Public Comment 23

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Modify:

2018 International Fire Code

315.8 Used or Off Specification Lithium ~~-Ion Batteries. .~~Batteries or cells. ~~5.Outdoor storage shall comply with Section 315.8.5.~~

~~The~~ Areas associated with the collection or storage of used or off specification lithium-~~ion batteries~~ ion or lithium metal batteries or cells shall comply with ~~the following as appropriate:~~

- ~~1. Gathering locations in occupancies other than those involving Mercantile occupancy battery recycling activities shall comply with Section 315.8.1.~~
- ~~2.Mercantile occupancy battery sale recycling activities shall comply with Section 315.8.2.~~
- ~~3. Indoor collection and storage activities exceeding the limitations of Sections 315.8.1 or Section 315.8.2 occuring in mixed occupancy buildings shall comply with Section 315.8.3.~~
- ~~4. Indoor storage and recycling activities in detached buildings shall comply with Section 315.8.4.~~

the provisions of this section as indicated in Table 315.8 and Chapter 32 as applicable.

Exceptions:

1. Areas within a facility that are operated in accordance with procedures that provide for the state of charge of the lithium-ion batteries and cells to be thirty percent or less. The procedures shall be approved by the fire code official.

2. When fire and fault condition testing conducted or witnessed and reported by an approved testing laboratory is provided showing that a fire involving the batteries in storage will be limited to the design area of an automatic sprinkler system installed in accordance with Section 903.3.1.1 and will not adversely impact occupant egress from the building or adversely impact adjacent stored materials or the building structure. The test report shall be provided to the fire code official for review and approval in accordance with Section 104.7.2

Table 315.8
Collection and Storage Requirements

Occupancy Type/Location of the Area	Requirements
Collection locations; any occupancy	Section 315.8.1
Mercantile, vehicle repair, aircraft repair and laboratory battery collection and storage locations	Sections 315.8.1 and 315.8.2
Any area exceeding the limitations of Section 315.8.1 or 315.8.2 that is located inside a building	Section 315.8.3
Any area outside a building	Section 315.8.4

315.8.1 ~~Gathering locations.~~Collection locations; any occupancy. ~~Indoor storage of used and off specification lithium-ion batteries being gathered for shipment to recycling facilities shall be in rooms or spaces protected by an automatic sprinkler system complying with Section 903.3.1.1. Batteries quantities~~ All areas located indoors in any occupancy where used batteries are collected from employees or the public shall be provided with open top noncombustible containers or containers approved for battery collection activities. Containers shall not exceed one cubic ft. (0.03 m^3) ~~per fire area, and the batteries shall be stored in open top noncombustible containers spaced~~ in size. Containers shall have a minimum 3 ft. (914 mm) of open space from other battery collection containers and combustible materials and shall be located a minimum ~~10~~ 5 feet (~~3048~~ 1,524 mm) from exits from the room, space or building.Where combustible materials are located within the space between collection containers, the containers shall be spaced a minimum 10 feet (3,048 mm) apart.

315.8.2 Mercantile ~~battery sale recycling~~ , vehicle repair, aircraft repair and laboratory occupancy battery collection and storage locations. ~~Rooms or spaces associated with mercantile battery sale recycling activities shall not exceed 100 sq. ft. in size.~~ Batteries collected and stored at mercantile, vehicle repair, aircraft repair or laboratory occupancies other than those in collection containers complying with Section 315.8.1 shall be stored in accordance with one or more of the following methods. Battery terminals shall be protected either through battery design methods or a protective packaging method to prevent short circuit of the battery.

1. In rooms or spaces not exceeding 200 sq. ft. (18.58 m^2) in gross floor area. The rooms or spaces shall be separated from the remainder of the building areas by ~~two-hour~~ fire barriers with a fire resistance rating of two hours constructed in accordance with Section 707 of the International Building Code and ~~two-hour~~ horizontal assemblies with a fire resistance rating of two hours constructed in accordance with Section 711 of the International Building Code, as appropriate. The room or space shall be protected by a radiant-energy detection system installed in accordance with NFPA 72 and ~~shall be protected by~~ an automatic sprinkler system designed and installed in accordance with Section 903.3.1.1.

2. In approved prefabricated portable buildings or containers not exceeding 200 sq. ft. (18.58 m^2) in gross floor area that are constructed with two-hour fire-resistance ratings and provided with radiant-energy detection system installed in accordance with NFPA 72 and an approved automatic fire suppression system.

3. In metal drums with batteries separated from each other by vermiculite or other approved material, or in containers approved for battery collection and storage activities. Each area containing such metal drums or approved containers shall not exceed 200 sq. ft. (18.58 m^2) in area and shall be separated from other battery storage areas by a minimum of 10 feet (3,048 mm). The collection and storage area shall be protected by a radiant-energy detection system installed in accordance with NFPA 72.

4. In containers approved for use in transportation that will prevent an event from propagating beyond the container. Each area containing the approved transportation containers shall not exceed 200 sq. ft. (18.58 m^2) in area and shall be separated from other battery storage areas by a minimum of 10 feet (3,048 mm). The storage area shall be protected by a radiant-energy detection system installed in accordance with NFPA 72.

5. Indoor storage areas meeting the provisions of Section 315.8.3.

315.8.3 Indoor storage ~~in mixed occupancies.~~ ~~Mixed occupancy indoor storage and recycling activities~~ Indoor storage involving used or off specification lithium-ion or lithium metal batteries or cells not meeting the limitations of Section 315.8.1 or Section 315.8.2 shall comply with Sections 315.8.3.1 through 315.8.3.4 and shall be classified as a Group H-~~2 occupancy and~~ 3 occupancy. The battery storage shall be in rooms or spaces ~~not exceeding 5000 sq. ft. (464 m^2) in area~~ separated from ~~the remainder~~ other areas of the building ~~areas~~ by ~~three-hour~~ fire barriers constructed with a fire resistance rating of three-hours in accordance with Section 707 of the International Building Code and ~~three-hour~~ horizontal assemblies constructed with a fire resistance rating of three-hours in accordance with Section 711 of the International Building Code, as ~~appropriate.Individual pile sizes shall be limited to sixty-four cubic ft. (1.81 m^3) with a 5 foot separation to the next pile. Piles shall~~ appropriate. Batteries and cells shall not be located within 10 feet (3,048 mm) of exits from the room ~~, space or building.~~or space in which they are stored.

315.8.3.1 Prevention and Mitigation. ~~Occupancies storing used or off specification lithium-ion batteries shall have a plan approved by the fire code official~~ A plan that provides for the prevention of fire incidents and includes early detection mitigation ~~measures.~~measures shall be provided to the fire code official for approval.

315.8.3.2 Fire detection. The room or space shall be protected by a radiant-energy detection system installed in accordance with Section 907.

315.8.3.3 Fire suppression. The building the battery storage is located in shall be provided with an automatic fire suppression system installed in accordance with Section 903.1.1. The Group H-~~2~~ 3 battery or cell storage room or space shall be protected by a NFPA 15 water spray automatic suppression system installed in accordance with Section 904.12 with a density based on large scale fire testing complying with Section 1206.2.11.

315.8.3.4 Explosion protection. ~~Explosion protection shall be~~ The rooms and spaces occupied for the battery or cell storage shall be provided with explosion protection installed in accordance with Section 911.

~~**315.8.4 Detached buildings.** Indoor storage and recycling activities shall be permitted in Group H-2 detached buildings located more than 100 feet (30.5 M) from buildings, lot lines, public ways, stored combustible materials, hazardous materials, high-piled stock and other exposure hazards. The storage shall comply with the following:~~

~~1. Individual rooms or areas inside the building shall not exceed 7,000 sq ft (650 m^2) and shall be are separated from other areas by three-hour fire barriers constructed in accordance with Section 707 of the International Building Code and three-hour horizontal assemblies constructed in accordance with Section 711 of the International Building Code, as appropriate.~~

~~2. The building shall be protected by a radiant-energy detection system installed in accordance with Section 907.~~

~~3. Any area containing lithium-ion batteries shall be protected by a NFPA 15 water-spray automatic suppression system installed in accordance with Section 904.12 with a density based on large scale~~

~~fire testing complying with Section 1206.2.11.~~

~~4. Explosion protection shall be installed in accordance with Section 911.~~

~~5. Individual pile sizes shall be limited to sixty-four cubic ft. (1.81 m3) with a 5 foot separation to other piles, walls, appliances and equipment. Piles shall not be located within 10 feet of exits from the room, space or building. There shall be no more than 64 piles per room or space.~~

~~6. A plan approved by the fire code official that provides for the prevention of fire incidents and includes early detection mitigation measures.~~

~~315.8.5~~315.8.4 Outdoor ~~storage.~~storage location. Error creating auto-diffed output. (0x1)
Outdoor storage shall comply with the following:

1. Individual pile sizes shall be limited to 200 square feet (18.58 m^2) in area separated from other piles by 10 feet (3,048 mm).
2. Piles located outdoors shall be separated by a minimum 20 feet (914 mm) from the following exposures:

   2.1 Lot lines
   2.2 Public ways
   2.3 Buildings
   2.4 Other storage
   2.5 Hazardous materials
   2.6 Other exposure hazards

Exception: Clearances are permitted to be reduced to not less than 3 ft. (914 mm) when a 3-hour free standing fire barrier, suitable for exterior use, and extending 15 ft. (1.5 m) above and extending 15 ft (1.5 m) beyond the physical boundary of the pile is provided to protect the exposure.

2018 International Building Code

[F] 307.1 High-hazard Group H. High-hazard Group H occupancy includes, among others, the use of a building or structure, or a portion thereof, that involves the manufacturing, processing, generation or storage of materials that constitute a physical or health hazard in quantities in excess of those allowed in *control areas* complying with Section 414, based on the maximum allowable quantity limits for *control areas* set forth in Tables 307.1(1) and 307.1(2). Hazardous occupancies are classified in Groups H-1, H-2, H-3, H-4 and H-5 and shall be in accordance with this section, the requirements of Section 415 and the International Fire Code. Hazardous materials stored, or used on top of roofs or canopies, shall be classified as outdoor storage or use and shall comply with the International Fire Code.

307.4 High-hazard Group H-2. Buildings and structures containing materials that pose a deflagration hazard or a hazard from accelerated burning shall be classified as Group H-2. Such materials shall include, but not be limited to, the following:

- Class I, II or IIIA flammable or combustible liquids that are used or stored in normally open containers or systems, or in closed containers or systems pressurized at more than 15 pounds per square inch gauge (103.4 kPa).
- Combustible dusts where manufactured, generated or used in such a manner that the concentration and conditions create a fire or explosion hazard based on information prepared in accordance with Section 414.1.3.
- Cryogenic fluids, flammable.
- Flammable gases.
- Organic peroxides, Class I.
- Oxidizers, Class 3, that are used or stored in normally open containers or systems, or in closed containers or systems pressurized at more than 15 pounds per square inch gauge (103 kPa).
- Pyrophoric liquids, solids and gases, nondetonable.~~Storage of used or off specification lithium-ion batteries in mixed use or detached buildings shall be in accordance with Section 315.8 of the International Fire Code.~~
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- Unstable (reactive) materials, Class 3, nondetonable.

- Water-reactive materials, Class 3.

[F] 307.5 High-hazard Group H-3. Buildings and structures containing materials that readily support combustion or that pose a physical hazard shall be classified as Group H-3. Such materials shall include, but not be limited to, the following:

- Class I, II or IIIA flammable or combustible liquids that are used or stored in normally closed containers or systems pressurized at 15 pounds per square inch gauge (103.4 kPa) or less.
- Combustible fibers, other than densely packed baled cotton, where manufactured, generated or used in such a manner that the concentration and conditions create a fire or explosion hazard based on information prepared in accordance with Section 414.1.3.
- Consumer fireworks, 1.4G (Class C, Common)
- Cryogenic fluids, oxidizing
- Flammable solids
- Organic peroxides, Class II and III
- Oxidizers, Class 2
- Oxidizers, Class 3, that are used or stored in normally closed containers or systems pressurized at 15 pounds per square inch gauge (103 kPa) or less
- Oxidizing gases
- Storage or recycling of used or off specification lithium-ion batteries or cells in buildings as required by Section 315.8 of the International Fire Code.
- Unstable (reactive) materials, Class 2
- Water-reactive materials, Class 2

Commenter's Reason:

Cost Impact:
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