BOARD of SUPERVISORS



City Hall
1 Dr. Carlton B. Goodlett Place Room 244
San Francisco, CA 94102-4689
Tel. No. (415) 554-5184
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March 4, 2024

SENT CERTIFIED MAIL (Return Receipt Requested)

California Building Standards Commission State of California 2525 Natomas Park Drive, Suite 130 Sacramento, CA 95833

SUBJECT: Fire Code - Lithium-Ion Batteries in Powered Mobility Devices

To Whom It May Concern:

Pursuant to California Health & Safety Code, Section 17958.7, enclosed please find a certified copy of the following legislation, which was finally passed by the Board of Supervisors of the City and County of San Francisco, and approved by the Mayor, on the dates specified below:

➤ Ordinance No. 34-24 (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.

(Board of Supervisors - Finally Passed on February 13, 2024) (Mayor - Approved on February 21, 2024)

If you have any questions or require additional information, please contact John Carroll, Assistant Clerk, at (415) 554-4445 or email john.carroll@sfgov.org.

Sincerely,

 Angela Calvillo Clerk of the Board

jec:vy:ams



City and County of San Francisco Certified Copy

City Hall

1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4689

Ordinance

231165

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

Sponsors: Peskin; Preston, Melgar, Chan and Mandelman

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.

12/5/2023 Board of Supervisors - CONTINUED ON FIRST READING

Ayes: 11 - Chan, Dorsey, Engardio, Mandelman, Melgar, Peskin, Preston, Ronen, Safai, Stefani and Walton

12/12/2023 Board of Supervisors - AMENDED, AN AMENDMENT OF THE WHOLE BEARING SAME TITLE

Ayes: 11 - Chan, Dorsey, Engardio, Mandelman, Melgar, Peskin, Preston, Ronen, Safai, Stefani and Walton

12/12/2023 Board of Supervisors - RE-REFERRED AS AMENDED

Ayes: 11 - Chan, Dorsey, Engardio, Mandelman, Melgar, Peskin, Preston, Ronen, Safai, Stefani and Walton

2/6/2024 Board of Supervisors - PASSED ON FIRST READING

Ayes: 11 - Chan, Dorsey, Engardio, Mandelman, Melgar, Peskin, Preston, Ronen, Safai, Stefani and Walton

2/13/2024 Board of Supervisors - FINALLY PASSED

Ayes: 11 - Chan, Dorsey, Engardio, Mandelman, Melgar, Peskin, Preston, Ronen, Safai, Stefani and Walton

2/21/2024 Mayor - APPROVED

STATE OF CALIFORNIA CITY AND COUNTY OF SAN FRANCISCO

CLERK'S CERTIFICATE

I do hereby certify that the foregoing Ordinance is a full, true, and correct copy of the original thereof on file in this office.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the offical seal of the City and County of San Francisco.

March 11, 2024

Date

Angela Calvillo

Clerk of the Board

AMENDED IN COMMITTEE 1/29/2024 ORDINANCE NO. 034-24

FILE NO. 231165

1 [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.

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

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

Supervisors Peskin; Preston, Melgar, Chan, Mandelman BOARD OF SUPERVISORS

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 <u>associated withattributed to</u> rechargeable batteries in recent years. In 2020, according to Fire Department records, <u>3624</u> fire incidents were <u>associated withattributed to</u> rechargeable batteries. In 2021, <u>3517</u> fire incidents were <u>associated withattributed to</u> rechargeable batteries. In 2022, <u>5834</u> fire incidents were <u>associated withattributed to</u> rechargeable batteries. In 2023, as of early November, <u>3724</u> fire incidents have been <u>associated withattributed to</u> 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. Lithiumion 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.

(gi) 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:

<u>SECTION 325. – LITHIUM-ION BATTERIES USED IN POWERED MOBILITY</u>

<u>DEVICES.</u>

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 "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 Llaboratory, or has otherwise "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 (1) Underwriters Laboratories (UL) standards UL 2849 or UL 2272; (3) Other safety standard of an accredited laboratory, approved by the Fire 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.

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with:

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1	(1) Underwriters Laboratories (UL) standards UL 2849 or UL 2272;
2	(2) European (EN) Standards EN 15194 or 17128; or
3	(3) Other safety standard of a Nationally Recognized Testing Laboratory,
4	approved by the Fire Department_
5	325.4. Battery Chargers. Powered Mobility Devices shall be charged in accordance with the
6	manufacturer's instructions and the applicable listing standard using the original equipment,
7	manufacturer-supplied charging equipment, or other charging equipment suitable for the purpose, that
8	is designed in accordance with applicable federal, state, and any other applicable laws, rules, and
9	regulations, and listed:
10	(a) Pursuant to either UL 1564, UL1310, UL1012, or other approved listing from an
11	accredited Nationally Recognized Testing Llaboratory, approved by the Fire Department; or
12	(b) For use with the Powered Mobility Device in accordance with UL 2271, UL 2272, UL
13	2849, or other approved listing from an accredited Nationally-Recognized Testing Llaboratory,
14	approved by the Fire Department
15	325.5. Battery Inspection; Damaged Batteries. A lithium-ion battery used in a Powered
16	Mobility Device shall be inspected for cracks, punctures, leaking contents, or other damage prior to
17	charging or re-charging if the battery was dropped, involved in a collision, or otherwise subjected to a
18	potential mechanism of damage. Damaged lithium-ion batteries shall not be used in Powered Mobility
19	Devices. Damaged lithium-ion batteries and lithium-ion batteries at the end of their useable life shall
20	be promptly and lawfully disposed of.
21	325.6. Battery Charging Areas. Powered Mobility Devices and lithium-ion batteries used in
22	such devices shall be charged in a suitable indoor room or area, or outdoor location, that, in either
23	<u>location:</u>
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(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, hear 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 Llaboratory, 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 Llaboratory.

heas 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

(f) Is dedicated for battery charging and secured from unauthorized entry; Wwhere	
fivesix or more Powered Mobility Devices, detached battery packs, or other removable storage	
batteries are being charged at a single indoor location, isusing 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 900	
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, lit 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

12.

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, <u>charge</u>, <u>store</u>, use, occupy, or maintain a building, occupancy, premises, system, <u>conveyance</u>, <u>battery</u>, 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: <u>/s/</u>

JEN HUBER
Deputy City Attorney
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City and County of San Francisco Tails Ordinance

City Hall
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4689

File Number: 231165

Date Pass

Date Passed: February 13, 2024

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.

December 04, 2023 Land Use and Transportation Committee - AMENDED, AN AMENDMENT OF THE WHOLE BEARING SAME TITLE

December 04, 2023 Land Use and Transportation Committee - RECOMMENDED AS AMENDED AS A COMMITTEE REPORT

December 05, 2023 Board of Supervisors - CONTINUED ON FIRST READING

Ayes: 11 - Chan, Dorsey, Engardio, Mandelman, Melgar, Peskin, Preston, Ronen, Safai, Stefani and Walton

December 12, 2023 Board of Supervisors - AMENDED, AN AMENDMENT OF THE WHOLE BEARING SAME TITLE

Ayes: 11 - Chan, Dorsey, Engardio, Mandelman, Melgar, Peskin, Preston, Ronen, Safai, Stefani and Walton

December 12, 2023 Board of Supervisors - RE-REFERRED AS AMENDED

Ayes: 11 - Chan, Dorsey, Engardio, Mandelman, Melgar, Peskin, Preston, Ronen, Safai, Stefani and Walton

January 08, 2024 Land Use and Transportation Committee - AMENDED, AN AMENDMENT OF THE WHOLE BEARING SAME TITLE

January 08, 2024 Land Use and Transportation Committee - CONTINUED AS AMENDED

January 29, 2024 Land Use and Transportation Committee - AMENDED, AN AMENDMENT OF THE WHOLE BEARING SAME TITLE

January 29, 2024 Land Use and Transportation Committee - RECOMMENDED AS AMENDED

February 06, 2024 Board of Supervisors - PASSED ON FIRST READING

Ayes: 11 - Chan, Dorsey, Engardio, Mandelman, Melgar, Peskin, Preston, Ronen, Safai, Stefani and Walton

February 13, 2024 Board of Supervisors - FINALLY PASSED

Ayes: 11 - Chan, Dorsey, Engardio, Mandelman, Melgar, Peskin, Preston, Ronen, Safai, Stefani and Walton

File No. 231165

I hereby certify that the foregoing Ordinance was FINALLY PASSED on 2/13/2024 by the Board of Supervisors of the City and County of San Francisco.

> Angela Calvillo Clerk of the Board

London N. Breed Mayor Data Approved