium-Ion Batteries in Powered Mobility Devices]

Ordinance amending the Fire Code to provide fire protection standards for the charging and storage of lithium-ion batteries used in powered mobility devices (such as electric bikes, scooters, skateboards, and hoverboards), prohibit use of damaged lithium-ion batteries in such devices, prohibit use of lithium-ion batteries assembled or reconditioned using cells removed from used batteries in such devices, and require the Fire Department to conduct an informational campaign; affirming the Planning Department's determination under the California Environmental Quality Act; and directing the Clerk of the Board of Supervisors to forward this Ordinance to the California Building Standards Commission upon final passage.

Existing Law

The existing Fire Code does not address the charging and storage of lithium-ion batteries used in powered mobility devices, the use of damaged lithium-ion batteries in powered mobility devices, or the assembly, sale, or transfer of reassembled or reconditioned lithium-ion batteries for powered mobility devices.

Amendments to Current Law

The proposed legislation amends to the Fire Code to provide fire protection standards for the use, charging, and storage of lithium-ion batteries used in powered mobility devices, including requiring that such devices are charged in accordance with manufacturer's instructions and the applicable listing standard, requiring inspection of batteries subject to a potential mechanism of damage, and setting certain minimum safety standards for the charging and storage of such devices. The proposed legislation would also make it unlawful to assemble, recondition, sell, offer for sale, give, or transfer a reassembled or reconditioned lithium-ion battery for use in a powered mobility device. The proposed legislation also includes a requirement that the Fire Department develop an informational campaign to educate the public on the fire risks posed by powered mobility devices and lithium-ion batteries.

Background Information

The incidence of lithium-ion battery-based fires has increased with the growing prevalence of such batteries in consumer products. The fire risk posed by lithium-ion batteries used in powered mobility devices, such as electric bikes, scooters, skateboards and hoverboards, is particularly high due to the size of batteries necessary to power such devices, the frequency

of collisions and corresponding damage to batteries, and frequency of re-charging batteries for such devices that are often used on a daily basis. These risks are heightened in San Francisco due to local conditions, which include dense development, narrow streets, and traffic congestion. The proposed legislation seeks to mitigate the fire risk posed by powered mobility devices using lithium-ion batteries by providing for certain safety standards and a public informational campaign.

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Lithium-Ion Batteries 2.0

POWERED MOBILITY DEVICE FIRE SAFETY LEGISLATION 2024

Powered Mobility Devices

A conveyance powered by a lithium-ion battery with the primary purpose of carrying and transporting people

Includes:

- Electric bicycles
- Electric skateboards
- Electric scooters
- Electric hoverboards
- Light electric vehicles

*** Does not include wheelchairs or other devices for use by persons with disabilities

Hazards of lithium-ion batteries in powered mobility devices

Mischarging can cause:

- Thermal runaway
- Fires
- Toxic fumes
- Explosion risk

San Francisco Fire Code Legislative Changes

- Establishes standards for the charging and storage of lithium-ion batteries
- Establishes acceptable safety certification standards (e.g., UL, EN, accredited laboratory)
- Prohibits the use of damaged batteries
- Prohibits the sale, use, or assembly of reconditioned lithium-ion batteries using cells from used batteries
- Requires the SFFD and DOE to develop a public informational safety campaign

Standards for the charging of lithium-ion batteries

No limit on the number of personal use powered mobility devices in one- and two-family homes (R-3), if tested and listed or certificated by:

- Underwriters Laboratories (UL), European Standards (EN), or an accredited laboratory approved by SFFD

Allows up to four (4) powered mobility devices in each individual dwelling unit, garage, or storage area within a multi-unit building (R-2), if :

- All mobility devices are for personal use, and
- UL Listed, European Standards (EN) or an accredited laboratory approved by SFFD

Powered mobility device batteries shall be charged per manufacturer's instructions

- Original manufacturer supplied chargers, or other approved charger
- Chargers shall be listed (e.g., UL 1564, UL1310, UL2272, UL2849)

Battery inspection is required prior to each charge if the battery or powered mobility device was dropped, damaged, or was involved in an accident

- Check for Cracks, Leaks, Dents, or Punctures

Issued: January 23, 2024
Updated from IB 23-003

Lithium-Ion Battery Safety

BACKGROUND

Lithium-ion rechargeable batteries are commonly used in home electronics such as phones, batteries are small and powerful, but when used incorrectly, they can overheat, catch fire, or explode. Fire agencies across California continue to respond to fires caused by lithium-ion batteries.

REQUIREMENTS FOR STORAGE OF ELECTRONIC BIKES, SCOOTERS, AND OTHER ELECTRONIC MICROMOBILITY DEVICES IN RENTAL HOUSING

California Civil Code (CIV) Section 1940.41 defines a "Personal micro-mobility device" as device with both of the following characteristics:
(A) It is powered by the physical exertion of the rider or an electric motor.
(B) It is designed to transport one individual, or one adult accompanied by up to three minors.

CIV 1940.41 that takes effect January 1, 2024, the new law affects storage of e-bikes, e-scooters, and other *personal micro-mobility devices* stored in a rental housing unit. The owner may prohibit the tenant from charging a device in the unit if the device does not meet the standards listed below. It allows for storage and charging of up to one e-bike, e-scooter, or other *personal micro-mobility device* in the rental unit for each person occupying the unit if the device meets one of the following:

A. Complies with the following safety standards:
   For e-bikes, UL 2849, the Standard for Electrical Systems for E-bikes, as recognized by the United States Consumer Product Safety Commission, or EN 15194, the European Standard for electrically powered assisted cycles (EPAC Bicycles).

   For e-scooters, UL 2272, the Standard for Electrical Systems for Personal E-Mobility Devices, as recognized by the United States Consumer Product Safety Commission, or EN 17128, the European Standard for personal light electric vehicles (PLEV).

B. Is insured by the tenant under an insurance policy covering storage of the device within the tenant's dwelling unit.

CAL FIRE - OFFICE OF THE STATE FIRE MARSHAL
INFORMATION BULLETIN 24-001

SAFETY TIPS

- Purchase and use devices that are listed by standards UL 2849, EN 15194, UL 2272, EN 17128 or a qualified testing laboratory.
- Always follow the manufacturer's instructions.
- Only use the battery that is designed for the device.
- Put batteries in the device the right way.
- Only use the charging cord that came with the device.
- Do not charge a device under your pillow, on your bed, or on a couch.
- Do not keep charging the device or device battery after it is fully charged.
- Plug directly into a wall electrical outlet for charging.
- Keep batteries at room temperature and away from heat or direct sunlight. Do not charge them at temperatures below 32°F (0°C) or above 105°F (40°C).
- Store batteries away from anything that can catch fire.
- Do not charge a device while sleeping.
- Do not charge a device near your primary exit.

STOP OPERATION OF THE DEVICE OR CHARGING THE BATTERY IF:

- They emit an unusual smell,
- Develop heat,
- Change shape/geometry,
- Behave abnormally, or
- Develop a leak or make an odd noise.

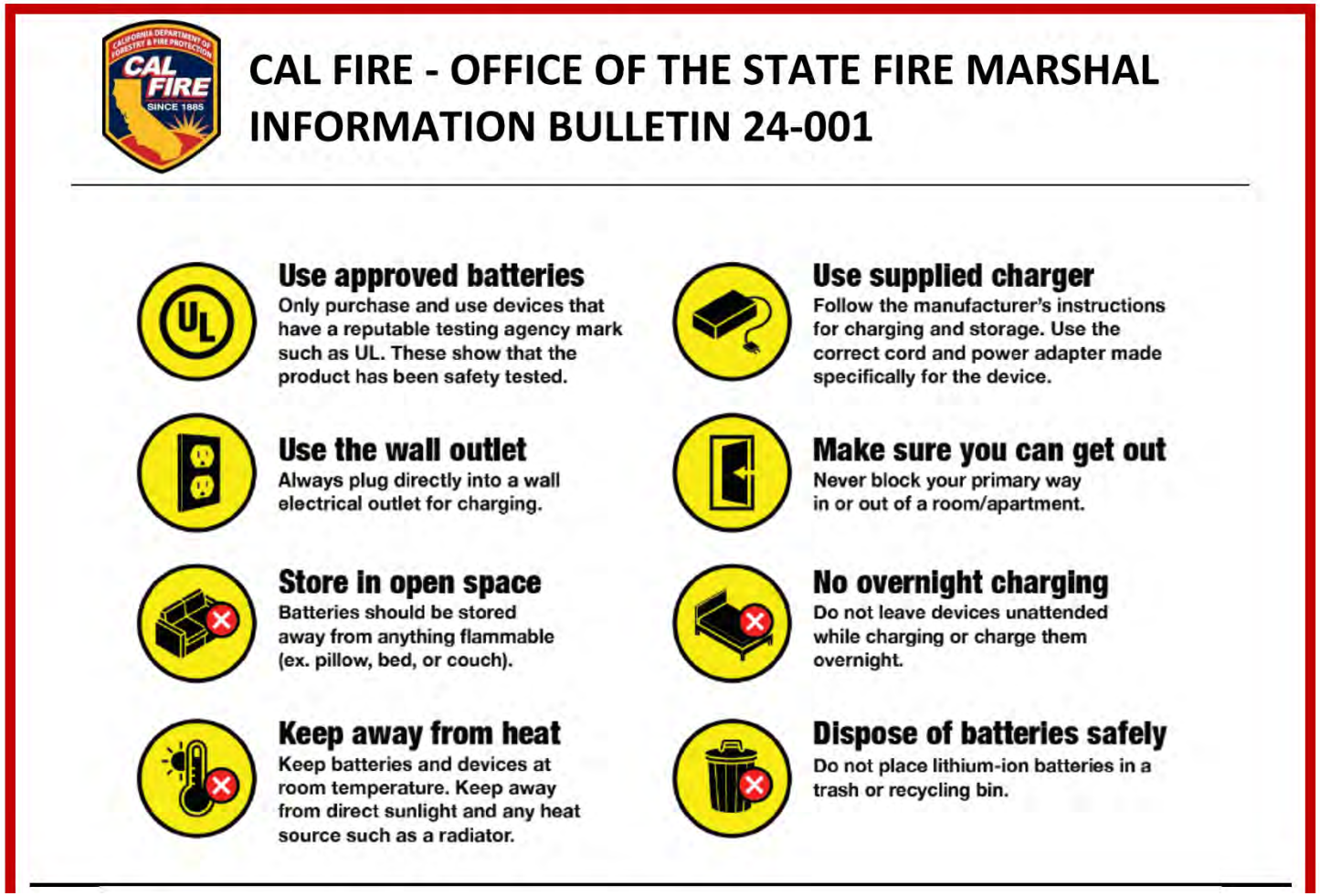
If any of the above happens and you feel in danger, call 9-1-1. If safe, move the device away from anything that can catch fire.

BATTERY DISPOSAL

- Do not put lithium-ion batteries in the trash.
- Recycling is always the best option.
- Take them to a battery recycling location or contact your community for disposal instructions.
- Do not put discarded batteries in piles.

FIRE EXTINGUISHER

- Lithium-ion batteries are considered a Class B fire, so a standard ABC or dry chemical fire extinguisher should be used.



CAL FIRE - OFFICE OF THE STATE FIRE MARSHAL
INFORMATION BULLETIN 24-001

Use approved batteries
Only purchase and use devices that have a reputable testing agency mark such as UL. These show that the product has been safety tested.

Use supplied charger
Follow the manufacturer's instructions for charging and storage. Use the correct cord and power adapter made specifically for the device.

Use the wall outlet
Always plug directly into a wall electrical outlet for charging.

Make sure you can get out
Never block your primary way in or out of a room/apartment.

Store in open space
Batteries should be stored away from anything flammable (ex. pillow, bed, or couch).

No overnight charging
Do not leave devices unattended while charging or charge them overnight.

Keep away from heat
Keep batteries and devices at room temperature. Keep away from direct sunlight and any heat source such as a radiator.

Dispose of batteries safely
Do not place lithium-ion batteries in a trash or recycling bin.

CA State Fire Marshal Safety Standards

Charging or storing listed e-powered mobility devices or batteries in each unit within multi-unit buildings

Five (5) or more Safety-Certified devices, the room or area shall have:**

- One-hour fire resistance rating
- Electrical receptacle for each battery charger
- Fire extinguishers
- Adequate natural or mechanical ventilation
- No storage of flammables or combustibles
- Prohibits the use of power-strips and extension cords for charging
- Fire sprinklers and fire alarm smoke detection system
- Maintain a minimum of 3 feet separation between each device while charging

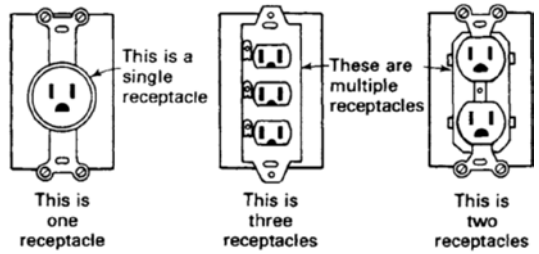
*** Underwriters Laboratories (UL) Standards UL2849 or UL2272; European Standards (EN 15194 or 17128; or other safety standard of an Accredited Laboratory approved by the SFFD*

Any quantity of unlisted devices or batteries shall be charged outdoors only

Charging listed e-powered mobility devices or batteries in your business?

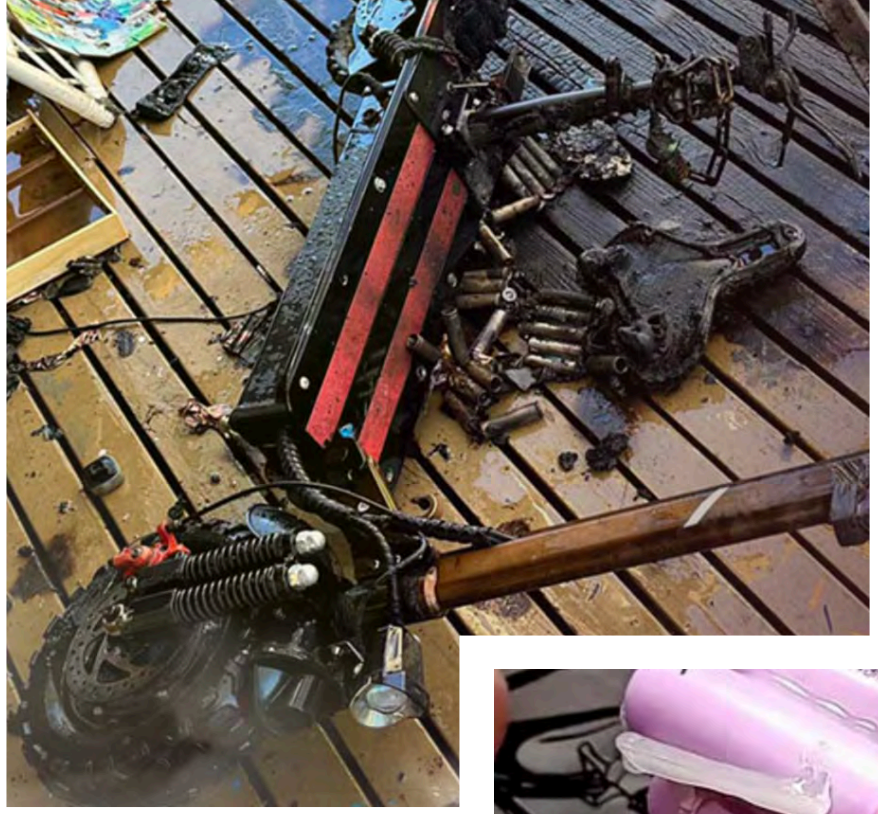
Room or area shall have:

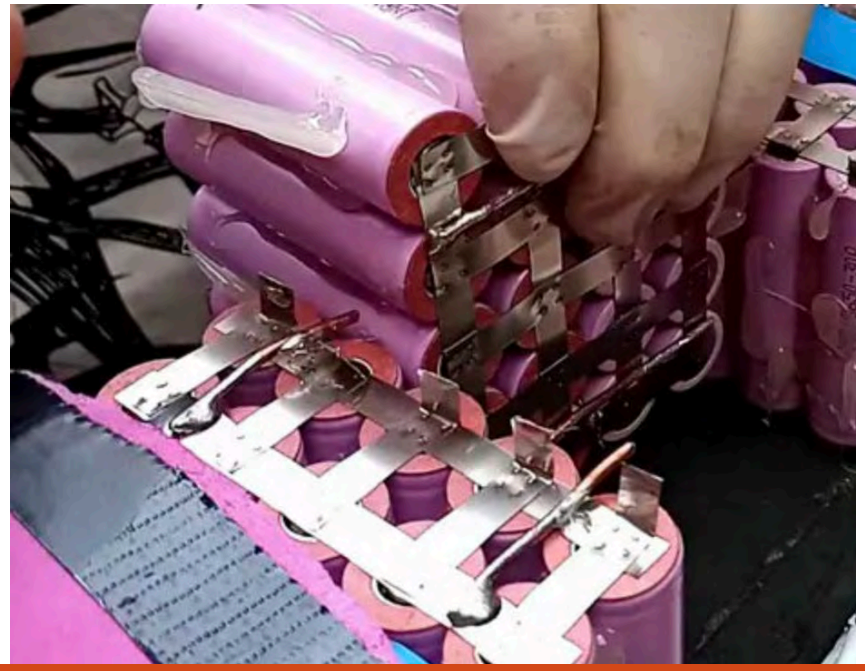
- Adequate natural or mechanical ventilation
- Electrical receptacle for each battery charger
- Fire extinguishers
- Prohibits the use of power-strips and extension cords for charging
- No storage of flammables or combustibles
  - If charging **five (5) or more e-powered devices**, it also requires:
- Fire sprinklers and fire alarm smoke detection system, and
- One-hour fire barrier (B, F, S, or M occupancies), or
- *Exception*: 10 feet minimum separation may be permitted between areas where e-powered devices are charging from where devices are displayed for sale or where repairs or servicing are conducted in M occupancies



Sets minimum separation distance between batteries while charging

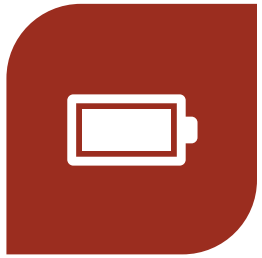
- 2-feet spacing for up to 20kWh max. aggregate*
- 3-feet spacing for up to 50kWh max. aggregate*
  - *Unless using a SFFD approved battery cabinet approved for storage or charging





Prohibits the sale, use, or assembly of reconditioned lithium-ion batteries using cells from used batteries, except as part of a City authorized recycling program and subject to SFFD approval of accredited laboratory

SFFD Fire Marshal's Office shall develop a public informational campaign on Lithium-ion battery fire risks and safety in consultation with the SF Department of the Environment



BATTERY EQUIPMENT SAFETY STANDARDS

MAINTENANCE AND CARE OF BATTERIES

STORAGE AND CHARGING PRECAUTIONS

PROHIBITION OF ASSEMBLY, PURCHASE, AND/OR SALE OF SECOND-USE OR RECONDITIONED BATTERIES

PROPER DISPOSAL AND RECYCLING SOLUTIONS

INFORMATION ON PROGRAMS AND REBATES FOR CONSUMER TO OBTAIN SAFETY-CERTIFIED DEVICES

Questions?

Lithium-Ion Batteries

POWERED MOBILITY DEVICE FIRE SAFETY LEGISLATION 2024

Powered Mobility Devices

A conveyance powered by a lithium-ion battery with the primary purpose of carrying and transporting people

Includes:

- Electric bicycles
- Electric skateboards
- Electric scooters
- Electric hoverboards
- Light electric vehicles

*** Does not include wheelchairs or other devices for use by persons with disabilities

Hazards of lithium-ion batteries in powered mobility devices

Overcharging can cause:

- Thermal runaway
- Fires
- Toxic fumes
- Explosion risk

Difficulty of extinguishing lithium-ion battery fires

San Francisco Fire Code Legislative Changes

1) Establishes standards for the charging and storage of lithium-ion batteries
2) Prohibits the use of damaged batteries
3) Prohibits the sale, use, or assembly of reconditioned lithium-ion batteries using cells from used batteries
4) Requires the SFFD to develop a public informational safety campaign

Standards for the charging and storage of lithium-ion batteries

No limit on the number of listed powered mobility devices in one- and two-family homes (R-3) for personal use

- UL Listed, European Standards (EN) or NRTL approved by SFFD

Allows up to four (4) powered mobility devices in each individual dwelling unit, garage, or storage area within multi-unit buildings (R-2)

- All mobility devices must be for personal use, and
- UL Listed, European Standards (EN) or NRTL approved by SFFD

Powered mobility device batteries shall be charged per manufacturer's instructions

- Original equipment or manufacturer supplied chargers
- Chargers shall be listed (e.g., UL 1564, UL1310, UL2272, UL2849)

Battery inspection required prior to each charge if the battery was dropped or is damaged

- Cracks, Leaks, or Punctures

Charging or storing listed e-powered mobility devices or batteries in multi-unit buildings

Five (5) or more listed, the room or area shall have:**

- Adequate natural or mechanical ventilation
- Electrical receptacle for each battery charger
- Fire extinguishers
- Prohibit the use of power-strips and extension cords for charging
- No storage of flammables or combustibles
- Fire sprinklers and fire alarm smoke detection system

Any quantity of unlisted devices or batteries shall comply with above requirements

*** Underwriters Laboratories (UL) Standards UL2849 or UL2272; European Standards (EN 15194 or 17128; or other safety standard of a Nationally Recognized Testing Laboratory approved by the SFFD*

Charging or storing listed e-powered mobility devices or batteries in your business?

Room or area shall have:

- Adequate natural or mechanical ventilation
- Electrical receptacle for each battery charger
- Fire extinguishers
- Prohibits the use of power-strips and extension cords for charging
- No storage of flammables or combustibles
  - If charging **five (5) or more**, requires
- Fire sprinklers and fire alarm smoke detection system, and
- One-hour fire barrier (B, F, S, or M occupancies), or
- *Exception*: 10 feet minimum separation may be permitted between areas where e-powered devices are charging from where devices are displayed for sale or where repairs or servicing are conducted in M occupancies

Sets minimum separation distance between batteries while charging

- 2-feet spacing for up to 20kWh max. aggregate*
- 3-feet spacing for up to 50kWh max. aggregate*
  - *Unless using a SFFD approved battery cabinet approved for storage or charging

Spacing of powered mobility devices with attached or enclosed batteries while charging

Three (3) feet shall be maintained between each powered mobility device while charging.

Spacing may be reduced to a minimum of six (6) inches if the powered mobility device is UL2272 listed, and the battery is UL2271 listed.

- UL2272 devices include scooters, skateboards, hoverboards

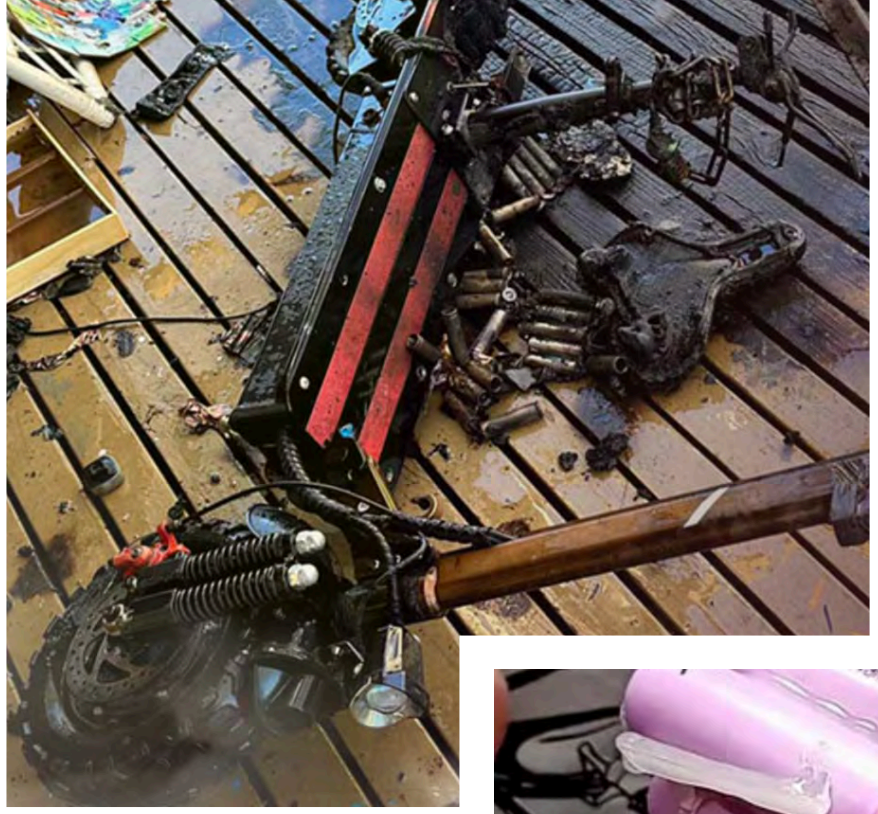
Use of damaged batteries is prohibited

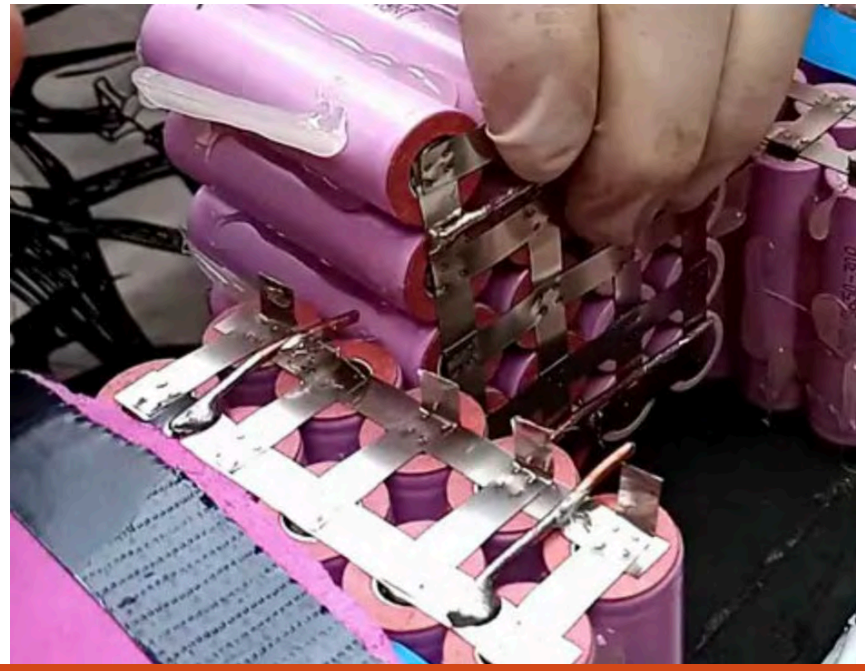
Requires lithium-ion batteries be removed from use if any of the following are found:

- Cracks
- Leaking fluids
- Punctures
- Bulging
- Overheating
- Odors or smoke

Lithium-ion batteries shall be recycled

DO NOT throw batteries in trash!!!





Prohibits the sale, use, or assembly of reconditioned lithium-ion batteries using cells from used batteries

SFFD Fire Marshal's Office shall develop a public informational campaign on Lithium-ion battery fire risks and safety

- Battery equipment standards
- Maintenance and care of batteries
- Storage and charging precautions
- Prohibition of assembly, purchase, and/or sale of second-use or reconditioned batteries

Questions?

Lithium-Ion Batteries

POWERED MOBILITY DEVICE FIRE SAFETY LEGISLATION

Powered Mobility Devices

A conveyance powered by a lithium-ion battery with the primary purpose of carrying and transporting people

Includes:

- Electric bicycles
- Electric skateboards
- Electric scooters
- Electric hoverboards
- Light electric vehicles

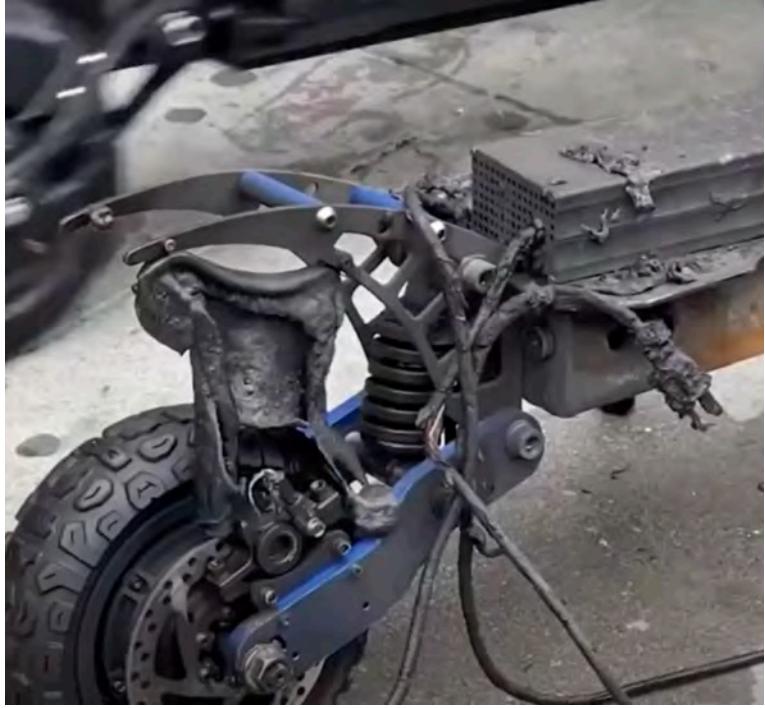
*** Does not include wheelchairs or other devices for use by persons with disabilities

Hazards of lithium-ion batteries in powered mobility devices

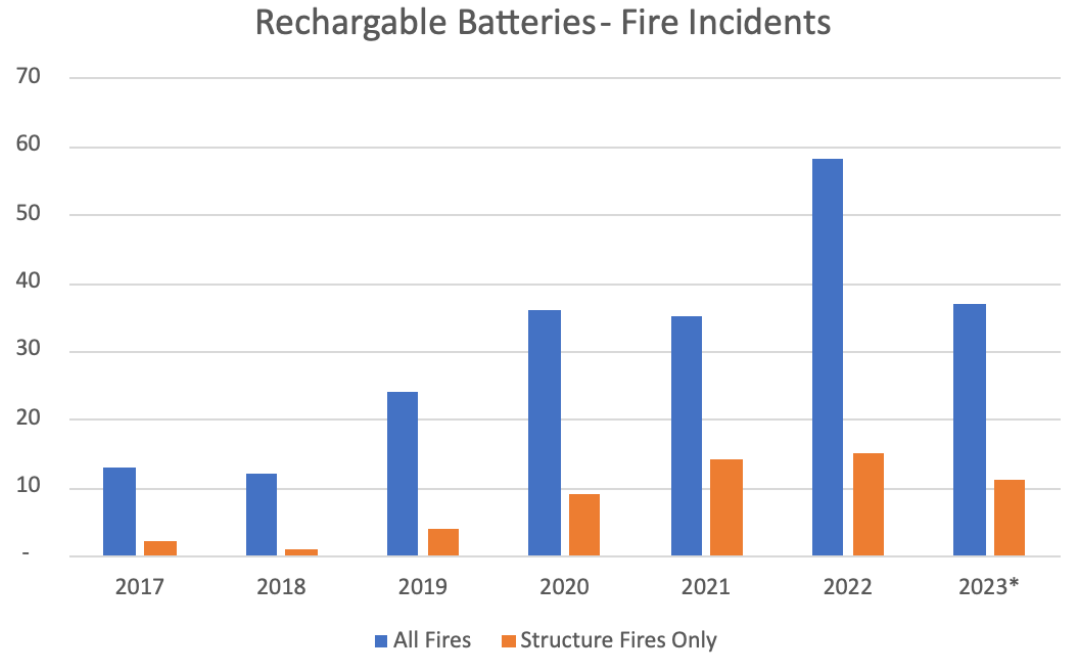
Overcharging can cause:

- Thermal runaway
- Fires
- Explosion risk
- Toxic fumes

Difficulty of extinguishing lithium-ion battery fires



Year	Total Fires	Structure Fires Only	Injuries	Fatalities
2017	13	2	-	-
2018	12	1	-	-
2019	24	4	-	-
2020	36	9	4	-
2021	35	14	1	-
2022	58	15	2	1
2023*	37	11	1	-



Lithium-Ion Battery Fires in San Francisco 2017-2023

New SF Fire Code Legislative Changes

1) Establishes standards for the charging and storage of lithium-ion batteries
2) Prohibits the use of damaged batteries
3) Prohibits the sale, use, or assembly of reconditioned lithium-ion batteries using cells from used batteries
4) Requires the SFFD to develop a public informational campaign

Standards for the charging and storage of lithium-ion batteries

Limits up to three (3) powered mobility devices in homes (R-3) and dwelling units (R-2)

- All devices must be for personal use only

Batteries shall be charged per manufacturer's instructions

- Original equipment or manufacturer supplied chargers
- Chargers shall be listed (e.g., UL 1564, UL1310, UL2272, UL2849)

Battery inspection required prior to each charging if the battery was dropped or is damaged

- Cracks
- Leaking
- Punctures

Charging or storing more than three (3) batteries or powered mobility devices in your home or business?

Room or area shall have:

- Sufficient natural or mechanical ventilation
- Electrical receptacles for each battery charger
- Fire extinguishers
- Sprinklers and fire alarm system, if charging six (6) or more batteries
- Prohibit the use of power-strips and extension cords for charging
- No storage of flammables or combustibles

Sets minimum separation distance between batteries while charging

- 2-feet spacing for up to 20kWh max. aggregate*
- 3-feet spacing for up to 50kWh max. aggregate*
  - *Unless using a NRTL or SFFD approved battery storage or charging cabinet

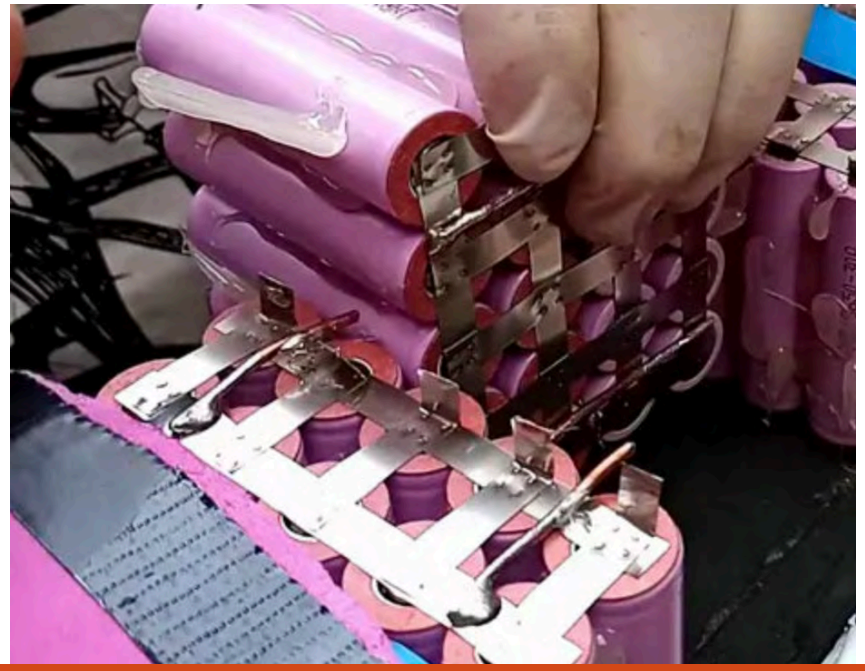
Use of damaged batteries is prohibited

Requires lithium-ion batteries be removed from use if any of the following are found:

- Cracks
- Leaking fluids
- Punctures
- Bulging
- Overheating
- Odors or smoke

Lithium-ion batteries shall be recycled

DO NOT throw batteries in trash!!!



Prohibits the sale, use, or assembly of reconditioned lithium-ion batteries using cells from used batteries

SFFD Fire Marshal's Office shall develop a public informational campaign on Lithium-ion battery fire risks and safety

- Battery equipment standards
- Maintenance and care of batteries
- Storage and charging precautions
- Prohibition of assembly, purchase, and/or sale of second-use or reconditioned batteries

Questions?

From:	Cofflin, Ken (FIR)
To:	Peskin, Aaron (BOS); Melgar, Myrna (BOS); Preston, Dean (BOS)
Cc:	Kilgore, Preston (BOS); Horrell, Nate (BOS); Heiken, Emma (BOS); Robin Pam; Brett Thurber; Cyrus Hall; Carroll, John (BOS)
Subject:	FW: Please continue Item 4 of Land Use committee: Li-ion Batteries in Powered Mobility Devices
Date:	Wednesday, January 10, 2024 2:01:26 PM
Attachments:	image001.png

Sup Peskin et al,

Please see my responses to the Bicycle Coalition's requests for consideration in **RED** below.

Fire Marshal Ken Cofflin
San Francisco Fire Department
698 2nd Street, Rm 109
San Francisco, CA 94107
415-558-3320 Office
(he,him,his)

From: Peskin, Aaron (BOS) <aaron.peskin@sfgov.org>
Sent: Monday, January 8, 2024 2:18 PM
To: Christopher White <christopher@sfbike.org>; Melgar, Myrna (BOS) <myrna.melgar@sfgov.org>; Preston, Dean (BOS) <dean.preston@sfgov.org>
Cc: Kilgore, Preston (BOS) <preston.kilgore@sfgov.org>; Horrell, Nate (BOS) <nate.horrell@sfgov.org>; Heiken, Emma (BOS) <emma.heiken@sfgov.org>; Robin Pam <robin@kidsafesf.com>; Brett Thurber <brett@newwheel.net>; Cyrus Hall <cyrusphall@gmail.com>; Carroll, John (BOS) <john.carroll@sfgov.org>; Cofflin, Ken (FIR) <ken.cofflin@sfgov.org>
Subject: Re: Please continue Item 4 of Land Use committee: Li-ion Batteries in Powered Mobility Devices

Looping in the Fire Marshal for his expertise.

Get Outlook for iOS

From: Christopher White <christopher@sfbike.org>
Sent: Monday, January 8, 2024 2:06:51 PM
To: Peskin, Aaron (BOS) <aaron.peskin@sfgov.org>; Melgar, Myrna (BOS) <myrna.melgar@sfgov.org>; Preston, Dean (BOS) <dean.preston@sfgov.org>
Cc: Kilgore, Preston (BOS) <preston.kilgore@sfgov.org>; Horrell, Nate (BOS) <nate.horrell@sfgov.org>; Heiken, Emma (BOS) <emma.heiken@sfgov.org>; Robin Pam <robin@kidsafesf.com>; Brett Thurber <brett@newwheel.net>; Cyrus Hall <cyrusphall@gmail.com>; Carroll, John (BOS) <john.carroll@sfgov.org>
Subject: Please continue Item 4 of Land Use committee: Li-ion Batteries in Powered Mobility Devices

Dear President Peskin, Supervisor Melgar, and Supervisor Preston,

First, I would like to thank President Peskin for your leadership and the committee for taking up this important issue and for making amendments to the original ordinance after hearing feedback from constituents and stakeholders.

On behalf of the San Francisco Bicycle Coalition, as well as other stakeholders including Kid Safe SF, The New Wheel, and several individual advocates, I am reaching out to ask that this item be continued in order to consider other amendments we believe will make the ordinance stronger. The amendments we wish to be considered can be found below:

1. A reduction from 3 feet to 12 inches between charging UL or similarly certified devices. The Fire Marshal's Office (FMO) has reached out to UL to see if they have more information gathered during UL2849 testing and we're waiting for a response or lead to more information. Sans additional testing information, the FMO recommends maintaining the 3 feet separation while charging. When devices are stored only, 12 inches should be appropriate.

2. A removal of limitations on the numbers of UL or similarly certified devices in Group R-2 occupancy, allowing the State limits to stand. State requirements tend to be less restrictive than what is needed in San Francisco because there are no other cities in the state like San Francisco due to our types of construction (old/wood framed buildings), the spacing of buildings (zero lot lines), and our topography (many hills). Adding more than four (4) devices per dwelling unit, without both a fire alarm with smoke detection and a fire sprinkler system, increases the fire load and chances for a Li-ion battery fire to occur. *Example:* A 20-unit building could potentially have up to 80 e- bikes/scooter stored within its walls when allowing a maximum of four.

3. A path for current owners of non-UL/EN compliant devices. Many will not be able to afford to just buy a new device, and will live out of compliance, or just sell/dump their device. How would this suggestion be enforced? How would the AHJ verify that the device was purchased prior to Jan 2024? Even with allowing persons to keep their devices until they are no longer useable, the fire hazard still exists every day and this ongoing hazard needs to be addressed immediately.

4. In the case of non-UL or EN-certified devices in multi-family housing, maintain a limit on devices, based on input from stakeholders. If non-listed device is purchased then it should be stored outside of the building.

5. In 325.6 (f), increase the threshold number of e-mobility devices charging in M occupancy units that would require a sprinkler system to 10, as long as the devices are UL or EN certified. Anything less could be a very high burden for retailers specifically. 10 is an excessive number of devices being charged for an unsprinklered space. Each device charging adds a potential

for a fire. If more than five are needed to be charged indoors, then sprinklers and fire alarm should be installed.

6. In regards to Section 325.6, change the language to something like "For permanent charging (consistent charging of the same device for more than 24 hours) and charging more than 2 devices, extension cords and power strips shall not be used" for UL or EN listed devices. Charging UL or similarly certified devices on an extension cord or power strip for short periods does not pose a significant risk. FMO recommends leaving the extension cords and power strips prohibition as written, as this is not overly onerous and it improves safety.

7. That the Department of the Environment lead the public awareness campaign with support from the Fire Department to balance safety messaging with encouragement to safely adopt these climate-friendly modes. The Dept of Env does not enforce the fire code. Public safety messaging shall come from the Fire Marshal's Office as the AHJ.

Thank you, President Peskin, for your leadership on this issue and to the rest of the committee for your support. We believe the ordinance will be stronger with our proposed amendments and will not cause unintentional consequences. Please move to continue this item so these changes can be considered.

Sincerely,

--
Christopher White
Interim Executive Director
Phone or text: (415) 295-2355 | christopher@sfbike.org
Pronouns: he, him, his

San Francisco Bicycle Coalition
Promoting the Bicycle for Everyday Transportation
1720 Market St.
San Francisco, CA 94102

From: kash warmplanetbikes.com
To: Carroll, John (BOS)
Cc: Peskin, Aaron (BOS); MelgarStaff (BOS); PrestonStaff (BOS); Horrell, Nate (BOS); brett@newwheel.net
Subject: Additional public comment for 231165 [Fire Code - Lithium-Ion Batteries in Powered Mobility Devices]
Date: Wednesday, January 10, 2024 10:33:50 AM

John-

Please attach this public comment to :

231165 [Fire Code - Lithium-Ion Batteries in Powered Mobility Devices]

This legislation addresses two completly separate issues. The first, fires causeed by off brand and deliberatly modified ebikes that do not meet UL and EN safety certification standards, has been well addressed. I thank the fire marshal and the Supervisor's office for taking industry input on this.

The second, completely independent issue; overloaded electrical wiring, has also been well addressed except for one specific point, the safe use of extension cords.

In several places, the legislation reads, "Extension cords shall not be used" no exceptions, no modifiers. That's the whole of it.

It's easy to create a blanket prohibition and say problem solved, but when this prohibition is unrealistic then it gets ignored and the opportunity to model good behavior is lost.

This prohibition, combined with an unrealistically wide 3 foot bike spacing in residential bike rooms, guarantees that as soon as the available slots are filled - and we have decades of experience with traditional bike rooms to guarantee this is going to happen in about a week - people will start parking bikes in between the ones that have legitimate rack spaces. Then they will install splitters and extension cords so that they can charge multiple bikes per outlet.

If one of those cords has an amp rating that is too low to handle multiple simultaneous chargers - and without clear guidance this is guaranteed to happen - there is the danger that it will overheat and cause a fire.

The solution is to space the bikes a reasonable distance apart, making it physically impossible to insert more bikes in between them. The worry that one battery fire will set off a chain reaction in adjacent batteries is unlikely, but even if this happens, the fire rating of the storage room should be sufficient to contain the blaze.

A secondary concern is that even if an extension cord is being used within the rated maximum on its label, and in a way that is legal and safe if any other device type or any other charger is plugged into it, this special carve out will be used by an insurer to deny coverage.

There are real, necessary and safe uses of extension cords. Safe use is an engineering problem and there is wording that can model safe use.

Electrical components like extension cords have ratings clearly marked on their packaging. If a user does not exceed them, the setup is safe. We should be leveraging that rather than making a blanket prohibition that ignores this and results in being ignored.

UL certified ebike chargers are low load devices at between 2 and 4 amps, maximum about 500 to 600 watts. An average space heater can be 1500 watts/12.5 amps, or almost 3 times the load, and there's no prohibition against using an extension cord with one of those.

A charger is a charger is a charger. It has an amp rating printed right on the case. Match the cord to the load and the setup is safe. End of story.

I have some suggested language. I'm not wedded to it, and I'm not an expert so please consult a certified electrician for input.

1. One outlet per bike. One cord per outlet.

2. No daisy chaining, defined as multiple bikes or multiple cords plugged into a single outlet, splitter, or extension cord. No plugging several cords into each other to make a longer cord.

3. The cord rating must be equal or greater than the load. This is easily satisfied, 15 and 13 amp cords are the most common extension cords sold.

4. Change the minimum width between UL certified bikes with removable batteries in storage areas to the same 6" inches as is allowed for batteries built into frames.

From:	Christopher White
To:	Peskin, Aaron (BOS); Melgar, Myrna (BOS); Preston, Dean (BOS)
Cc:	Kilgore, Preston (BOS); Horrell, Nate (BOS); Heiken, Emma (BOS); Robin Pam; Brett Thurber; Cyrus Hall; Carroll, John (BOS)
Subject:	Please continue Item 4 of Land Use committee: Li-ion Batteries in Powered Mobility Devices
Date:	Monday, January 8, 2024 2:11:14 PM

Dear President Peskin, Supervisor Melgar, and Supervisor Preston,

First, I would like to thank President Peskin for your leadership and the committee for taking up this important issue and for making amendments to the original ordinance after hearing feedback from constituents and stakeholders.

On behalf of the San Francisco Bicycle Coalition, as well as other stakeholders including Kid Safe SF, The New Wheel, and several individual advocates, I am reaching out to ask that this item be continued in order to consider other amendments we believe will make the ordinance stronger. The amendments we wish to be considered can be found below:

- A reduction from 3 feet to 12 inches between charging UL or similarly certified devices
- A removal of limitations on the numbers of UL or similarly certified devices in Group R-2 occupancy, allowing the State limits to stand
- A path for current owners of non-UL/EN compliant devices. Many will not be able to afford to just buy a new device, and will live out of compliance, or just sell/dump their device.
- In the case of non-UL or EN-certified devices in multi-family housing, maintain a limit on devices, based on input from stakeholders.
- In 325.6 (f), increase the threshold number of e-mobility devices charging in M occupancy units that would require a sprinkler system to 10, as long as the devices are UL or EN certified. Anything less could be a very high burden for retailers specifically.
- In regards to Section 325.6, change the language to something like "For permanent charging (consistent charging of the same device for more than 24 hours) and charging more than 2 devices, extension cords and power strips shall not be used" for UL or EN listed devices. Charging UL or similarly certified devices on an extension cord or power strip for short periods does not pose a significant risk.
- That the Department of the Environment lead the public awareness campaign with support from the Fire Department to balance safety messaging with encouragement to safely adopt these climate-friendly modes

Thank you, President Peskin, for your leadership on this issue and to the rest of the committee for your support. We believe the ordinance will be stronger with our proposed amendments and will not cause unintentional consequences. Please move to continue this item so these changes can be considered.

Sincerely,

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Christopher White
Interim Executive Director

Phone or text: (415) 295-2355 | christopher@sfbike.org
Pronouns: he, him, his

San Francisco Bicycle Coalition
Promoting the Bicycle for Everyday Transportation
1720 Market St.
San Francisco, CA 94102

Anglea Calvillo, Clerk of the Board
Board of Supervisors
City and County of San Francisco

national bicycle dealers association

December 11, 2023

RE: 231165 Fire Code- Lithium-Ion Batteries in Powered Mobility Devices

Dear Board:

I am writing on behalf of the National Bicycle Dealers Association (NBDA) representing Specialty Bicycle Retailers nationwide and within the City and County of San Francisco regarding the upcoming discussion around amendment of fire code.

The National Bicycle Dealers Association, formed in 1946, is the sole organization representing Specialty Bicycle Retailers across North America. We have over 700 retailer members, representing more than 900 retail doors. We also enjoy associate membership from several bicycle brands, advocacy organizations and other firms within the bicycle industry. Our membership is diverse and represents all segments of the bicycle trade industry serving consumers of all ages.

The safety of the products that we sell to consumers is of top priority for the NBDA and our members. Since 2022 the NBDA as taken a leading role working in advocating for safety standards relative to Lithium- Ion Batteries. The NBDA works with industry experts and stakeholders. The NBDA has on retainer leading experts in the field, Human Powered Solutions, both Jay Townley and Mike Fritz. The NBDA continues to collaborate with both the NYC Council and FDNY in research, advisement, and development. We have worked closely with the team at UL and both HPS and the NBDA have members on the UL Technical Committees, including UL Technical Committee 1487 newly formed and focused on Battery Storage and Containment Standards.

We have been working closely with the CPSC to advise, and this past July testified in Maryland, urging the CPSC that in the interest of public safety it should be required that eBikes or eBike Systems installed on eBikes are certified to UL 2849 by accredited certification organization (s).

Since the CPSC issued their statement in December 2022, urging brands to comply with UL2849, brands have been moving to compliancy.

I have reviewed your agenda materials and would add a few comments. I would suggest clarification of confirming testing, certification and listing to UL 2849, which is inclusive of UL 2271. This testing and certification should be done by a Nationally Recognized Testing Laboratory (NRTL). There is low probability of a failure of a lithium-ion battery meeting the testing, compliance and listing requirements of UL 2849 by a NRTL.

We have been diligent to educate our members on the safe handling and storage of Lithium-Ion batteries. The NBDA retailer base is collaborative and responsive, retailers want to sell only safe products. The NBDA and team are available for resource as needed.

It would be my recommendation that San Francisco and New York City both make amendments to allow Bicycle Retailers to stock, store, charge, display and sell e-bikes and lithium-ion batteries that are tested, certified, listed and labeled by a NRTL – without further requirements as long as they are following the approved protocols and recommendations for the storage, charging, display and sale of e-bikes and lithium-ion batteries. With that, I would add, San Francisco and New York City make amendments to require bike shops to follow the approved protocols as provided by the NBDA and vetted and endorsed by the FDNY and Fire Department of San Francisco.

Another suggestion I would share, is to frame the recommendations and protocols for apartment buildings and multioccupancy buildings around the above, requiring certificates of compliance to UL 2849 from a NRTL, which is provided by listing and labeling on e-bikes or lithium-ion batteries or a current certificate of compliance by tenants to managers to allow complying e-bikes and lithium-ion batteries in apartments or offices after the individual owner signs off on the mandatory protocols. I am worried that limiting the number of units a person could have prohibits the expansion of the sport and joy of cycling, health benefits and climate positive impacts.

Finally, please consider pushing back compliance for bicycle retailers for three (3) months to allow more testing, certification and listing by e-bike brands and wholesalers. This will result in more bike shops having current certificates of compliance and more brands and wholesalers to provide bike shops with listed and labeled products. It will also allow UL Technical Committee 1487 on Battery Storage and Containment Standards to advance its development of testing requirements and certification of charging and storage cabinets.

In summary, the NBDA wishes to protect our retailers and consumers, our customers alike from the risks that poorly designed and manufactured systems pose. We are ready and available to help formulate best practices forward and ensure that retailers can conduct safe business practice while ensuring safety for all.

We welcome the opportunity to discuss our concerns and suggestions in greater detail at any time.

Sincerely,

Heather Mason
President
National Bicycle Dealers Association
518-847-2419
heather@nbda.com

BOARD of SUPERVISORS

City Hall
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco 94102-4689
Tel. No. (415) 554-5184
Fax No. (415) 554-5163
TDD/TTY No. (415) 554-5227

MEMORANDUM

Date: November 15, 2023

To: Planning Department/Planning Commission

From: John Carroll, Assistant Clerk, Land Use and Transportation Committee

Subject: Board of Supervisors Legislation Referral - File No. 231165
Fire Code - Lithium-Ion Batteries in Powered Mobility Devices

☒ California Environmental Quality Act (CEQA) Determination
(California Public Resources Code, Sections 21000 et seq.)
☒ Ordinance / Resolution
☐ Ballot Measure

Not defined as a project under CEQA Guidelines Sections 15378 and 15060(c)(2) because it would not resullt in a direct or indirect physical change in the environment.

12/1/2023

☐ Amendment to the Planning Code, including the following Findings:
(Planning Code, Section 302(b): 90 days for Planning Commission review)
☐ General Plan ☐ Planning Code, Section 101.1 ☐ Planning Code, Section 302

☐ Amendment to the Administrative Code, involving Land Use/Planning
(Board Rule 3.23: 30 days for possible Planning Department review)

☐ General Plan Referral for Non-Planning Code Amendments
(Charter, Section 4.105, and Administrative Code, Section 2A.53)
(Required for legislation concerning the acquisition, vacation, sale, or change in use of City property; subdivision of land; construction, improvement, extension, widening, narrowing, removal, or relocation of public ways, transportation routes, ground, open space, buildings, or structures; plans for public housing and publicly-assisted private housing; redevelopment plans; development agreements; the annual capital expenditure plan and six-year capital improvement program; and any capital improvement project or long-term financing proposal such as general obligation or revenue bonds.)

☐ Historic Preservation Commission
☐ Landmark *(Planning Code, Section 1004.3)*
☐ Cultural Districts *(Charter, Section 4.135 & Board Rule 3.23)*
☐ Mills Act Contract *(Government Code, Section 50280)*
☐ Designation for Significant/Contributory Buildings *(Planning Code, Article 11)*

Please send the Planning Department/Commission recommendation/determination to John Carroll at john.carroll@sfgov.org.

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M E M O R A N D U M

TO: Jeanine Nicholson, Chief, Fire Department
Patrick O'Riordan, Director, Department of Building Inspection

FROM: John Carroll, Assistant Clerk, Land Use and Transportation Committee

DATE: November 15, 2023

SUBJECT: LEGISLATION INTRODUCED

The Board of Supervisors' Land Use and Transportation Committee has received the following proposed legislation, introduced by Supervisor Peskin on November 7, 2023.

File No. 231165

Ordinance amending the Fire Code to provide fire protection standards for the charging and storage of lithium-ion batteries used in powered mobility devices (such as electric bikes, scooters, skateboards, and hoverboards), prohibit use of damaged lithium-ion batteries in such devices, prohibit use of lithium-ion batteries assembled or reconditioned using cells removed from used batteries in such devices, and require the Fire Department to conduct an informational campaign; affirming the Planning Department's determination under the California Environmental Quality Act; and directing the Clerk of the Board of Supervisors to forward this Ordinance to the California Building Standards Commission upon final passage.

If you have comments or reports to be included with the file, please forward them to me at the Board of Supervisors, City Hall, Room 244, 1 Dr. Carlton B. Goodlett Place, San Francisco, CA 94102 or by email at: john.carroll@sfgov.org.

cc:
Theresa Ludwig, Fire Department
Patty Lee, Department of Building Inspection
Carl Nicita, Department of Building Inspection

Introduction Form

(by a Member of the Board of Supervisors or the Mayor)

I hereby submit the following item for introduction (select only one):

- [x] 1. For reference to Committee (Ordinance, Resolution, Motion or Charter Amendment)
- [ ] 2. Request for next printed agenda (For Adoption Without Committee Reference)
  (Routine, non-controversial and/or commendatory matters only)
- [ ] 3. Request for Hearing on a subject matter at Committee
- [ ] 4. Request for Letter beginning with "Supervisor _____ inquires…"
- [ ] 5. City Attorney Request
- [ ] 6. Call File No. _____ from Committee.
- [ ] 7. Budget and Legislative Analyst Request (attached written Motion)
- [ ] 8. Substitute Legislation File No. _____
- [ ] 9. Reactivate File No. _____
- [ ] 10. Topic submitted for Mayoral Appearance before the Board on _____

The proposed legislation should be forwarded to the following (please check all appropriate boxes):

☐ Small Business Commission ☐ Youth Commission ☐ Ethics Commission

☐ Planning Commission ☐ Building Inspection Commission ☐ Human Resources Department

General Plan Referral sent to the Planning Department (proposed legislation subject to Charter 4.105 & Admin 2A.53):

☐ Yes ☐ No

(Note: For Imperative Agenda items (a Resolution not on the printed agenda), use the Imperative Agenda Form.)

Sponsor(s):

Supervisor Peskin

Subject:

[Fire Code - Lithium-Ion Batteries in Powered Mobility Devices]

Long Title or text listed:

Ordinance amending the Fire Code to provide fire protection standards for the charging and storage of lithium-ion batteries used in powered mobility devices (such as electric bikes, scooters, skateboards, and hoverboards), prohibit use of damaged lithium-ion batteries in such devices, prohibit use of lithium-ion batteries assembled or reconditioned using cells removed from used batteries in such devices, and require the Fire Department to conduct an informational campaign; affirming the Planning Department's determination under the California Environmental Quality Act; and directing the Clerk of the Board of Supervisors to forward this ordinance to the California Building Standards Commission upon final passage.

Signature of Sponsoring Supervisor: //AP//