



Review the each use of the words “risk” and “risks” throughout the document and revise as necessary for accuracy.

Statement of Problem and Substantiation for Public Input

In safety documents such as this one the word "risk" should be reserved for and used only when the intended meaning is “the combination of the probability of occurrence of an adverse event and the potential consequences of that event.” This means that risk is expressed as a level. For example, in this document the terms “low risk”, “high risk”, and “extreme risk” are used to express a relative level of risk.

When referring to an exposure the correct term is hazard. A hazard is a source of harm. A person is exposed to a hazard, not to risk. There is a level of risk associated with exposure to a hazard.

a separate Public Input has been submitted for each incorrect use to the words “risk” and “risks” it is recommended that each use of these words be reviewed throughout the document and revised accordingly.

The document refers several times to “hazard mitigation.” Although this is inaccurate, no Public Input has been submitted to revise the phrase. The following is for the Technical Committee to consider as they draft this or future editions of this standard:

Hazards are not mitigated – they exist, or they do not exist.

Risk is mitigated, although the preferred expression is “risk is controlled.” This is done by applying one or more methods from the hierarchy of risk control:

- Elimination
- Substitution
- Engineering
- Administrative
- Personal Protective Equipment.

NFPA 70E is a good reference for the Technical Committee regarding how to use the terms “risk” and “hazard.”

Submitter Information Verification

Submitter Full Name: Daniel Roberts

Organization: Electrical Safety Solutions

Street Address:

City:

State:

Zip:

Submittal Date: Fri Jan 16 17:22:16 EST 2026

Committee: BAT-AAA



Public Input No. 206-NFPA 800-2026 [Global Input]

Throughout entire document when NFPA1, locally adopted fire code or fire code is mentioned change to "fire code".

Add a definition to read: 3.3.x Fire Code. The fire code enforced by the jurisdiction or agency enforcing this Code. (101:2024)

Statement of Problem and Substantiation for Public Input

The document calls out the fire code in various language this would make the language consistent throughout the document. The definition is consistent with what was done with the building code.

Submitter Information Verification

Submitter Full Name: Steven Sawyer

Organization: Self-Employed

Street Address:

City:

State:

Zip:

Submittal Date: Tue Jan 20 08:27:07 EST 2026

Committee: BAT-AAA



Public Input No. 207-NFPA 800-2026 [Global Input]

Throughout document when NFPA 5000 locally adopted building code or building code is mentioned change to "building code".

Statement of Problem and Substantiation for Public Input

Consistency throughout the document.

Submitter Information Verification

Submitter Full Name: Steven Sawyer

Organization: Self-Employed

Street Address:

City:

State:

Zip:

Submittal Date: Tue Jan 20 08:31:47 EST 2026

Committee: BAT-AAA



Public Input No. 213-NFPA 800-2026 [Global Input]

Move all ITM, Emergency Response Plans, Hotwork, Hazard Analysis and Emergency Response and Preparedness to chapter 4 and remove from the chapter unless specific to that chapter.

Statement of Problem and Substantiation for Public Input

Removes redundant text and places under general for consistency.

Submitter Information Verification

Submitter Full Name: Steven Sawyer

Organization: Self-Employed

Street Address:

City:

State:

Zip:

Submittal Date: Tue Jan 20 08:52:31 EST 2026

Committee: BAT-AAA



Public Input No. 369-NFPA 800-2026 [Global Input]

Statement of Problem and Substantiation for Public Input

In general, NFPA 800 has multiple issues for this standard at this stage of public comment and needs to redefine and refocus attention.

1. The standard does not clearly identify which facilities this standard is appropriate for.
2. Lacks technical research to specify that the facilities that are identified need additional prescriptive requirements in which the building code does not already address the hazards within.
3. Lacks specific emergency response guidelines based on battery chemistry (which would be very helpful and is referenced in many sections, but is lacking in Annex D).

Submitter Information Verification

Submitter Full Name: Joseph Sellers

Organization: U.S. Department of Energy, NNSA

Street Address:

City:

State:

Zip:

Submission Date: Wed Jan 28 10:59:32 EST 2026

Committee: BAT-AAA



Type your content here ...

January 29, 2026

National Fire Protection Association (NFPA)

1 Batterymarch Park
Quincy, Massachusetts, 02169-7471
United States

RE: NFPA 800 (Provisional Standard) Battery Safety Code

To Whom It May Concern:

The American Forest and Paper Association (AF&PA) appreciates the opportunity to provide public input on the proposed provisional standard for battery safety.

The American Forest & Paper Association (AF&PA) serves to advance public policies that foster economic growth, job creation and global competitiveness for a vital sector that makes the essential paper and packaging products Americans use every day. The U.S. forest products industry employs more than 925,000 people, largely in rural America, and is among the top 10 manufacturing sector employers in 44 states. Our industry accounts for approximately 4.7% of the total U.S. manufacturing GDP, manufacturing more than \$435 billion in products annually. AF&PA member companies are significant producers and users of renewable biomass energy and are committed to making sustainable products for a sustainable future through the industry's decades-long initiative — [Better Practices, Better Planet 2030](#).

AF&PA members are committed to advancing safety excellence. Since AF&PA formed in 1993, we have been tracking environmental, health and safety metrics. In 2011, AF&PA members set a voluntary goal to improve workplace safety as part of our Better Practices, Better Planet 2020 sustainability goals. Today, AF&PA's Better Practices, Better Planet 2030 sustainability goals build on our safety leadership by focusing on serious injuries and fatalities (SIFs), with an aspirational goal of zero workplace injuries.

Recycling is integrated into our business to an extent that makes us unique among material manufacturing industries -- our members own and operate over 100 materials recovery facilities (MRFs) and 80 percent of U.S. paper mills use some amount of recycled fiber. With our members both owning many MRFs that process recovered material and representing nearly 80 percent of U.S. consumption of recovered fiber, AF&PA is particularly qualified to weigh in on subjects related to safe and effective recycling methods.

AF&PA appreciates NFPA's efforts to develop a battery safety code to address battery fire risks. While we are not battery manufacturers, transporters, storers, or recyclers, AF&PA would like to call NFPA's attention to a recent effort in Oregon to intentionally add battery powered GPS tracking devices to paper bales to facilitate a random bale tracking program. In 2024, Oregon proposed paper bale auditing under the Recycling Modernization Act (RMA) to verify responsible end markets for recycled materials for their Extended Producer Responsibility (EPR) program. In October 2025, Oregon DEQ issued a document titled "Responsible End Market Plan Amendment: DEQ Preliminary Recommendations" that continued to suggest random bale tracker deployment, indicating that the practice of inserting battery powered GPS trackers into paper bales remains an option for end market verification moving forward.^[1]

Knowingly exposing facilities and their employees to heightened fire risk by introducing mandated GPS trackers that use batteries is unwarranted and unnecessary. NFPA states "the likelihood of them [batteries] overheating, catching on fire, and even leading to explosions increases when they are damaged or improperly used, charged, or stored."^[2] The environmental stressors (such as heat and water exposure) and physical manipulation of bales that can be inherent in the shipping, sorting, and processing of recyclable materials are counter to most guidelines for battery safety and best practices. While all batteries pose risks, the likely use of lithium batteries presents even greater concerns.

Additionally, various local and state guidelines explicitly advise against similar actions:

- The City of Portland launched a curbside battery recycling service in June 2024 to reduce battery fires in garbage trucks and recycling centers. Their battery recycling page states: "Never put batteries - or things with batteries in them – in your garbage or mixed recycling. They can spark and cause fires... Battery-caused

fires in garbage trucks and waste processing facilities have increased dramatically in recent years. These fires put workers' lives in danger and can cost millions of dollars in damage. To prevent fires, batteries must be collected separately from other waste, and the batteries most likely to cause fires must be taped."^[3]___

- Similarly, Beaverton, OR advises "discarded batteries can spark fires. Please, never place batteries or items with batteries in them into your garbage or mixed recycling."^[4]___
- Clackamas County says, "Discarded batteries can spark and cause fires when not handled properly, creating dangerous situations for garbage and recycling truck drivers, processing facilities, and our communities."^[5]___

We are calling attention to the emerging efforts by certain states to incorporate batteries into paper bales so that the NFPA can carefully consider the associated safety implications as the NFPA 800 Battery Safety Code is developed. NFPA should explicitly discourage intentional insertion of batteries into the recovered fiber stream.

Thank you for the opportunity to comment on this topic. AF&PA believes that intentionally introducing batteries into paper bales is an unnecessary risk to our members' employees and facilities, and that NFPA should be aware of this concern as they develop a standard on battery safety. Please reach out to lily_miller@afandpa.org if you have any questions.

Sincerely,

Paul R. Noe
Vice President, Public Policy
American Forest & Paper Association

[1] <https://www.oregon.gov/deq/recycling/Documents/REAmendchecklist.pdf>

[2] <https://www.nfpa.org/education-and-research/home-fire-safety/lithium-ion-batteries>

[3] <https://www.portland.gov/bps/garbage-recycling/battery-recycling>

[4] <https://beavertonoregon.gov/1542/Batteries>

[5] <https://www.clackamas.us/recycling/batteries>

Additional Proposed Changes

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
Final_AF_PA_Comment_Letter_on_NFPA_800.pdf		

Statement of Problem and Substantiation for Public Input

AF&PA wants to ensure NFPA is aware of emerging efforts by certain states to incorporate battery-powered GPS trackers into paper bales for end market verification. NFPA should explicitly discourage intentional insertion of batteries into the recovered fiber stream.

Submitter Information Verification

Submitter Full Name: Lily Miller

Organization: American Forest & Paper Association

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 16:18:56 EST 2026

Committee: BAT-AAA



American Forest & Paper Association

January 29, 2026

National Fire Protection Association (NFPA)

1 Batterymarch Park
Quincy, Massachusetts, 02169-7471
United States

RE: NFPA 800 (Provisional Standard) Battery Safety Code

To Whom It May Concern:

The American Forest and Paper Association (AF&PA) appreciates the opportunity to provide public input on the proposed provisional standard for battery safety.

The American Forest & Paper Association (AF&PA) serves to advance public policies that foster economic growth, job creation and global competitiveness for a vital sector that makes the essential paper and packaging products Americans use every day. The U.S. forest products industry employs more than 925,000 people, largely in rural America, and is among the top 10 manufacturing sector employers in 44 states. Our industry accounts for approximately 4.7% of the total U.S. manufacturing GDP, manufacturing more than \$435 billion in products annually. AF&PA member companies are significant producers and users of renewable biomass energy and are committed to making sustainable products for a sustainable future through the industry's decades-long initiative — [*Better Practices, Better Planet 2030*](#).

AF&PA members are committed to advancing safety excellence. Since AF&PA formed in 1993, we have been tracking environmental, health and safety metrics. In 2011, AF&PA members set a voluntary goal to improve workplace safety as part of our Better Practices, Better Planet 2020 sustainability goals. Today, AF&PA's Better Practices, Better Planet 2030 sustainability goals build on our safety leadership by focusing on serious injuries and fatalities (SIFs), with an aspirational goal of zero workplace injuries.

Recycling is integrated into our business to an extent that makes us unique among material manufacturing industries -- our members own and operate over 100 materials recovery facilities (MRFs) and 80 percent of U.S. paper mills use some amount of recycled fiber. With our members both owning many MRFs that process recovered material and representing nearly 80 percent of U.S. consumption of recovered fiber, AF&PA is particularly qualified to weigh in on subjects related to safe and effective recycling methods.

AF&PA appreciates NFPA's efforts to develop a battery safety code to address battery fire risks. While we are not battery manufacturers, transporters, storers, or recyclers, AF&PA would like to call NFPA's attention to a recent effort in Oregon to intentionally add battery powered GPS tracking devices to paper bales to facilitate a random bale tracking program. In 2024, Oregon proposed paper bale auditing under the Recycling Modernization Act (RMA) to verify responsible end markets for recycled materials for their Extended Producer Responsibility (EPR) program. In October 2025, Oregon DEQ issued a document titled "Responsible End Market Plan Amendment: DEQ Preliminary Recommendations" that continued to suggest random bale tracker deployment, indicating that the practice of inserting battery powered GPS trackers into paper bales remains an option for end market verification moving forward.¹

Knowingly exposing facilities and their employees to heightened fire risk by introducing mandated GPS trackers that use batteries is unwarranted and unnecessary. NFPA states "the likelihood of them [batteries] overheating, catching on fire, and even leading to explosions increases when they are damaged or improperly used, charged, or stored."² The environmental stressors (such as heat and water exposure) and physical manipulation of bales that can be inherent in the shipping, sorting, and processing of recyclable materials are counter to most guidelines for battery safety and best practices. While all batteries pose risks, the likely use of lithium batteries presents even greater concerns.

Additionally, various local and state guidelines explicitly advise against similar actions:

- The City of Portland launched a curbside battery recycling service in June 2024 to reduce battery fires in garbage trucks and recycling centers. Their battery recycling page states: "Never put batteries - or things with batteries in them - in your garbage or mixed recycling. They can spark and cause fires... Battery-caused fires in garbage trucks and waste processing facilities have increased dramatically in recent years. These fires put workers' lives in danger and can cost millions of dollars in damage. To prevent fires, batteries must be collected separately from other waste, and the batteries most likely to cause fires must be taped."³
- Similarly, Beaverton, OR advises "discarded batteries can spark fires. Please, never place batteries or items with batteries in them into your garbage or mixed recycling."⁴

¹ <https://www.oregon.gov/deq/recycling/Documents/REmamendchecklist.pdf>

² <https://www.nfpa.org/education-and-research/home-fire-safety/lithium-ion-batteries>

³ <https://www.portland.gov/bps/garbage-recycling/battery-recycling>

⁴ <https://beavertonoregon.gov/1542/Batteries>

- Clackamas County says, “Discarded batteries can spark and cause fires when not handled properly, creating dangerous situations for garbage and recycling truck drivers, processing facilities, and our communities.”⁵

We are calling attention to the emerging efforts by certain states to incorporate batteries into paper bales so that the NFPA can carefully consider the associated safety implications as the NFPA 800 Battery Safety Code is developed. NFPA should explicitly discourage intentional insertion of batteries into the recovered fiber stream.

Thank you for the opportunity to comment on this topic. AF&PA believes that intentionally introducing batteries into paper bales is an unnecessary risk to our members’ employees and facilities, and that NFPA should be aware of this concern as they develop a standard on battery safety. Please reach out to lily_miller@afandpa.org if you have any questions.

Sincerely,

Paul R. Noe
Vice President, Public Policy
American Forest & Paper Association

⁵ <https://www.clackamas.us/recycling/batteries>



Public Input No. 208-NFPA 800-2026 [Section No. 1.1]

1.1 Scope.

This code includes, requirements for the identification, prevention, mitigation, and control of fire, explosion, and related hazards for life safety and property protection associated with electrochemical cells and batteries and appurtenance .

Statement of Problem and Substantiation for Public Input

Appurtenances should be added to the scope to include chargers and other appurtenance that are part of the battery system.

Submitter Information Verification

Submitter Full Name: Steven Sawyer

Organization: Self-Employed

Street Address:

City:

State:

Zip:

Submittal Date: Tue Jan 20 08:37:40 EST 2026

Committee: BAT-AAA



Public Input No. 318-NFPA 800-2026 [Section No. 1.1]

1.1 Scope.

This code includes, requirements for the identification, prevention, mitigation, and control of fire, explosion, and related hazards for life safety and property protection associated with electrochemical cells and batteries.

(A) Not Covered.

This code does not cover the following:

(1) Installations of communications equipment under the exclusive control of communications utilities located outdoors or in building spaces used exclusively for such installations

Statement of Problem and Substantiation for Public Input

NFPA 70 and 855 already include carveouts for communication utilities.

Submitter Information Verification

Submitter Full Name: Michael Wright

Organization: Enersys Inc

Street Address:

City:

State:

Zip:

Submittal Date: Tue Jan 27 11:02:52 EST 2026

Committee: BAT-AAA



Public Input No. 349-NFPA 800-2026 [Section No. 1.1]

1.1 Scope.

This code ~~includes requirements~~ includes requirements for the identification, prevention, mitigation, and control of fire, explosion, and related hazards ~~for life safety and property protection~~ associated with electrochemical cells and batteries.

Statement of Problem and Substantiation for Public Input

The deleted text speaks to purpose and is already included in 1.2.1. It is not necessary to include this in the Scope section.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

Street Address:

City:

State:

Zip:

Submittal Date: Tue Jan 27 21:04:31 EST 2026

Committee: BAT-AAA



Public Input No. 138-NFPA 800-2026 [Section No. 1.2.1]

1.2.1

The purpose of this code is to prescribe minimum requirements necessary to establish a reasonable level of fire, life safety and property protection from the ~~risks-~~ hazards posed by electrochemical cell and battery fire and related electrical and deflagration hazards.

Statement of Problem and Substantiation for Public Input

In safety documents such as this one the word "risk" should be reserved for and used only when the intended meaning is "the combination of the probability of occurrence of an adverse event and the potential consequences of that event."

The word "risks" in this type of document generally refers to "hazards."

Based on the context of this sentence, the word "risks" should be replaced with the term "hazards."

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 139-NFPA 800-2026 [Section No. 1.8]</u>	
<u>Public Input No. 140-NFPA 800-2026 [New Section after 3.3.33]</u>	

Submitter Information Verification

Submitter Full Name: Daniel Roberts

Organization: Electrical Safety Solutions

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 08 13:57:00 EST 2026

Committee: BAT-AAA



Public Input No. 350-NFPA 800-2026 [Section No. 1.2.1]

1.2.1

The purpose of this code is to prescribe minimum requirements necessary to establish a reasonable level of fire, life safety and property protection from the risks posed by electrochemical cell and battery fire and related electrical and deflagration hazards. cells and batteries.

Statement of Problem and Substantiation for Public Input

The removed text is not necessary in purpose.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

Street Address:

City:

State:

Zip:

Submittal Date: Tue Jan 27 21:07:56 EST 2026

Committee: BAT-AAA



Public Input No. 49-NFPA 800-2026 [Section No. 1.2.2]

1.2.2 –

The code provides criteria for fire protection measures, emergency response consideration, and hazard control methods applicable to all lifecycle stages of batteries, except applies to the manufacturing, storage, transportation, operation, and recycling or disposal of batteries.

1.2.1

The code does not apply to the installation and operation of energy storage ~~system~~ systems (ESS) covered in NFPA 855.

Statement of Problem and Substantiation for Public Input

This section fits better in the Scope section as it reads as a bounding statement.

Submitter Information Verification

Submitter Full Name: Kristen Dentici

Organization: Bowman Fire and Life Safety

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 05 16:00:22 EST 2026

Committee: BAT-AAA



Public Input No. 50-NFPA 800-2026 [Section No. 1.2.3]

4.2.3 * --

This code is not a product safety listing standard.

Statement of Problem and Substantiation for Public Input

This does not need to be stated since this is a code.

Submitter Information Verification

Submitter Full Name: Kristen Dentici

Organization: Bowman Fire and Life Safety

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 05 16:07:15 EST 2026

Committee: BAT-AAA



Public Input No. 183-NFPA 800-2026 [New Section after 1.3]

1.3.1 Threshold Values

This code shall apply to facilities in which the aggregate battery energy exceeds the values shown in Table 1.3.1.

[insert table]

Additional Proposed Changes

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
NFPA_800_Table_1.3.1.docx		

Statement of Problem and Substantiation for Public Input

NFPA 800 should have chemistry-specific threshold quantities for aggregate energy per facility that are consistent with NFPA 855.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 187-NFPA 800-2026 [Section No. 3.3.48]	Proposed name change
Public Input No. 189-NFPA 800-2026 [Section No. 3.3.49]	Proposed name change
Public Input No. 187-NFPA 800-2026 [Section No. 3.3.48]	
Public Input No. 189-NFPA 800-2026 [Section No. 3.3.49]	
Public Input No. 199-NFPA 800-2026 [Section No. 8.1.1]	
Public Input No. 201-NFPA 800-2026 [Section No. 8.2.1.5]	

Submitter Information Verification

Submitter Full Name: James McDowall
Organization: McDowall Advisors LLC
Street Address:
City:
State:
Zip:
Submission Date: Mon Jan 19 09:35:36 EST 2026
Committee: BAT-AAA

Table 1.3.1 Threshold Levels per Facility

Battery Technology	Aggregate Capacity ^a	
	kWh	MJ
Electrochemical double-layer capacitors (EDLC)	3	10.8
Flow batteries ^b	20	72
Hybrid supercapacitors	20	72
Iron-air, aqueous	70	252
Lead-acid, all types	70	252
Alkali-metal-ion, all types ^c	20	72
Alkali metal ^d	20	72
Ni-Cd, Ni-MH, Ni-Fe, and Ni-Zn	70	252
Nickel-hydrogen	20	72
Sodium-metal halide	20 (70) ^e	72 (252) ^e
Sodium-sulfur	70	252
Zinc-air, aqueous	70	252
Zinc-bromine	20	72
Zinc-manganese dioxide (Zn-MnO ₂)	20	72
All other battery technologies	10	36

^aFor ESS units rated in amp-hrs, kWh equals nominal rated voltage multiplied by amp-hr nameplate rating divided by 1000. For batteries rated in watts per cell, kWh equals the nameplate watts per cell multiplied by the number of cells divided by 1000 and multiplied by the nameplate minutes rating divided by 60.

^bIncludes vanadium, zinc-bromine, polysulfide-bromide, and other flowing electrolyte-type technologies.

^cSee 3.3.48

^dSee 3.3.49

^eFor sodium-metal halide batteries that have been listed to UL 1973 and meet the cell-level performance requirements in UL 9540A.



Public Input No. 319-NFPA 800-2026 [Section No. 1.3]

1.3 Application.

This code shall apply to the following:

- (1) Facilities engaged in the repair, maintenance, manufacturing, and assembly of cell and battery. (Chapter 5)
- (2) Storage facilities for new, used, damaged, or defective cells and batteries, and products containing them, including indoor and outdoor storage. (Chapter 6)
- (3) Transportation and logistics operations handling batteries, including packaging and labeling. (Chapter 7)
- (4) Battery Powered Equipment infrastructure, installation and operation. (Chapter 8)
- (5) Battery product decommissioning, including repurpose, recycling, and waste management. (Chapter 9)

Statement of Problem and Substantiation for Public Input

Consistent punctuation

Submitter Information Verification

Submitter Full Name: Brad Galgoci

Organization: General Motors

Street Address:

City:

State:

Zip:

Submittal Date: Tue Jan 27 11:27:40 EST 2026

Committee: BAT-AAA



1.3 Application.

This code shall apply to the following:

- (1) Facilities engaged in the repair, maintenance, manufacturing, and assembly of cell and battery (Chapter 5)
- (2) Storage facilities for new, used, damaged, or defective cells and batteries, and products containing them, including indoor and outdoor storage. (Chapter 6)
- (3) Transportation and logistics operations handling batteries, including packaging and labeling. (Chapter 7)
- (4) Battery Powered Equipment infrastructure, installation and operation. (Chapter 8)
- (5) Battery product decommissioning, including repurpose, recycling, and waste management. (Chapter 9)

1.3.1 This code does not cover the following:

- (1) Installations in ships, watercraft other than floating buildings, railway rolling stock, aircraft, or automotive vehicles other than mobile homes and recreational vehicles
- (2) Installations underground in mines and self-propelled mobile surface mining machinery and its attendant electrical trailing cable
- (3) Installations of railways for generation, transformation, transmission, energy storage, or distribution of power used exclusively for operation of rolling stock or installations used exclusively for signaling and communications purposes
- (4) Installations of communications equipment under the exclusive control of communications utilities located outdoors or in building spaces used exclusively for such installation
- (5) Installations under the exclusive control of an electric utility where such installations
 - a. Consist of service drops or service laterals, and associated metering, or
 - b. Are on property owned or leased by the electric utility for the purpose of communications, metering, generation, control, transformation, transmission, energy storage, or distribution of electric energy, or
 - c. Are located in legally established easements or rights-of-way, or
 - d. Are located by other written agreements either designated by or recognized by public service commissions, utility commissions, or other regulatory agencies having jurisdiction for such installations. These written agreements shall be limited to installations for the purpose of communications, metering, generation, control, transformation, transmission, energy storage, or distribution of electric energy where legally established easements or rights-of-way cannot be obtained. These installations shall be limited to federal lands, Native American reservations through the US Department of the Interior Bureau of Indian Affairs, military bases, lands controlled by port authorities and state agencies and departments, and lands owned by railroads.

Statement of Problem and Substantiation for Public Input

It is recommended NFPA 800 exclude applications already classified as outside the scope of the NEC as these locations are currently not routinely visited by inspectors and AHJs. Similar analogous utility-based exclusions have been included for some portions of NFPA 855, particularly with respect to lead-acid and similar older battery technologies.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

Street Address:

City:

State:

Zip:

Submittal Date: Tue Jan 27 21:13:37 EST 2026

Committee: BAT-AAA



Public Input No. 363-NFPA 800-2026 [Section No. 1.3]

1.3 Application.

This code shall apply to the following:

- (1) Facilities engaged in the repair, maintenance, manufacturing, and assembly of cell and battery (Chapter 5)
- (2) Storage facilities for new, used, damaged, or defective cells and batteries, and products containing them, including indoor and outdoor storage. (Chapter 6)
- (3) Transportation and logistics operations handling batteries, including packaging and labeling. (Chapter 7)
- (4) Battery Powered Equipment infrastructure, installation and operation. (Chapter 8)
- (5) Battery product decommissioning, including repurpose, recycling, and waste management. (Chapter 9)

Statement of Problem and Substantiation for Public Input

This section does not match the Chapter Titles and requirements of this standard. For example: 1.3.(1) states that the code shall apply to the following: Facilities engaged in the repair, maintenance, manufacturing, and assembly of cell and battery (Chapter 5), yet Chapter 5 is titled "Manufacturing, Assembly, and Laboratory Research, Development, and Testing".

In general, this standard is not clear as why different fire protection requirements are necessary for the various types of facilities. If the intent is to conduct a Hazard Mitigation Analysis for any facility that goes beyond typical usage of batteries, then I would clarify why those additional requirements are necessary.

Submitter Information Verification

Submitter Full Name: Joseph Sellers

Organization: U.S. Department of Energy, National Nuclear Security Administration

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jan 28 10:26:06 EST 2026

Committee: BAT-AAA



1.3 Application.

This code shall apply to the following:

- (1) Facilities engaged in the repair, maintenance, manufacturing, and assembly of cell and battery (Chapter 5). Does this include autobody and dealerships?
- (2) Storage facilities for new, used, damaged, or defective cells and batteries, and products containing them, including indoor and outdoor storage. (Chapter 6). Section 1.3 states various categories of operations. Some in the battery recycling space only store batteries as they are collected, then transport them to another facility for further processing. Do these types of facilities fall under Bullet (2) and therefore Chapter 6 of the Code, or Bullet (5) and therefore Chapter 9? The Committee needs more robust representation in recycling to write this standard.
- (3) Transportation and logistics operations handling batteries, including packaging and labeling. (Chapter 7)
- (4) Battery Powered Equipment infrastructure, installation and operation. (Chapter 8)
- (5) Battery product decommissioning, including repurpose, recycling, and waste management. (Chapter 9)

Statement of Problem and Substantiation for Public Input

Section 1.3 states various categories of operations. Some in the battery recycling space only store batteries as they are collected, then transport them to another facility for further processing. Do these types of facilities fall under Bullet (2) and therefore Chapter 6 of the Code, or Bullet (5) and therefore Chapter 9? The Committee needs more robust representation in recycling to write this standard.

This risk profile for a facility that collects batteries that are either intentionally placed in the stream improperly, or placed in the stream inadvertently, versus facilities designed to accept, recycle, or repurpose batteries and battery components are much different and should be 1. identified as such in the standard and 2. treated differently for protective factors required.

Submitter Information Verification

Submitter Full Name: Michael Marino

Organization: Recycled Materials Association (ReMA)

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 09:57:58 EST 2026

Committee: BAT-AAA



Public Input No. 513-NFPA 800-2026 [Section No. 1.3]

1.3 Application.

~~This~~ Unless otherwise specified, this code shall apply to the following:

- (1) Facilities engaged in the repair, maintenance, manufacturing, and assembly of cell and battery (Chapter 5)
- (2) Storage facilities for new, used, damaged, or defective cells and batteries, and products containing them, including indoor and outdoor storage. (Chapter 6)
- (3) Transportation and logistics operations handling batteries, including packaging and labeling. (Chapter 7)
- (4) Battery Powered Equipment infrastructure, installation and operation. (Chapter 8)
- (5) Battery product decommissioning, including repurpose, recycling, and waste management. (Chapter 9)

Statement of Problem and Substantiation for Public Input

for improved wording

Submitter Information Verification

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Submittal Date: Thu Jan 29 16:38:52 EST 2026

Committee: BAT-AAA



Public Input No. 539-NFPA 800-2026 [Section No. 1.3]

1.3 Application.

This code shall apply to the following:

- (1) Facilities engaged in the repair, maintenance, manufacturing, ~~and assembly of cell and battery assembly, research, development, or testing of cells and batteries~~ (Chapter 5)
- (2) Storage facilities for new, used, damaged, or defective cells and batteries, and products containing them, including indoor and outdoor storage. (Chapter 6)
- (3) Transportation and logistics operations handling batteries, including packaging and labeling. (Chapter 7)
- (4) Battery Powered Equipment infrastructure, installation and operation. (Chapter 8)
- (5) Battery product decommissioning, including repurpose, recycling, and waste management. (Chapter 9)

Statement of Problem and Substantiation for Public Input

R&D and testing is missing.

Submitter Information Verification

Submitter Full Name: Corey Kinsman

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Submittal Date: Thu Jan 29 17:25:19 EST 2026

Committee: BAT-AAA



Public Input No. 52-NFPA 800-2026 [Section No. 1.5.1]

1.5.4--

Nothing in this code is intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety over those prescribed in this code.

Statement of Problem and Substantiation for Public Input

Matching format of other standards such as NFPA 101 and 855, this sentence is included as part of the 1.X, not 1.X.1.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 51-NFPA 800-2026 [Section No. 1.5.2]</u>	

Submitter Information Verification

Submitter Full Name: Kristen Dentici

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Submittal Date: Mon Jan 05 16:14:45 EST 2026

Committee: BAT-AAA



Public Input No. 51-NFPA 800-2026 [Section No. 1.5.2]

1.5.2.1 Technical Documentation

Technical documentation ~~needs to be~~ shall be submitted to the authority having jurisdiction to demonstrate equivalency.

Statement of Problem and Substantiation for Public Input

Code language should be shall, matching with other codes such as NFPA 101.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 52-NFPA 800-2026 [Section No. 1.5.1]	
Public Input No. 53-NFPA 800-2026 [Section No. 1.5.3]	

Submitter Information Verification

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Submittal Date: Mon Jan 05 16:13:23 EST 2026

Committee: BAT-AAA



Public Input No. 53-NFPA 800-2026 [Section No. 1.5.3]

1.5.3 2 Approval

The system, method, or device ~~needs to~~ shall be approved for the intended purpose by the authority having jurisdiction.

Statement of Problem and Substantiation for Public Input

Code language should be shall, aligning with other codes such as NFPA 101. Also added matching title.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 51-NFPA 800-2026 [Section No. 1.5.2]</u>	Shifting section numbers, changes are based on similar reasoning.

Submitter Information Verification

Submitter Full Name: Kristen Dentici

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Submission Date: Mon Jan 05 16:18:20 EST 2026

Committee: BAT-AAA



Public Input No. 54-NFPA 800-2026 [Section No. 1.6.1]

4.6.4 –

~~The provisions of this code reflect a consensus of what is necessary to provide an acceptable degree of protection from the hazards addressed in this code at the time the code was issued.~~

Statement of Problem and Substantiation for Public Input

This is an unnecessary statement in the body of a Code, particularly in this section and this is implied or stated as part of the Scope section. This could potentially be moved to an Annex Section or removed.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 55-NFPA 800-2026 [Section No. 1.6.2]	
Public Input No. 56-NFPA 800-2026 [Section No. 1.6.3]	

Submitter Information Verification

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Submittal Date: Mon Jan 05 16:22:33 EST 2026

Committee: BAT-AAA



Public Input No. 55-NFPA 800-2026 [Section No. 1.6.2]

1.6.2 – 1

Unless otherwise ~~specified~~ required elsewhere in this Code , the provisions of this ~~code~~ Code shall not apply to facilities, equipment, structures, or installations that existed or were approved for construction or installation prior to the effective date of the ~~code~~ Code .

Statement of Problem and Substantiation for Public Input

Aligning language with other codes that have a similar section (NFPA 72). Updated section number to align with removal of prior section.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 54-NFPA 800-2026 [Section No. 1.6.1]</u>	
<u>Public Input No. 56-NFPA 800-2026 [Section No. 1.6.3]</u>	

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Submittal Date: Mon Jan 05 16:25:03 EST 2026

Committee: BAT-AAA



Public Input No. 56-NFPA 800-2026 [Section No. 1.6.3]

1.6.3 2 *

In those cases where it is determined by the authority having jurisdiction determines that jurisdiction that the existing situation presents an unacceptable degree of risk, the authority having jurisdiction is permitted to apply retroactively any portions of this code deemed appropriate. involves a distinct hazard to life or property. retroactive application of the provisions of this document shall be permitted.

Statement of Problem and Substantiation for Public Input

Aligning with language used in other codes. Updated section number to align with suggested deletion.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 54-NFPA 800-2026 [Section No. 1.6.1]</u>	
<u>Public Input No. 55-NFPA 800-2026 [Section No. 1.6.2]</u>	

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Submittal Date: Mon Jan 05 16:27:44 EST 2026

Committee: BAT-AAA



Public Input No. 544-NFPA 800-2026 [Section No. 1.6.4]

4.6.4 –

~~The retroactive requirements of this code are permitted to be modified if their application clearly would be impractical in the judgment of the authority having jurisdiction, and only where it is clearly evident that a reasonable degree of safety is provided.~~

Statement of Problem and Substantiation for Public Input

1.6.4 The previous section (1.6.3) looks sufficient and this section is redundant. If kept, delete “clearly” and “clearly evident” as these are subjective terms.

Submitter Information Verification

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Submittal Date: Thu Jan 29 17:32:45 EST 2026

Committee: BAT-AAA



Public Input No. 355-NFPA 800-2026 [New Section after 1.7.1]

TITLE OF NEW CONTENT

It would be useful/helpful that in every state compliance should be certified by a State mandated Professional Responsibility Organization that works in close contact with the local fire department. This would ensure that that every business (and employees thereof) involved in the logistic train of collecting, transporting, storing, and processing EOL LIBs are following all required fire procedures. This certification could be used by insurance underwriters to award insurance policies to certified players in the industry.

Statement of Problem and Substantiation for Public Input

Ensuring full compliance to the safety codes. One way to do this is to create a public certification board that is fully integrated with the fire department and to have informed to the insurance underwriters. This way, insurance underwriters could use this certification to determine whether, or not, to award a policy. While people may assume they can avoid compliance fines and such, they can't avoid having to purchase insurance.

Submitter Information Verification

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Submittal Date: Tue Jan 27 22:00:17 EST 2026

Committee: BAT-AAA



Public Input No. 356-NFPA 800-2026 [New Section after 1.8]

TITLE OF NEW CONTENT

The AHJ shall work in collaboration with local state sanctioned Professional Responsibility Organizations to ensure full training and compliance of every business/person working in the logistic train of processing end-of-life lithium ion batteries to materials that are no longer a fire hazard.

Statement of Problem and Substantiation for Public Input

End-of-life lithium ion batteries change many hands on their journey to final disposal. Each contact in that chain must purchase insurance and act within all regulations. Professional Responsibility Organizations can help ensure all members of the logistic train are fully trained. This helps every person in the logistic train obtain the necessary insurance.

Submitter Information Verification

Submitter Full Name: Michael Cooney

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Submittal Date: Tue Jan 27 22:05:46 EST 2026

Committee: BAT-AAA



Public Input No. 139-NFPA 800-2026 [Section No. 1.8]

1.8* Permits and Approvals.

The AHJ shall be authorized to establish and issue permits, certificates, and approvals pertaining to conditions, operations, ~~risk~~ and the possibility of fire or thermal runaway or other hazards to life or property in accordance with Section 1.13 of NFPA 1.

Statement of Problem and Substantiation for Public Input

In safety documents such as this one the word "risk" should be reserved for and used only when the intended meaning is "the combination of the probability of occurrence of an adverse event and the potential consequences of that event."

The phrase "risk of" in this type of document generally refers to a "possibility of" or "the potential for" regardless of the potential consequence.

Based on the context of this sentence, the phrase "risk of fire or thermal runaway" should be replaced with the phrase "and the possibility of fire or thermal runaway...".

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 138-NFPA 800-2026 [Section No. 1.2.1]	Use of the word "risk"
Public Input No. 140-NFPA 800-2026 [New Section after 3.3.33]	

Submitter Information Verification

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Submittal Date: Thu Jan 08 14:02:42 EST 2026

Committee: BAT-AAA



Public Input No. 394-NFPA 800-2026 [Section No. 2.3.3]

2.3.3 UL Publications.

~~Underwriters Laboratories~~ ULSE Inc., ~~333 Pfingsten Road, Northbrook, IL 60062-2096~~ 1603 Orrington Ave., Suite 1700, Evanston, IL 60201 .

UL 263, *Fire Tests of Building Construction and Materials*, 2011.

Statement of Problem and Substantiation for Public Input

Correct the entity and address

Submitter Information Verification

Submitter Full Name: Yi Ji

Organization: UL Standards & Engagement

Affiliation: UL Standards & Engagement

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City:

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Submittal Date: Wed Jan 28 14:29:35 EST 2026

Committee: BAT-AAA



Public Input No. 320-NFPA 800-2026 [Section No. 2.3.5]

2.3.5 Other Publications.

Merriam-Webster's Collegiate Dictionary, 11th edition, Merriam-Webster, Inc., Springfield, MA, 2020.

UN Economics Commission, *Manual of Tests and Criteria 7th edition*, 2019.

UN Economics Commission, *Recommendations on the Transport of Dangerous Goods — Model Regulations Rev 22, 2022*.

Statement of Problem and Substantiation for Public Input

Consistent punctuation

Submitter Information Verification

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Zip:

Submittal Date: Tue Jan 27 11:29:15 EST 2026

Committee: BAT-AAA



Chapter 3 Definitions

3.1 General.

3.1.1

The definitions contained in this chapter shall apply to the terms used in this standard.

3.1.2

Where terms are not defined in this chapter or within another chapter, they shall be defined using their ordinarily accepted meanings within the context in which they are used.

3.1.3

Merriam-Webster's Collegiate Dictionary, 11th edition, shall be the source for the ordinarily accepted meaning.

3.2 NFPA Official Definitions.

3.2.1* Approved.

Acceptable to the authority having jurisdiction.

3.2.2* Authority Having Jurisdiction (AHJ).

An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure.

3.2.3 Aqueous Battery

A rechargeable battery that uses a water-based electrolyte, offering advantages such as safety, low cost and environmental friendly.

3.2.3* Code.

A standard that is an extensive compilation of provisions covering broad subject matter or that is suitable for adoption into law independently of other codes and standards.

3.2.4 Labeled.

Equipment or materials to which has been attached a label, symbol, or other identifying mark of an organization that is acceptable to the authority having jurisdiction and concerned with product evaluation, that maintains periodic inspection of production of labeled equipment or materials, and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.

3.2.5* Listed.

Equipment, materials, or services included in a list published by an organization that is acceptable to the authority having jurisdiction and concerned with evaluation of products or services, that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services, and whose listing states that either the equipment, material, or service meets appropriate designated standards or has been tested and found suitable for a specified purpose.

3.2.6 Shall.

Indicates a mandatory requirement.

3.2.7 Should.

Indicates a recommendation or that which is advised but not required.

3.3 General Definitions.

3.3.1 Active Fire Protection System.

System that uses moving mechanical or electrical parts to perform an action to achieve a fire protection goal, including fire detection, fire alarm, and fire suppression systems. [3, 2024]

3.3.2 Alkali Metals.

Cesium, francium, lithium, potassium, rubidium, sodium, and alloys of these metals, such as NaK. [484, 2022]

3.3.3 Battery.

One or more cells connected together electrically in series, parallel, or both, to provide the required operating voltage and current levels. [855, 2026]

3.3.3.1 Flow Battery.

A type of storage battery that includes one or more electrolyte solutions or suspensions in at least one storage tank, one or more energy converters where chemical energy is converted into electrical energy in a reversible process, and a circulation system that causes electrolyte to flow between the tank(s) and converter(s).

3.3.4 Battery Energy Storage System (BESS).

A system consisting of one or more batteries, associated electrical and electronic equipment, and controls designed to store and discharge electrical energy.

3.3.5 Battery Management System (BMS).

A system that monitors, controls, and optimizes performance of an individual or multiple battery modules. [855, 2026]

3.3.6 Battery Pack.

An assembly of battery cells configured electrically and mechanically with a protective enclosure and associated control electronics.

3.3.7 Battery Thermal Runaway.

Self-heating of an electrochemical system in an uncontrollable fashion.

3.3.8 Bloc.

For aqueous electrolyte rechargeable batteries (such as lead-acid or Ni-Cd), a bloc (or monobloc) typically refers to a multi-cell container where only the terminals of the first and last internally series-connected cells in the container are available for external connection.

3.3.9 Building Code.

The building code enforced by the jurisdiction or agency enforcing this code. [101, 2024]

3.3.10 Cell.

The basic electrochemical unit, characterized by an anode and a cathode, used to receive, store, and deliver electrical energy. [70, 2026]

3.3.11 Combustible Concentration Reduction.

The technique of maintaining the concentration of combustible material in a closed space below the lower flammable limit. [69, 2024]

3.3.12 Damaged, Defective, or Recalled (DDR).

Damaged product has physical harm like cracks or leaks. Defective product is unreasonably unsafe due to a design flaw, manufacturing mistake, or improper labeling or instructions. Recalled product is when a manufacturer or government agency orders a return or bans sale due to identified safety hazards or defects.

3.3.13 Deflagration.

Propagation of a combustion zone at a velocity that is less than the speed of sound in the unreacted medium. [68, 2023]

3.3.14 Developed Fire.

A fire that has progressed beyond its ignition stage, reaching a point where it is self-sustaining and spreading within the unit of origin. [855, 2026]

3.3.15 Dwelling Unit.

One or more rooms arranged for complete, independent housekeeping purposes with space for eating, living, and sleeping; facilities for cooking; and provisions for sanitation. [101, 2024]

3.3.16 Fire-Resistant-Rated Construction.

Construction in which the structural members, including walls, partitions, columns, floors, and roof construction, have fire resistance ratings of time duration not less than that specified in this standard. [75, 2024]

3.3.17 Hazard Mitigation Analysis (HMA).

An analysis to evaluate potential fire hazards and appropriate fire protection systems and features used to mitigate the effects of fire in any plant location.

3.3.18 One- and Two-Family Dwelling Unit.

A building that contains not more than two dwelling units with independent cooking and bathroom facilities. [101, 2024]

3.3.19 One-Family Dwelling Unit.

A building that consists solely of one dwelling unit with independent cooking and bathroom facilities. [101, 2024]

3.3.20 Two-Family Dwelling Unit.

A building that consists solely of two dwelling units with independent cooking and bathroom facilities. [101, 2024]

3.3.21 Electrical Code.

The electrical code adopted by the jurisdiction. [1, 2024]

3.3.22 Electric Utilities.

All enterprises engaged in the production or distribution of electricity for public use, including those that are typically designated or recognized by governmental law or regulation by public service/utility commissions and that install, operate, and maintain electric supply such as generation, transmission, or distribution systems. [855, 2026]

3.3.23 Electrochemical Double Layer Capacitor (EDLC).

A capacitor that has liquid electrolyte (e.g., acetonitrile) and electrodes with a highly porous surface that increases the surface area for holding charge resulting in much larger capacitance and energy density. [855, 2026]

3.3.24 Emergency Power Supply (EPS).

The source of electric power of the required capacity and quality for an emergency power supply system (EPSS). [110, 2025]

3.3.25 Emergency Power Supply System (EPSS).

A complete functioning EPS system coupled to a system of conductors, disconnecting means and overcurrent protective devices, transfer switches, and all control, supervisory, and support devices up to and including the load terminals of the transfer equipment needed for the system to operate as a safe and reliable source of electric power. [110, 2025]

3.3.26 Emergency Response and Firefighting Terms.

3.3.26.1 _ Exposure Protection.

Measures designed to prevent the spread of fire from a burning object or structure to adjacent buildings or materials.

3.3.26.2 _ Fire Suppression System.

An active fire protection system designed to detect, control, or extinguish fires using agents such as water, foam, or inert gases.

3.3.26.3 _ Incident Command System (ICS).

A standardized, on-scene, all-hazard incident management system used for emergency response coordination.

3.3.26.4 _ Personal Protective Equipment (PPE).

Gear worn by emergency responders to minimize exposure to hazards, including fire-resistant clothing, gloves, SCBA, and helmets.

3.3.26.5 _ Post-Fire Management.

Procedures for handling battery systems and associated materials following fire suppression, including de-energization, cooling, and hazardous material containment.

3.3.27 _ Energy Storage Management System (ESMS).

A system that monitors, controls, and optimizes the performance and safety of an energy storage system. [855, 2026]

3.3.28 _ Energy Storage System (ESS).

One or more devices, assembled together, capable of storing energy to supply electrical energy at a future time. [855, 2026]

3.3.29 _ Equipment.

A general term including material, fittings, devices, appliances, luminaires, apparatus, and the like. [79, 2024]

3.3.29.1 _ Capacitor Energy Storage System.

An electrical energy storage system using capacitors as a storage media. [855, 2026]

3.3.29.2 _ Critical Safety Component or System.

A component or system designed to prevent loss of life, serious personal injury, or damage to the natural environment. [855, 2026]

3.3.29.3 _ Electrochemical Energy Storage System.

An energy storage system that converts and stores chemical energy to electrical energy and vice versa. [855, 2026]

3.3.29.4 _ Enclosure.

A confined or partially confined volume. [68, 2023]

3.3.29.5 _ Energy Storage System Cabinet.

An enclosure containing components of the energy storage system where personnel cannot enter the enclosure other than reaching in to access components for maintenance purposes. [855, 2026]

3.3.29.6 _ Energy Storage System (ESS) Dedicated-Use Building.

A building that is only used for energy storage, or energy storage in conjunction with energy generation, electrical grid-related operations, or communications utility equipment. [855, 2026]

3.3.29.7 _ Energy Storage System Walk-In Unit.

A structure containing energy storage systems that includes doors that provide walk-in access for personnel to maintain, test, and service the equipment and is typically used in outdoor and mobile energy storage system applications. [855, 2026]

3.3.29.8 _ Explosion.

The bursting or rupturing of an enclosure or a container due to the development of internal pressure from a deflagration. [68, 2023]

3.3.29.9 _ Mechanical Energy Storage System.

An energy storage system that converts and stores mechanical energy to electrical energy and vice versa. [855, 2026]

3.3.29.10 _ Mobile Energy Storage System.

An energy storage system capable of being moved and utilized as a temporary source of power. [855, 2026]

3.3.29.11 _ Portable Energy Storage System.

An energy storage system suitable to be lifted and moved by a single person without mechanical aids and not permanently connected to an electrical system. [855, 2026]

3.3.29.12 _ Stationary Energy Storage System.

An energy storage system that is permanently installed as fixed equipment. [855, 2026]

3.3.30 _ Fire and Explosion Testing.

Testing of a representative energy storage system that evaluates the fire and explosion hazards produced by thermal runaway propagation. [855, 2026]

3.3.31 _ Fire Area.

An area of a building separated from the remainder of the building by construction having a fire resistance of at least 1 hour and having all communicating openings properly protected by an assembly having a fire resistance rating of at least 1 hour. [30, 2024]

3.3.32 _ Fire Command Center.

The principal attended or unattended room or area where the status of the detection, alarm communications, control systems, and other emergency systems is displayed and from which the system(s) can be manually controlled. [72, 2025]

3.3.33 _ Fire Risk Assessment (FRA).

A process to characterize the risk associated with fire that addresses the fire scenario or fire scenarios of concern, their probability, and their potential consequences. [551, 2022]

3.3.34 _ Gas.

3.3.34.1 _ Highly Toxic Gas.

A chemical that has a median lethal concentration (LC50) in air of 200 ppm by volume or less of gas or vapor, or 2 mg/L or less of mist, fume, or dust, when administered by continuous inhalation for 1 hour (or less if death occurs within 1 hour) to albino rats weighing between 0.44 lb and 0.66 lb (200 g and 300 g) each. [55, 2023]

3.3.34.2 _ Toxic Gas.

A gas with a median lethal concentration (LC50) in air of more than 200 ppm but not more than 2000 ppm by volume of gas or vapor, or more than 2 mg/L but not more than 20 mg/L of mist, fume, or dust, when administered by continuous inhalation for 1 hour (or less if death occurs within 1 hour) to albino rats weighing between 0.44 lb and 0.66 lb (200 g and 300 g) each. [55, 2023]

3.3.35 _ Hazard Mitigation Analysis (HMA).

An evaluation of potential energy storage system failure modes and the safety-related consequences attributed to the failures. [855, 2026]

3.3.36 _ Incidental Storage.

Use or storage as a subordinate activity to that which establishes the occupancy or area classification.

3.3.37 _ Living Area.

Any normally occupiable space in a residential occupancy, other than sleeping rooms or rooms that are intended for combination sleeping/living, bathrooms, toilet compartments, kitchens, closets, halls, storage or utility spaces, and similar areas. [101, 2024]

3.3.38 _ Maximum Stored Energy.

The quantity of rated energy storage permitted in an area. [855, 2026]

3.3.39* _ Module.

Multiple cells in a single assembly, typically with a BMS or some type of control electronics board.

3.3.40 _ Occupiable Enclosure or Space.

An area that has dimensions and physical characteristics such that it could be entered by a person for maintenance during normal operation. [855, 2026]

3.3.41 _ Off-Gassing.

The event in which the cell case vents due to a rise in internal pressure of the cell. [855, 2026]

3.3.42 _ Off-Specification Battery or Cell.

A cell or battery that has been tested during the manufacturing quality control process and found not to be within the manufacturer's designed set of criteria for its intended use. [855, 2026]

3.3.43 _ Open Parking Garage.

A structure or portion of a structure with the openings on two or more sides that is used for the parking or storage of motor vehicles. [855, 2026]

3.3.44 * _ Pack.

Multiple cells in a single assembly, or multiple modules in a common assembly typically meant for use in an OEM product.

3.3.45 _ Partial Volume Deflagration.

An overpressure developed by the ignition of a flammable gas cloud that occupies only a part of the free air volume of a confined space. [855, 2026]

3.3.46 _ Primary Battery.

A non-rechargeable battery requiring periodic replacement. [72, 2025]

3.3.47 _ Qualified Person.

One who has skills, knowledge, and training related to the construction and operation of energy storage systems and electrical equipment and installations and has received safety training to recognize, avoid, and mitigate the hazards involved. [855, 2026]

3.3.48 * _ Reactive Ion Chemistry Battery with Flammable Liquid Electrolyte.

A battery composed of cells where reactive metal (from the first group [or column] of the periodic table) ions are intercalated between the anode and cathode, being transported (at least partially) in a flammable liquid organic solvent between the two plate types.

3.3.49 * _ Reactive Metal Chemistry Battery.

A battery composed of cells where either the anode or cathode is a reactive metal from the first group (or column [alkali metals]) of the periodic table, where if the cell has an internal short circuit or is exposed to the atmosphere, the reactive metal will burn.

3.3.50 * _ Rechargeable Battery.

An electrochemical cell capable of being discharged and then recharged. [72, 2025]

3.3.51 * _ Reconditioned.

Electromechanical systems, equipment, apparatus, or components that are restored to operating conditions. This process differs from normal servicing of equipment that remains within a facility, or replacement of listed equipment on a one-to-one basis. [70, 2026]

3.3.52 _ Recycle.

The process of collecting and processing materials that would otherwise be turned into trash and turning them into new products. [855, 2026]

3.3.53 * _ Registered Design Professional (RDP).

An individual who is registered or licensed to practice his/her respective design profession as defined by the statutory requirements of the professional registration laws of the state or jurisdiction in which the project is to be constructed. [5000, 2024]

3.3.54 _ Reliability.

The probability the system, structure, or component of interest will perform its specified function under given conditions upon demand or for a prescribed time. [806, 2025]

3.3.55 * _ Repurposed Battery.

A battery that was used in one application in the field that is subject to some level of analysis and reconfiguration for use in an ESS application. [855, 2026]

3.3.56 * _ Semi-Solid-State (SSS or SS) Battery.

A battery composed of cells where the electrolyte is mostly either a conductive polymer or a conductive ceramic glass-like material, where a small percentage (approximately 10 percent by weight) of flammable liquid organic solvent electrolyte has been added to improve conductivity. These batteries are less prone to thermal runaway than their counterparts where all of the electrolyte is a flammable liquid organic solvent, but do not have equivalent fire safety characteristics to their ion counterparts where the electrolyte is 100 percent solid-state (ASSB) or is aqueous.

3.3.57 * _ Solid-State Battery (SSB or ASSB).

A battery composed of cells where the electrolyte is either a conductive polymer or a conductive ceramic glass-like material with no liquid electrolyte.

3.3.58 _ Standby Power Application.

An energy storage system utilizing a battery that is intended to remain on continuous float charge or in a high state of charge to support an event necessitating a discharge. [855, 2026]

3.3.59 _ Stationary Standby Battery.

A battery that spends the majority of the time on continuous float charge or in a high state of charge, in readiness for a discharge event. [70, 2026]

3.3.60 _ Storage of Batteries.

The storage, keeping, or collecting of batteries for future use as needed, or for disposal; does not include batteries undergoing manufacture or testing. [855, 2026]

3.3.61 _ Stored Energy.

The amount of energy stored in the ESS at a given point in time. [855, 2026]

3.3.62 _ Stored-Energy Emergency Power Supply System (SEPSS).

A system consisting of a UPS, a rectifier plant, or a motor generator powered by a stored electrical energy source; a transfer switch designed to monitor preferred and alternate load power source and provide desired switching of the load; and all necessary control equipment to make the system functional. [111, 2025]

3.3.63 _ Thermal Runway.

Self-heating of an electrochemical system in an uncontrollable fashion. [855, 2026]

3.3.64 _ Thermal Runway Propagation.

The transfer of thermal energy released from one or more cells undergoing thermal runaway that induces thermal runaway of other cells without any additional initiating mechanism(s). [855, 2026]

3.3.65 _ Thermal Runway Propagation Protection (TRPP).

An active means to mitigate thermal runaway propagation. [855, 2026]

3.3.65.1 _ Emergency Shutoff.

A system or device used to immediately disconnect or disable a battery system to prevent or mitigate a hazardous condition.

3.3.65.2 _ Enclosure.

A physical housing designed to contain a battery system and provide protection against environmental conditions, mechanical damage, and fire propagation.

3.3.65.3 _ Energy Storage Capacity.

The total amount of energy that a battery system can store, typically measured in kilowatt-hours (kWh) or megawatt-hours (MWh).

3.3.65.4 _ State of Charge (SOC).

The percentage of available battery capacity relative to its full capacity.

3.3.65.5 _ State of Health (SOH).

An indicator of battery degradation over time, measuring its remaining useful life and performance.

3.3.66 _ Transportation and End-of-Life Management Terms.

3.3.66.1 _ Damaged or Defective Battery.

A battery that exhibits signs of swelling, leaking, overheating, or electrical malfunctions, requiring special handling and disposal procedures.

3.3.66.2 _ End-of-Life Battery.

A battery that has reached the end of its useful service life and is designated for recycling, repurposing, or disposal.

3.3.66.3 _ Recycling Facility.

A facility designed to process used batteries for material recovery and environmental compliance.

3.3.66.4 _ Second-Use Battery.

A previously used battery repurposed for an application other than its original intended use, such as stationary energy storage.

3.3.66.5 _ Transport Packaging.

Packaging designed to contain batteries for safe transportation, preventing physical damage, short circuits, and accidental ignition.

Statement of Problem and Substantiation for Public Input

We state aqueous batteries in the body of the document, but there is no definition, defining what an aqueous battery is.

Submitter Information Verification

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Submittal Date: Mon Jan 26 17:09:16 EST 2026

Committee: BAT-AAA



Public Input No. 13-NFPA 800-2026 [Section No. 3.1.1]

3.1.1

The definitions contained in this chapter shall apply to the terms used in this ~~standard~~ code .

Statement of Problem and Substantiation for Public Input

NFPA 800 is being developed and titled as a Code (Battery Safety Code). Revise 3.1.1 to use "this code" so terminology is consistent throughout Chapter 3 and the document, and aligns with other defined terms that reference "this code."

Submitter Information Verification

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Submittal Date: Fri Jan 02 14:37:23 EST 2026

Committee: BAT-AAA



Public Input No. 537-NFPA 800-2026 [Section No. 3.3.6]

3.3.6 Battery Pack.

An assembly of battery cells configured electrically and mechanically with a protective enclosure and associated control electronics where such control electronics are provided .

Statement of Problem and Substantiation for Public Input

Not all battery packs include associated electronics.

Submitter Information Verification

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Submission Date: Thu Jan 29 17:23:56 EST 2026

Committee: BAT-AAA



Public Input No. 15-NFPA 800-2026 [Section No. 3.3.7]

3.3.7 – Battery Thermal Runaway:

Self-heating of an electrochemical system in an uncontrollable fashion.

Statement of Problem and Substantiation for Public Input

Remove 3.3.7 and retain definition in 3.3.63.1 with reference to NFPA 855. These definitions are duplicative.

Submitter Information Verification

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Submittal Date: Fri Jan 02 14:49:56 EST 2026

Committee: BAT-AAA



Public Input No. 257-NFPA 800-2026 [Section No. 3.3.7]

3.3.7 – Battery Thermal Runaway:

Self-heating of an electrochemical system in an uncontrollable fashion.

Statement of Problem and Substantiation for Public Input

There is definition of Thermal runaway in section 3.3.63. Suggest deleting 3.3.7 Battery Thermal Runaway. Term "Battery Thermal Runaway" is not used in standard.

Submitter Information Verification

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Submittal Date: Mon Jan 26 14:56:49 EST 2026

Committee: BAT-AAA



Public Input No. 540-NFPA 800-2026 [Section No. 3.3.8]

3.3.8 Bloc.

~~For aqueous electrolyte rechargeable batteries (such as lead-acid or Ni-Cd), a bloc (or monobloc) typically refers to a~~ A multi-cell battery container where only the terminals of the first and last internally series-connected cells in the container are available for external connection.

Move to Annex:

A.3.3.8 Also called a monobloc. This construction approach is commonly utilized in aqueous electrolyte rechargeable batteries such as lead-acid or nickell-cadmium types.

Statement of Problem and Substantiation for Public Input

Move explanatory information to Annex.

Submitter Information Verification

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Committee: BAT-AAA



Public Input No. 59-NFPA 800-2026 [New Section after 3.3.10]

3.3.11 Code

3.3.11.1 Building Code

3.3.11.2 Electrical Code

...ETC.

Statement of Problem and Substantiation for Public Input

Codes should all be listed under one title, as is in NFPA 1.

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Committee: BAT-AAA



Public Input No. 492-NFPA 800-2026 [Section No. 3.3.10]

3.3.10 Cell.

The basic electrochemical unit, characterized by an anode and a cathode, used to receive, store, and deliver electrical energy. [70, 2026]. For the purposes of cell manufacturing, this definition shall not apply to partially or fully completed cell assemblies prior to the application of any external voltage across the anode and cathode.

Statement of Problem and Substantiation for Public Input

The proposed application of NFPA 800 encompasses battery manufacturing, assembly, and research facilities. Effective application of this standard in such occupancies requires a definition that clearly establishes the point in the cell manufacturing process at which the cell assembly presents a hazard commensurate with that of a completed cell. This clarification is necessary to determine when an assembly shall be regulated as a battery cell, rather than as a collection of constituent materials (e.g., metals, flammable liquids, dusts), thereby ensuring that appropriate safeguards are applied when the associated electrochemical hazards become present and preventing the over regulation of cell assemblies that do not present a commensurate hazard.

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Committee: BAT-AAA



Public Input No. 546-NFPA 800-2026 [Section No. 3.3.10]

3.3.10 Cell.

The basic electrochemical unit, typically characterized by an anode and a cathode, used to receive, store, and deliver electrical energy. [70, 2026]

Statement of Problem and Substantiation for Public Input

It could be misinterpreted that "anode free"/solid state batteries are exempted because of this definition.

Submitter Information Verification

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Submittal Date: Thu Jan 29 17:35:47 EST 2026

Committee: BAT-AAA



Public Input No. 19-NFPA 800-2026 [Section No. 3.3.12]

3.3.12 Damaged, Defective, or Recalled (DDR).

~~Damaged product has physical harm like cracks or leaks. Defective product is unreasonably unsafe due to a design flaw, manufacturing mistake, or improper labeling or instructions. Recalled product is when a manufacturer or government agency orders a return or bans sale due to identified safety hazards or defects. A cell, battery, or battery-powered product that has been damaged, or that has been identified by the manufacturer as defective for safety reasons, or that is subject to a safety-related recall, and that may present an increased likelihood of hazardous conditions (for example, dangerous evolution of heat, fire, or short circuit).~~

Statement of Problem and Substantiation for Public Input

The current definition uses subjective phrases (for example, “unreasonably unsafe”) and non-technical concepts that can be applied inconsistently by AHJs and operators. The DDR concept directly affects handling, segregation, packaging, and transport decisions, so the definition should correlate to widely used regulatory language and criteria. DOT uses manufacturer safety identification and “dangerous evolution of heat, fire, or short circuit” framing for damaged/defective/recalled batteries. Air transport guidance similarly uses manufacturer safety identification and treats these as prohibited by air. UN modal provisions commonly use SP 376 to frame “damaged or defective” in relation to UN 38.3 type testing and provide example conditions, improving consistency and enforceability.

Submitter Information Verification

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Submission Date: Fri Jan 02 15:09:17 EST 2026

Committee: BAT-AAA



Public Input No. 291-NFPA 800-2026 [Section No. 3.3.12]

3.3.12 Damaged, Defective, or Recalled (DDR).

Damaged product that has physical harm ~~like cracks or leaks~~ (i.e. cracks, leak, etc), exhibits signs of swelling, leaking, overheating, or electrical malfunctions, requiring special handling and disposal procedures. Defective product is unreasonably unsafe due to a design flaw, manufacturing mistake, or improper labeling or instructions. Recalled product is when a manufacturer or government agency orders a return or bans sale due to identified safety hazards or defects.

Statement of Problem and Substantiation for Public Input

Duplicating term with 3.3.66.1 Damaged or Defective. Suggest removing 3.3.66.1 and combine both definition. Damage batetry include "physical harm" but battery that gone through overheating, overcharged, etc.

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Submittal Date: Mon Jan 26 16:26:08 EST 2026

Committee: BAT-AAA



Public Input No. 313-NFPA 800-2026 [Section No. 3.3.12]

3.3.12 Damaged, Defective, or Recalled (DDR).

~~Damaged product has physical harm like cracks or leaks. Defective-~~ A damaged battery exhibits signs of swelling, leaking, overheating, electrical malfunctions, etc. Defective product is unreasonably unsafe due to a design flaw, manufacturing mistake, or improper labeling or instructions. Recalled product is when a manufacturer or government agency orders a return or bans sale due to identified safety hazards or defects.

Statement of Problem and Substantiation for Public Input

Align DDR definition to match 3.3.66.1 so there are not 2 different explanations. Common definitions are less confusing.

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Public Input No. 258-NFPA 800-2026 [Section No. 3.3.14]

3.3.14 – Developed Fire:

~~A fire that has progressed beyond its ignition stage, reaching a point where it is self-sustaining and spreading within the unit of origin. [855, -2026]~~

Statement of Problem and Substantiation for Public Input

Suggest deleting Term "Developed Fire" as its not used in NFPA 800.

Submitter Information Verification

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Submittal Date: Mon Jan 26 14:59:31 EST 2026

Committee: BAT-AAA



Public Input No. 549-NFPA 800-2026 [Section No. 3.3.14]

3.3.14 Developed Fire.

A fire that has progressed beyond its ignition stage, reaching a point where it is self-sustaining and spreading- within the unit of origin . [855, 2026]

Statement of Problem and Substantiation for Public Input

This definition should be modified so that it applies more broadly instead of referencing “unit of origin” which is ESS terminology.

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Committee: BAT-AAA



Public Input No. 259-NFPA 800-2026 [Section No. 3.3.16]

3.3.16 – ~~Fire-Resistant-Rated Construction.~~

~~Construction in which the structural members, including walls, partitions, columns, floors, and roof construction, have fire resistance ratings of time duration not less than that specified in this standard. [75, 2024]~~

Statement of Problem and Substantiation for Public Input

Suggest deleting Term "Fire-Resistant-Rated Construction" as its not used in NFPA 800.

Other term such as "Fire-Resistant Clothing", "Fire-Resistant Separations", "Fire-Resistant Ground", Fire-Resistance-Rated Enclosures", "Fire-Resistant polymers" are used in NFPA 800.

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Submittal Date: Mon Jan 26 15:02:24 EST 2026

Committee: BAT-AAA



Public Input No. 550-NFPA 800-2026 [Section No. 3.3.16]

3.3.16 Fire-Resistant-Rated Construction.

Construction in which the structural members, including walls, partitions, columns, floors, and roof construction, have fire resistance ratings of time duration not less than that specified in this ~~standard~~ code . [75, 2024]

Statement of Problem and Substantiation for Public Input

Consistent use of referring to the document as a "code".

Submitter Information Verification

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Submittal Date: Thu Jan 29 17:41:49 EST 2026

Committee: BAT-AAA



Public Input No. 12-NFPA 800-2026 [Section No. 3.3.17]

3.3.17 – Hazard Mitigation Analysis (HMA):

~~An analysis to evaluate potential fire hazards and appropriate fire protection systems and features used to mitigate the effects of fire in any plant location.~~

Statement of Problem and Substantiation for Public Input

This is in conflict with 3.3.35 which already references HMA from NFPA 855. Suggest removing, adding new, or coordinating definition with NFPA 855. As currently written, this draft provides two conflicting definitions for HMA.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 20-NFPA 800-2026 [Section No. 3.3.35]</u>	

Submitter Information Verification

Submitter Full Name: Jacob Dentici

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Submittal Date: Fri Jan 02 14:06:15 EST 2026

Committee: BAT-AAA



Public Input No. 275-NFPA 800-2026 [Section No. 3.3.17]

3.3.17 – Hazard Mitigation Analysis (HMA):

~~An analysis to evaluate potential fire hazards and appropriate fire protection systems and features used to mitigate the effects of fire in any plant location.~~

Statement of Problem and Substantiation for Public Input

Duplicate Term, Term "HMA" Defined again in "3.3.35 Hazard Mitigation Analysis (HMA)"

Suggest deleting 3.3.17 as definition in 3.3.35 is used from NFPA 855.

Submitter Information Verification

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Submittal Date: Mon Jan 26 15:50:48 EST 2026

Committee: BAT-AAA



Public Input No. 542-NFPA 800-2026 [Section No. 3.3.17]

3.3.17 – Hazard Mitigation Analysis (HMA):

An analysis to evaluate potential fire hazards and appropriate fire protection systems and features used to mitigate the effects of fire in any plant location.

Statement of Problem and Substantiation for Public Input

This term is also defined in 3.3.35 consistent with NFPA 855.

Submitter Information Verification

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Committee: BAT-AAA



Public Input No. 551-NFPA 800-2026 [Section No. 3.3.17]

3.3.17 Hazard Mitigation Analysis (HMA).

An analysis to evaluate potential fire hazards and appropriate fire protection systems and features used to mitigate the effects of fire- ~~in any plant location~~ .

Statement of Problem and Substantiation for Public Input

Delete "in any plant location" for application in other than "plants".

Submitter Information Verification

Submitter Full Name: Corey Kinsman

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Submittal Date: Thu Jan 29 17:45:54 EST 2026

Committee: BAT-AAA



Public Input No. 58-NFPA 800-2026 [Section No. 3.3.18]

3.3.18 15.1 One- and Two-Family Dwelling Unit.

A building that contains not more than two dwelling units with independent cooking and bathroom facilities.
[101, 2024]

Statement of Problem and Substantiation for Public Input

This should be a subsection to "Dwelling Unit". This change should be carried to the following 2 sections as well.

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Committee: BAT-AAA



Public Input No. 260-NFPA 800-2026 [Sections 3.3.18, 3.3.19, 3.3.20]

~~Sections 3.3.18, 3.3.19, 3.3.20~~

~~3.3.18 – One- and Two-Family Dwelling Unit.~~

~~A building that contains not more than two dwelling units with independent cooking and bathroom facilities. [101, 2024]~~

~~3.3.19 – One-Family Dwelling Unit.~~

~~A building that consists solely of one dwelling unit with independent cooking and bathroom facilities. [101, 2024]~~

~~3.3.20 – Two-Family Dwelling Unit.~~

~~A building that consists solely of two dwelling units with independent cooking and bathroom facilities. [101, 2024]~~

Statement of Problem and Substantiation for Public Input

Suggest deleting Term " 3.3.18 One- and Two-Family Dwelling Unit", " 3.3.19 One-Family Dwelling Unit" , and " 3.3.20 Two-Family Dwelling Unit", as its not used in NFPA 800.

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Submittal Date: Mon Jan 26 15:19:03 EST 2026

Committee: BAT-AAA



Public Input No. 261-NFPA 800-2026 [Sections 3.3.21, 3.3.22]

Sections 3.3.21, 3.3.22

3.3.21 – Electrical Code:

The electrical code adopted by the jurisdiction. [1, -2024]

3.3.22 – Electric Utilities:

All enterprises engaged in the production or distribution of electricity for public use, including those that are typically designated or recognized by governmental law or regulation by public service/utility commissions and that install, operate, and maintain electric supply such as generation, transmission, or distribution systems. [855, -2026]

Statement of Problem and Substantiation for Public Input

Suggest deleting Term "3.3.21 Electrical Code" and " 3.3.22 Electric Utilities.", as its not used in NFPA 800.

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Submittal Date: Mon Jan 26 15:23:11 EST 2026

Committee: BAT-AAA



Public Input No. 478-NFPA 800-2026 [Section No. 3.3.23]

3.3.23 Electrochemical Double Layer Capacitor (EDLC).

~~A capacitor that has liquid electrolyte (e.g., acetonitrile) and electrodes with a highly porous surface that increases the surface area for holding charge resulting in much larger capacitance and energy density. [855, -2026] device having properties of both capacitors and electrochemical cells that store energy in a non-faradaic fashion in an electric field similar to a conventional capacitor, but instead of utilizing a dielectric, and electrode-electrolyte interface is used.~~

Statement of Problem and Substantiation for Public Input

A more recent definition has been introduced with input from multiple EDLC capacitor manufacturers and accepted as worded in NFPA 70E for the first draft. We believe this revision is a more accurate definition. This definition will be proposed in the next edition of NFPA 855.

Submitter Information Verification

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Submission Date: Thu Jan 29 14:14:06 EST 2026

Committee: BAT-AAA



Public Input No. 262-NFPA 800-2026 [Sections 3.3.24, 3.3.25]

Sections 3.3.24, 3.3.25

3.3.24 – Emergency Power Supply (EPS):

The source of electric power of the required capacity and quality for an emergency power supply system (EPSS). [410, -2025]

3.3.25 – Emergency Power Supply System (EPSS):

A complete functioning EPS system coupled to a system of conductors, disconnecting means and overcurrent protective devices, transfer switches, and all control, supervisory, and support devices up to and including the load terminals of the transfer equipment needed for the system to operate as a safe and reliable source of electric power. [410, -2025]

Statement of Problem and Substantiation for Public Input

Suggest deleting Term " 3.3.24 Emergency Power Supply (EPS)" and "3.3.25 Emergency Power Supply System (EPSS)", as its not used in NFPA 800.

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Submitter Full Name: Anujkumar Amin

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Submittal Date: Mon Jan 26 15:27:29 EST 2026

Committee: BAT-AAA



Public Input No. 264-NFPA 800-2026 [Section No. 3.3.26.1]

3.3.26.1 – Exposure Protection.

Measures designed to prevent the spread of fire from a burning object or structure to adjacent buildings or materials.

Statement of Problem and Substantiation for Public Input

Suggest deleting Term "3.3.26.1 Exposure Protection", as its not used in NFPA 800.

Submitter Information Verification

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Submittal Date: Mon Jan 26 15:32:39 EST 2026

Committee: BAT-AAA



Public Input No. 312-NFPA 800-2026 [Section No. 3.3.26.2]

3.3.26.2 Fire Suppression System.

An active fire protection system designed to detect, control, or extinguish fires using agents such as water, foam, ~~or inert gases~~ inert gases, or condensed aerosol.

Statement of Problem and Substantiation for Public Input

Inclusion of widely used technology in such applications, while also aligning with the technologies referenced in the cited standards of Section 2 (including NFPA 2010 for condensed aerosols).

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Committee: BAT-AAA



Public Input No. 263-NFPA 800-2026 [Section No. 3.3.26.3]

3.3.26.3 – Incident Command System (ICS):

~~A standardized, on-scene, all-hazard incident management system used for emergency response coordination.~~

Statement of Problem and Substantiation for Public Input

Suggest deleting Term "3.3.26.3 Incident Command System (ICS), as its not used in NFPA 800.

Submitter Information Verification

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Submittal Date: Mon Jan 26 15:32:15 EST 2026

Committee: BAT-AAA



Public Input No. 552-NFPA 800-2026 [Section No. 3.3.26.4]

3.3.26.4 Personal Protective Equipment (PPE).

Gear worn by emergency responders or building occupants to minimize exposure to hazards, including fire-resistant clothing, gloves, SCBA, and helmets.

Statement of Problem and Substantiation for Public Input

PPE is defined as only applicable to emergency responders but should be expanded to occupants with potential exposure to hazards.

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Committee: BAT-AAA



Public Input No. 265-NFPA 800-2026 [Section No. 3.3.27]

3.3.27 – Energy Storage Management System (ESMS).

A system that monitors, controls, and optimizes the performance and safety of an energy storage system.
{ 855, -2026 }

Statement of Problem and Substantiation for Public Input

Suggest deleting Term "3.3.27 Energy Storage Management System (ESMS)", as its not used in NFPA 800.

Submitter Information Verification

Submitter Full Name: Anujkumar Amin

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Submittal Date: Mon Jan 26 15:35:35 EST 2026

Committee: BAT-AAA



Public Input No. 266-NFPA 800-2026 [Section No. 3.3.29.1]

3.3.29.1 – Capacitor Energy Storage System:

An electrical energy storage system using capacitors as a storage media. [855; -2026]

Statement of Problem and Substantiation for Public Input

Suggest deleting Term "3.3.29.1 Capacitor Energy Storage System", as its not used in NFPA 800.

Submitter Information Verification

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Submittal Date: Mon Jan 26 15:37:29 EST 2026

Committee: BAT-AAA



Public Input No. 267-NFPA 800-2026 [Section No. 3.3.29.3]

3.3.29.3 – Electrochemical Energy Storage System:

~~An energy storage system that converts and stores chemical energy to electrical energy and vice versa.~~
~~{ 855, -2026 }~~

Statement of Problem and Substantiation for Public Input

Suggest deleting Term "3.3.29.3 Electrochemical Energy Storage System", as its not used in NFPA 800.

Submitter Information Verification

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Submittal Date: Mon Jan 26 15:38:06 EST 2026

Committee: BAT-AAA



Public Input No. 16-NFPA 800-2026 [Section No. 3.3.29.4]

3.3.29.4 – Enclosure:

A confined or partially confined volume. [**68**, -2023]

Statement of Problem and Substantiation for Public Input

Enclosure is defined twice (in 3.3.29.4 and 3.3.65.2) with different definitions. One definition treats enclosure as a confined/partially confined volume per NFPA 68, while the other treats it as the protective housing for a battery system. Two definitions for the same word will create direct conflicts in applying code provisions.

Submitter Information Verification

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Submittal Date: Fri Jan 02 14:52:35 EST 2026

Committee: BAT-AAA



Public Input No. 268-NFPA 800-2026 [Section No. 3.3.29.5]

~~3.3.29.5 – Energy Storage System Cabinet.~~

~~An enclosure containing components of the energy storage system where personnel cannot enter the enclosure other than reaching in to access components for maintenance purposes. [855; -2026]~~

Statement of Problem and Substantiation for Public Input

Suggest deleting Term "3.3.29.5 Energy Storage System Cabinet", as its not used in NFPA 800.

Submitter Information Verification

Submitter Full Name: Anujkumar Amin

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Submittal Date: Mon Jan 26 15:39:23 EST 2026

Committee: BAT-AAA



Public Input No. 269-NFPA 800-2026 [Section No. 3.3.29.6]

3.3.29.6 – Energy Storage System (ESS) Dedicated-Use Building:

A building that is only used for energy storage, or energy storage in conjunction with energy generation, electrical grid-related operations, or communications utility equipment. [~~855~~, -2026]

Statement of Problem and Substantiation for Public Input

Suggest deleting Term "3.3.29.6 Energy Storage System (ESS) Dedicated-Use Building", as its not used in NFPA 800.

Submitter Information Verification

Submitter Full Name: Anujkumar Amin

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Submittal Date: Mon Jan 26 15:40:32 EST 2026

Committee: BAT-AAA



Public Input No. 270-NFPA 800-2026 [Section No. 3.3.29.7]

3.3.29.7 – Energy Storage System Walk-In Unit.

A structure containing energy storage systems that includes doors that provide walk-in access for personnel to maintain, test, and service the equipment and is typically used in outdoor and mobile energy storage system applications. [855, -2026]

Statement of Problem and Substantiation for Public Input

Suggest deleting Term "3.3.29.7 Energy Storage System Walk-In Unit", as its not used in NFPA 800.

Submitter Information Verification

Submitter Full Name: Anujkumar Amin

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Submittal Date: Mon Jan 26 15:42:10 EST 2026

Committee: BAT-AAA



Public Input No. 271-NFPA 800-2026 [Sections 3.3.29.9, 3.3.29.10, 3.3.29.11]

~~Sections 3.3.29.9, 3.3.29.10, 3.3.29.11~~

~~3.3.29.9 – Mechanical Energy Storage System:~~

~~An energy storage system that converts and stores mechanical energy to electrical energy and vice versa. [855, -2026]~~

~~3.3.29.10 – Mobile Energy Storage System:~~

~~An energy storage system capable of being moved and utilized as a temporary source of power. [855, 2026]~~

~~3.3.29.11 – Portable Energy Storage System:~~

~~An energy storage system suitable to be lifted and moved by a single person without mechanical aids and not permanently connected to an electrical system. [855, -2026]~~

Statement of Problem and Substantiation for Public Input

Suggest deleting Term "3.3.29.9 Mechanical Energy Storage System", "3.3.29.10 Mobile Energy Storage System", and "3.3.29.11 Portable Energy Storage System", as its not used in NFPA 800.

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Submittal Date: Mon Jan 26 15:44:01 EST 2026

Committee: BAT-AAA



Public Input No. 404-NFPA 800-2026 [Section No. 3.3.29.10]

3.3.29.10 Mobile Energy Storage System.

An energy storage system capable of being moved and utilized as a temporary source of power, excluding an electric vehicle subject to NHTSA jurisdiction . [855, 2026]

Statement of Problem and Substantiation for Public Input

As written, an EV which is being used to return power to a building would be classified as a mobile energy storage system. This would then subject the EV to all the requirements for energy storage systems which would place an unnecessary burden on vehicle manufacturers who are already subject to vehicle requirements from the NHTSA.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 405-NFPA 800-2026 [Section No. 8.2.1.2]</u>	
<u>Public Input No. 406-NFPA 800-2026 [Section No. A.8.2.1.3]</u>	

Submitter Information Verification

Submitter Full Name: Galen Ressler

Organization: General Motors Company

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Submittal Date: Wed Jan 28 15:42:21 EST 2026

Committee: BAT-AAA



Public Input No. 272-NFPA 800-2026 [Section No. 3.3.30]

~~3.3.30 – Fire and Explosion Testing:~~

~~Testing of a representative energy storage system that evaluates the fire and explosion hazards produced by thermal runaway propagation. [855; -2026]~~

Statement of Problem and Substantiation for Public Input

Suggest deleting Term "3.3.30 Fire and Explosion Testing", as its not used in NFPA 800.

Submitter Information Verification

Submitter Full Name: Anujkumar Amin

Organization: CSA Group

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Submittal Date: Mon Jan 26 15:46:43 EST 2026

Committee: BAT-AAA



Public Input No. 543-NFPA 800-2026 [Section No. 3.3.30]

3.3.30 Fire and Explosion Testing.

Testing of a representative energy storage system that evaluates the fire and explosion hazards produced by thermal runaway propagation. - [~~855, 2026~~]

Statement of Problem and Substantiation for Public Input

Fire and Explosion testing is not limited to ESS.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

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Zip:

Submittal Date: Thu Jan 29 17:32:44 EST 2026

Committee: BAT-AAA



Public Input No. 247-NFPA 800-2026 [Section No. 3.3.31]

3.3.31 Fire Area.

An area of a building separated from the remainder of the building by construction having a fire resistance of at least 1 hour and having all communicating openings properly protected by an assembly having a fire resistance rating of at least 1 hour. [~~30, 2024~~] as required by the building code.

Statement of Problem and Substantiation for Public Input

The building code typically requires 3/4-hour protection of penetrations of 1-hour fire barriers. When fire rated construction is required in the Chapters of NFPA 800 the text refers to complying with the building code for the design. The existing text will create a conflict for the designers and inspectors.

Submitter Information Verification

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Submittal Date: Mon Jan 26 12:59:54 EST 2026

Committee: BAT-AAA



Public Input No. 273-NFPA 800-2026 [Sections 3.3.32, 3.3.33]

~~Sections 3.3.32, 3.3.33~~

~~3.3.32 – Fire Command Center:~~

~~The principal attended or unattended room or area where the status of the detection, alarm communications, control systems, and other emergency systems is displayed and from which the system(s) can be manually controlled. [72, -2025]~~

~~3.3.33 – Fire Risk Assessment (FRA):~~

~~A process to characterize the risk associated with fire that addresses the fire scenario or fire scenarios of concern, their probability, and their potential consequences. [551, -2022]~~

Statement of Problem and Substantiation for Public Input

Suggest deleting Term "3.3.32 Fire Command Center" and "3.3.33 Fire Risk Assessment (FRA)", as its not used in NFPA 800.

Submitter Information Verification

Submitter Full Name: Anujkumar Amin

Organization: CSA Group

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City:

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Zip:

Submittal Date: Mon Jan 26 15:47:55 EST 2026

Committee: BAT-AAA



3.3.34 Risk

the combination of the probability of occurrence of an adverse event and the potential consequences of that event

Statement of Problem and Substantiation for Public Input

In safety documents such as this one the word "risk" should be reserved for and used only when the intended meaning is "the combination of the probability of occurrence of an adverse event and the potential consequences of that event." This means that risk is expressed as a level. In this document the terms "low risk", "high risk", and "extreme risk" are used to express a relative level of risk. When referring to an exposure the correct term is hazard. A person is exposed to a hazard and the associated risk.

Adding a definition for the term "risk" will facilitate consistent use of the term throughout this document:

"3.3.33 Fire Risk Assessment (FRA).

A process to characterize the risk associated with fire that addresses the fire scenario or fire scenarios of concern, their probability, and their potential consequences. [551, 2022]"

The proposed definition is modelled after how the term "Fire Risk Assessment" is defined in this document.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 138-NFPA 800-2026 [Section No. 1.2.1]</u>	Use of the word "risk"
<u>Public Input No. 139-NFPA 800-2026 [Section No. 1.8]</u>	Use of the word "risk"
<u>Public Input No. 141-NFPA 800-2026 [Section No. 5.3.4.4.3 [Excluding any Sub-Sections]]</u>	
<u>Public Input No. 142-NFPA 800-2026 [Section No. 6.3.2.2]</u>	
<u>Public Input No. 144-NFPA 800-2026 [Section No. 6.3.6.2]</u>	
<u>Public Input No. 145-NFPA 800-2026 [Section No. 9.2.2 [Excluding any Sub-Sections]]</u>	
<u>Public Input No. 146-NFPA 800-2026 [Section No. A.3.3.49]</u>	
<u>Public Input No. 147-NFPA 800-2026 [Section No. A.4.3.3]</u>	
<u>Public Input No. 148-NFPA 800-2026 [Section No. A.4.7.2.1]</u>	
<u>Public Input No. 149-NFPA 800-2026 [Section No. A.5.1]</u>	
<u>Public Input No. 150-NFPA 800-2026 [Section No. A.5.2.1.2]</u>	
<u>Public Input No. 160-NFPA 800-2026 [Section No. A.5.3.4.4]</u>	
<u>Public Input No. 161-NFPA 800-2026 [Section No. A.5.6.3.2]</u>	
<u>Public Input No. 162-NFPA 800-2026 [Section No. A.5.7.1.1.1]</u>	
<u>Public Input No. 163-NFPA 800-2026 [Section No. A.6.1]</u>	
<u>Public Input No. 164-NFPA 800-2026 [Section No. A.6.2.2.1]</u>	
<u>Public Input No. 165-NFPA 800-2026 [Section No. A.6.3.3.1]</u>	
<u>Public Input No. 166-NFPA 800-2026 [Section No. A.8.1]</u>	
<u>Public Input No. 167-NFPA 800-2026 [Section No. A.9.4.1.1]</u>	
<u>Public Input No. 168-NFPA 800-2026 [Section No. A.9.2.2.1]</u>	
<u>Public Input No. 169-NFPA 800-2026 [Section No. A.8.2.1]</u>	
<u>Public Input No. 173-NFPA 800-2026 [Section No. B.5.2]</u>	
<u>Public Input No. 174-NFPA 800-2026 [Section No. B.5.5.1]</u>	
<u>Public Input No. 175-NFPA 800-2026 [Section No. B.5.7.2]</u>	
<u>Public Input No. 176-NFPA 800-2026 [Section No. C.3.1]</u>	
<u>Public Input No. 177-NFPA 800-2026 [Section No. C.3.3]</u>	

[Public Input No. 178-NFPA 800-2026 \[Section No. C.6.4\]](#)

[Public Input No. 179-NFPA 800-2026 \[Section No. C.2.3.2.2\]](#)

[Public Input No. 180-NFPA 800-2026 \[Section No. C.6.11\]](#)

[Public Input No. 181-NFPA 800-2026 \[Section No. D.3.3\]](#)

Submitter Information Verification

Submitter Full Name: Daniel Roberts

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Submittal Date: Thu Jan 08 14:24:43 EST 2026

Committee: BAT-AAA



Public Input No. 274-NFPA 800-2026 [Section No. 3.3.34.1]

3.3.34.1 – Highly Toxic Gas:

A chemical that has a median lethal concentration (LC50) in air of 200 ppm by volume or less of gas or vapor, or 2 mg/L or less of mist, fume, or dust, when administered by continuous inhalation for 1 hour (or less if death occurs within 1 hour) to albino rats weighing between 0.44 lb and 0.66 lb (200 g and 300 g) each. [55; 2023]

Statement of Problem and Substantiation for Public Input

Suggest deleting Term "3.3.34.1 Highly Toxic Gas", as its not used in NFPA 800.

Submitter Information Verification

Submitter Full Name: Anujkumar Amin

Organization: CSA Group

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Submittal Date: Mon Jan 26 15:49:23 EST 2026

Committee: BAT-AAA



Public Input No. 20-NFPA 800-2026 [Section No. 3.3.35]

3.3.35 Hazard Mitigation Analysis (HMA).

An evaluation of potential energy storage system failure modes and the safety-related consequences attributed to the failures. [855, 2026]

Statement of Problem and Substantiation for Public Input

As currently written, this conflicts the HMA sections in Ch. 4-6 which are more explicit than for energy storage systems.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 12-NFPA 800-2026 [Section No. 3.3.17]</u>	Duplicative definitions

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

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City:

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Submittal Date: Fri Jan 02 20:01:19 EST 2026

Committee: BAT-AAA



Public Input No. 553-NFPA 800-2026 [Section No. 3.3.35]

3.3.35 – Hazard Mitigation Analysis (HMA):

An evaluation of potential energy storage system failure modes and the safety-related consequences attributed to the failures. [~~855~~, 2026]

Statement of Problem and Substantiation for Public Input

HMA is already defined in section 3.3.17

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

Street Address:

City:

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Zip:

Submittal Date: Thu Jan 29 17:50:42 EST 2026

Committee: BAT-AAA



Public Input No. 303-NFPA 800-2026 [New Section after 3.3.36]

Light Electric Vehicle (LEV)

A small, electrically powered transport for short distances, using a battery, typically weighing under 100kg and often having two or three wheels, like e-bikes and e-scooters, designed for efficient, eco-friendly urban mobility and "last-mile" transport.

Statement of Problem and Substantiation for Public Input

Recommend adding a definition for LEV as referenced in 8.2.1.2 to differentiate from EV/HEV/PHEV

Submitter Information Verification

Submitter Full Name: Michael Leffert

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Submittal Date: Mon Jan 26 17:47:11 EST 2026

Committee: BAT-AAA



Public Input No. 276-NFPA 800-2026 [Sections 3.3.37, 3.3.38]

~~Sections 3.3.37, 3.3.38~~

~~3.3.37 – Living Area:~~

~~Any normally occupiable space in a residential occupancy, other than sleeping rooms or rooms that are intended for combination sleeping/living, bathrooms, toilet compartments, kitchens, closets, halls, storage or utility spaces, and similar areas. [101, -2024]~~

~~3.3.38 – Maximum Stored Energy:~~

~~The quantity of rated energy storage permitted in an area. [855, -2026]~~

Statement of Problem and Substantiation for Public Input

Suggest deleting Term " 3.3.37 Living Area" and "3.3.38 Maximum Stored Energy", as its not used in NFPA 800.

Submitter Information Verification

Submitter Full Name: Anujkumar Amin

Organization: CSA Group

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Submittal Date: Mon Jan 26 15:54:54 EST 2026

Committee: BAT-AAA



Public Input No. 277-NFPA 800-2026 [Section No. 3.3.40]

3.3.40 – Occupiable Enclosure or Space:

An area that has dimensions and physical characteristics such that it could be entered by a person for maintenance during normal operation. [~~855~~, -2026]

Statement of Problem and Substantiation for Public Input

Suggest deleting Term "3.3.40 Occupiable Enclosure or Space", as its not used in NFPA 800.

Submitter Information Verification

Submitter Full Name: Anujkumar Amin

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Submittal Date: Mon Jan 26 15:57:25 EST 2026

Committee: BAT-AAA



Public Input No. 554-NFPA 800-2026 [Section No. 3.3.40]

3.3.40 Occupiable Enclosure or Space.

An area that has dimensions and physical characteristics such that it ~~could be entered~~ is used by a person ~~for maintenance~~ during normal operation. [855, 2026]

Statement of Problem and Substantiation for Public Input

This definition contradicts how “occupiable” is used in ICC building code and is not consistent with NFPA 101 Life Safety Code. IBC uses the definition to define typically occupied spaces with an occupancy classification and includes requirements for means of egress and light and ventilation facilities. The IBC uses the term “unoccupied” when spaces are used only for maintenance purposes, like equipment platforms. The LSC defines “Occupiable Area” as and area of a facility occupied by people on a regular basis; and defines “Normally Unoccupied Building Service Equipment Support Areas” as “A building service equipment support area in which people are not expected to be present on a regular basis.”

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

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Submittal Date: Thu Jan 29 17:54:00 EST 2026

Committee: BAT-AAA



Public Input No. 278-NFPA 800-2026 [Sections 3.3.42, 3.3.43]

~~Sections 3.3.42, 3.3.43~~

~~3.3.42 – Off-Specification Battery or Cell:~~

~~A cell or battery that has been tested during the manufacturing quality control process and found not to be within the manufacturer's designed set of criteria for its intended use. [855, 2026]~~

~~3.3.43 – Open Parking Garage:~~

~~A structure or portion of a structure with the openings on two or more sides that is used for the parking or storage of motor vehicles. [855, 2026]~~

Statement of Problem and Substantiation for Public Input

Suggest deleting Term "3.3.42 Off-Specification Battery or Cell" and "3.3.43 Open Parking Garage", as its not used in NFPA 800.

Submitter Information Verification

Submitter Full Name: Anujkumar Amin

Organization: CSA Group

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Submittal Date: Mon Jan 26 15:58:40 EST 2026

Committee: BAT-AAA



Public Input No. 555-NFPA 800-2026 [Section No. 3.3.43]

3.3.43 Open Parking ~~Garage~~ Structure .

A structure or portion of a structure ~~with the openings on two or more sides that is used for the parking or storage of motor vehicles.~~ [~~855~~, 2026 meeting the opening requirements of NFPA 88A. [~~88A~~, 2023]

Statement of Problem and Substantiation for Public Input

Would NFPA 88A and the definition of "Open Parking Structure" be a better reference?

Submitter Information Verification

Submitter Full Name: Corey Kinsman

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Submittal Date: Thu Jan 29 17:56:08 EST 2026

Committee: BAT-AAA



Public Input No. 14-NFPA 800-2026 [Section No. 3.3.44]

~~3.3.44~~ * – Pack:

~~Multiple cells in a single assembly, or multiple modules in a common assembly typically meant for use in an OEM product.~~

Statement of Problem and Substantiation for Public Input

Remove 3.3.44 Pack and coordinate with 3.3.6. Both terms define an assembly of cells/modules, but with different scope and intent, which will cause inconsistent interpretation (especially when requirements elsewhere use “pack” informally). A single defined term should be used consistently.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

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Zip:

Submission Date: Fri Jan 02 14:47:05 EST 2026

Committee: BAT-AAA



Public Input No. 279-NFPA 800-2026 [Section No. 3.3.45]

3.3.45 – Partial Volume Deflagration:

An overpressure developed by the ignition of a flammable gas cloud that occupies only a part of the free air volume of a confined space. [~~855, 2026~~]

Statement of Problem and Substantiation for Public Input

Suggest deleting Term "3.3.45 Partial Volume Deflagration", as its not used in NFPA 800.

Submitter Information Verification

Submitter Full Name: Anujkumar Amin

Organization: CSA Group

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Submittal Date: Mon Jan 26 16:01:19 EST 2026

Committee: BAT-AAA



Public Input No. 323-NFPA 800-2026 [Section No. 3.3.47]

3.3.47 Qualified ~~Person~~ Professional .

~~One who has skills, knowledge, and training related to-~~ A skilled worker trained and knowledgeable in the construction and/or operation of specialized equipment or in performing specialized work, able to identify and mitigate work-related hazards that may be present. Examples include expertise in the area of energy storage systems- ~~and electrical-~~ , electrical equipment and installations- ~~and has received safety training to recognize, avoid, and mitigate the hazards involved , etc .~~ [855, 2026]

Statement of Problem and Substantiation for Public Input

The proposed definition aligns with 855 and is too narrow for 800 and needs to be broadened to multiple types of Qualified Professionals. In addition, the chapters do not use the term qualified person and instead use the term qualified professionals.

Submitter Information Verification

Submitter Full Name: Lisa Parks

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Submittal Date: Tue Jan 27 12:04:11 EST 2026

Committee: BAT-AAA



Public Input No. 556-NFPA 800-2026 [Section No. 3.3.47]

3.3.47 Qualified Person.

One who has skills, knowledge, and training related to ~~the construction and operation of energy storage systems and batteries and~~ electrical equipment and ~~installations and~~ has received safety training to recognize, avoid, and mitigate the hazards involved. [855, 2026]

Statement of Problem and Substantiation for Public Input

Definition needs broadened beyond ESS

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

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City:

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Zip:

Submittal Date: Thu Jan 29 18:01:32 EST 2026

Committee: BAT-AAA



Public Input No. 187-NFPA 800-2026 [Section No. 3.3.48]

3.3.48* ~~Reactive Ion Chemistry Battery with Flammable Liquid Electrolyte~~ Alkali-Metal-Ion Battery .

A battery composed of cells where ~~reactive metal~~ alkali metal (from the first group [or column] of the periodic table) ions are intercalated ~~between~~ into the anode and cathode, being transported (at least partially) in a flammable liquid organic solvent between the two ~~plate types~~ electrodes .

Statement of Problem and Substantiation for Public Input

The term 'reactive ion chemistry battery with flammable liquid electrolyte' is clumsy and is repeated in full numerous times in the body of the document. The term 'lithium-ion' is understood to mean a battery containing flammable liquid electrolyte, so it is not necessary to include the electrolyte description in the defined term.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 183-NFPA 800-2026 [New Section after 1.3]	Defined term included in Table 1.3.1
Public Input No. 183-NFPA 800-2026 [New Section after 1.3]	
Public Input No. 189-NFPA 800-2026 [Section No. 3.3.49]	

Submitter Information Verification

Submitter Full Name: James McDowall
Organization: McDowall Advisors LLC
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 19 10:11:31 EST 2026
Committee: BAT-AAA



Public Input No. 557-NFPA 800-2026 [Section No. 3.3.48]

3.3.48* ~~Reactive-~~ Alkali Metal Ion Chemistry Battery with ~~Flammable-~~ Ignitable Liquid Electrolyte.

A battery composed of cells where ~~reactive metal (from the first group [or column] of the periodic table)~~ alkali metal ions are intercalated between the anode and cathode, being transported (at least partially) in a ~~flammable-~~ an ignitable liquid organic solvent between the two plate types.

Statement of Problem and Substantiation for Public Input

Consider "Alkali Metal" instead of "Reactive" since alkali metal is previously defined and "reactive" has no definition. The term "reactive" will get confused with water reactive in application of the requirements.

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 18:06:09 EST 2026

Committee: BAT-AAA



Public Input No. 189-NFPA 800-2026 [Section No. 3.3.49]

3.3.49* ~~Reactive- Alkali- Metal Chemistry- Battery.~~

A battery composed of cells where ~~either the anode or cathode is a reactive metal~~ the anode is an alkali metal from the first group (or column- ~~alkali metals~~) of the periodic table, where if the cell has an internal short circuit or is exposed to the atmosphere, the ~~reactive- alkali~~ metal will burn.

Statement of Problem and Substantiation for Public Input

The term 'alkali-metal battery' is more precise (and concise) than 'reactive metal chemistry battery' and is consistent with the proposed change to 'alkali-metal-ion battery' in PI 187.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 183-NFPA 800-2026 [New Section after 1.3]	Battery type listed in Table 1.3.1
Public Input No. 187-NFPA 800-2026 [Section No. 3.3.48]	Similar change to defined term
Public Input No. 183-NFPA 800-2026 [New Section after 1.3]	

Submitter Information Verification

Submitter Full Name: James McDowall

Organization: McDowall Advisors LLC

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 19 10:24:29 EST 2026

Committee: BAT-AAA



Public Input No. 558-NFPA 800-2026 [Section No. 3.3.49]

3.3.49* ~~Reactive-~~ Alkali Metal Chemistry Battery.

A battery composed of cells where either the anode or cathode is ~~a reactive metal from the first group (or column [alkali metals]) of the periodic table~~ an alkali metal, where if the cell has an internal short circuit or is exposed to the atmosphere, the ~~reactive-~~ metal will ~~burn~~ react.

Statement of Problem and Substantiation for Public Input

Consider "Alkali Metal" instead of "Reactive" since alkali metal is previously defined and "reactive" has no definition. The term "reactive" will get conflated with water reactive in application of the requirements.

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 18:10:09 EST 2026

Committee: BAT-AAA



Public Input No. 281-NFPA 800-2026 [Section No. 3.3.55]

3.3.55* Repurposed Battery. (Second-Use Battery)

A battery that was used in one application in the field that is subject to some level of analysis and reconfiguration ~~for use~~ for use in an ESS application. [855,-2026,2026]

Statement of Problem and Substantiation for Public Input

Term Repurposed battery and 3.3.66.4 Second Use Battery are same. Update title and suggest removing definition 3.3.66.4. Repurposed definition is accepted for use in NFPA 855.

Submitter Information Verification

Submitter Full Name: Anujkumar Amin

Organization: CSA Group

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 26 16:11:03 EST 2026

Committee: BAT-AAA



Public Input No. 324-NFPA 800-2026 [Section No. 3.3.55]

3.3.55* Repurposed Battery.

A battery that was used in one application in the field that is subject to some level of analysis and reconfiguration for use in ~~an~~ another application (e.g., ESS application). [855, 2026]

Statement of Problem and Substantiation for Public Input

Definition is too narrow and reads limited to reuse as ESS only. EES covered in 855. Broaden the definition.

Submitter Information Verification

Submitter Full Name: Lisa Parks

Organization: GM

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City:

State:

Zip:

Submittal Date: Tue Jan 27 12:12:54 EST 2026

Committee: BAT-AAA



Public Input No. 559-NFPA 800-2026 [Section No. 3.3.55]

3.3.55* Repurposed Battery.

A battery that was used in one application in the field that is subject to some level of analysis and reconfiguration for use in ~~an ESS application~~ another application . [855, 2026]

Statement of Problem and Substantiation for Public Input

Definition needs broadened beyond ESS

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 18:15:44 EST 2026

Committee: BAT-AAA



Public Input No. 545-NFPA 800-2026 [Section No. 3.3.56]

3.3.56* Semi-Solid-State (SSS or SS) Battery.

A battery composed of cells where the electrolyte is mostly either a conductive polymer or a conductive ceramic glass-like material, where a small percentage (approximately 10 percent by weight) of flammable liquid organic solvent electrolyte has been added to improve conductivity. ~~These batteries are less prone to thermal runaway than their counterparts where all of the electrolyte is a flammable liquid organic solvent, but do not have equivalent fire safety characteristics to their ion counterparts where the electrolyte is 100 percent solid-state (ASSB) or is aqueous.~~

Statement of Problem and Substantiation for Public Input

The removed text is better suited to the annex where it is already included.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 17:35:09 EST 2026

Committee: BAT-AAA



Public Input No. 560-NFPA 800-2026 [Section No. 3.3.56]

3.3.56* Semi-Solid-State (SSS or SS) Battery.

A battery composed of cells where the electrolyte is mostly either a conductive polymer or a conductive ceramic glass-like material, where a small percentage (~~approximately 10 percent by weight~~) of ~~flammable~~ of ignitable liquid organic solvent electrolyte has been added to improve conductivity. ~~These batteries are less prone to thermal runaway than their counterparts where all of the electrolyte is a flammable liquid organic solvent, but do not have equivalent fire safety characteristics to their ion counterparts where the electrolyte is 100 percent solid-state (ASSB) or is aqueous.~~

Statement of Problem and Substantiation for Public Input

Definition includes detail that should be moved to Annex A

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

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Submittal Date: Thu Jan 29 18:17:22 EST 2026

Committee: BAT-AAA



Public Input No. 282-NFPA 800-2026 [Sections 3.3.58, 3.3.59]

~~Sections 3.3.58, 3.3.59~~

~~3.3.58 – Standby Power Application:~~

~~An energy storage system utilizing a battery that is intended to remain on continuous float charge or in a high state of charge to support an event necessitating a discharge. [855, -2026]~~

~~3.3.59 – Stationary Standby Battery:~~

~~A battery that spends the majority of the time on continuous float charge or in a high state of charge, in readiness for a discharge event. [70, -2026]~~

Statement of Problem and Substantiation for Public Input

Suggest deleting Term "3.3.58 Standby Power Application" and "3.3.59 Stationary Standby Battery", as its not used in NFPA 800.

Submitter Information Verification

Submitter Full Name: Anujkumar Amin

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Submittal Date: Mon Jan 26 16:14:35 EST 2026

Committee: BAT-AAA



Public Input No. 489-NFPA 800-2026 [Section No. 3.3.60]

3.3.60 Storage of Batteries.

The storage, keeping, charging, or collecting of batteries for future use as needed, or for disposal; does not include batteries undergoing manufacture or testing. [855, 2026]

Statement of Problem and Substantiation for Public Input

The proposed language in NFPA 800 does not currently specify whether the charging of batteries is to be regulated as a battery use activity or whether the provisions applicable to battery storage are intended to apply to this operation. In the absence of such clarification, groups of batteries arranged in storage-like configurations may not be afforded the protective measures required in Chapter 6 if the act of charging is interpreted as falling outside the definition of battery storage. The proposed revision to Section 3.3.60 would explicitly classify the charging of batteries while not in use as a storage activity. Additional revisions to Chapter 6 may also be warranted to address conditions under which battery charging introduces an increased hazard beyond that associated with the storage of batteries not under charge.

Submitter Information Verification

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Submittal Date: Thu Jan 29 14:56:46 EST 2026

Committee: BAT-AAA



Public Input No. 561-NFPA 800-2026 [Section No. 3.3.61]

3.3.61 Stored Energy.

The amount of energy stored ~~in the ESS~~ at a given point in time. [855, 2026]

Statement of Problem and Substantiation for Public Input

Definition needs broadened beyond ESS

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

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City:

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Submittal Date: Thu Jan 29 18:19:29 EST 2026

Committee: BAT-AAA



Public Input No. 284-NFPA 800-2026 [Section No. 3.3.62]

3.3.62 – ~~Stored-Energy Emergency Power Supply System (SEPSS):~~

~~A system consisting of a UPS, a rectifier plant, or a motor generator powered by a stored electrical energy source; a transfer switch designed to monitor preferred and alternate load power source and provide desired switching of the load; and all necessary control equipment to make the system functional. [411, 2025]~~

Statement of Problem and Substantiation for Public Input

Suggest deleting Term "3.3.62 Stored-Energy Emergency Power Supply System (SEPSS)", as its not used in NFPA 800.

Submitter Information Verification

Submitter Full Name: Anujkumar Amin

Organization: CSA Group

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Submittal Date: Mon Jan 26 16:16:43 EST 2026

Committee: BAT-AAA



Public Input No. 562-NFPA 800-2026 [Section No. 3.3.63]

3.3.63 Thermal Runway.

Self Uncontrolled self -heating of an electrochemical system- ~~in an uncontrollable fashion~~ . [855, 2026]

Statement of Problem and Substantiation for Public Input

more exact wording.

Submitter Information Verification

Submitter Full Name: Corey Kinsman

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Submittal Date: Thu Jan 29 18:21:50 EST 2026

Committee: BAT-AAA



Public Input No. 326-NFPA 800-2026 [Section No. 3.3.64]

3.3.64 Thermal Runaway Propagation (TRP).

The transfer of thermal energy released from one or more cells undergoing thermal runaway that induces thermal runaway of other cells without any additional initiating mechanism(s). [855, 2026]

Statement of Problem and Substantiation for Public Input

Added acronym to align with TRPP style definition

Submitter Information Verification

Submitter Full Name: Lisa Parks

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State:

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Submittal Date: Tue Jan 27 12:14:36 EST 2026

Committee: BAT-AAA



Public Input No. 18-NFPA 800-2026 [Section No. 3.3.65]

3.3.65 Thermal Runaway Propagation Protection (TRPP).

An active means to mitigate thermal runaway propagation. [855, 2026]

3.3.65-1 66 Emergency Shutoff.

A system or device used to immediately disconnect or disable a battery system to prevent or mitigate a hazardous condition.

3.3.65-2 67 Enclosure.

A physical housing designed to contain a battery system and provide protection against environmental conditions, mechanical damage, and fire propagation.

3.3.65-3 – 68 _ Energy Storage Capacity.

The total amount of energy that a battery system can store, typically measured in kilowatt-hours (kWh) or megawatt-hours (MWh).

3.3.65-4 69 State of Charge (SOC).

The percentage of available battery capacity relative to its full capacity.

3.3.65-5 70 State of Health (SOH).

An indicator of battery degradation over time, measuring its remaining useful life and performance.

Statement of Problem and Substantiation for Public Input

Subentries appear misplaced and are not related to TRPP, they are separate concepts. Nesting them under TRPP is structurally confusing and complicates citation.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

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Submittal Date: Fri Jan 02 15:01:33 EST 2026

Committee: BAT-AAA



Public Input No. 17-NFPA 800-2026 [Section No. 3.3.65 [Excluding any Sub-Sections]]

~~An active means~~ A means to mitigate thermal runaway propagation. [855, 2026]

Statement of Problem and Substantiation for Public Input

Limiting TRPP to “active” measures can unintentionally exclude passive design features commonly used to mitigate thermal runaway propagation. For clarity and enforceability, revise the definition to encompass both active and passive means, or provide separate definitions for active and passive TRPP.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

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Submittal Date: Fri Jan 02 14:58:47 EST 2026

Committee: BAT-AAA



Public Input No. 285-NFPA 800-2026 [Section No. 3.3.65.1]

3.3.65.1 – Emergency Shutoff:

A system or device used to immediately disconnect or disable a battery system to prevent or mitigate a hazardous condition.

Statement of Problem and Substantiation for Public Input

Suggest deleting Term "3.3.65.1 Emergency Shutoff", as its not used in NFPA 800.

Submitter Information Verification

Submitter Full Name: Anujkumar Amin

Organization: CSA Group

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Submittal Date: Mon Jan 26 16:19:09 EST 2026

Committee: BAT-AAA



Public Input No. 547-NFPA 800-2026 [Section No. 3.3.65.1]

3.3.65.1 Emergency Shutoff or Disconnect .

A system or device used to immediately electrically disconnect or disable a battery system to prevent or mitigate a hazardous condition.

Statement of Problem and Substantiation for Public Input

Note that these are commonly called disconnects.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

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Submittal Date: Thu Jan 29 17:37:10 EST 2026

Committee: BAT-AAA



Public Input No. 563-NFPA 800-2026 [Section No. 3.3.65.2]

3.3.65.2– Battery System Enclosure.

A physical housing designed to contain a battery system and provide protection against environmental conditions, mechanical damage, and fire propagation.

Statement of Problem and Substantiation for Public Input

Is this definition for a Battery System Enclosure only or is “enclosure” used for other purposes (ex. partial volume deflagration)? NFPA 68 defines “Enclosure” as “A confined or partially confined volume.”

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

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City:

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Submittal Date: Thu Jan 29 18:24:44 EST 2026

Committee: BAT-AAA



Public Input No. 286-NFPA 800-2026 [Section No. 3.3.65.3]

3.3.65.3 – Energy Storage Capacity:

The total amount of energy that a battery system can store, typically measured in kilowatt-hours (kWh) or megawatt-hours (MWh).

Statement of Problem and Substantiation for Public Input

Suggest deleting Term "3.3.65.3 Energy Storage Capacity", as its not used in NFPA 800.

Submitter Information Verification

Submitter Full Name: Anujkumar Amin

Organization: CSA Group

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Submittal Date: Mon Jan 26 16:20:47 EST 2026

Committee: BAT-AAA



Public Input No. 288-NFPA 800-2026 [Section No. 3.3.65.5]

3.3.65.5 – State of Health (SOH):

~~An indicator of battery degradation over time, measuring its remaining useful life and performance.~~

Statement of Problem and Substantiation for Public Input

Suggest deleting Term "3.3.65.4 State of Charge (SOC)", as its not used in NFPA 800.

Submitter Information Verification

Submitter Full Name: Anujkumar Amin

Organization: CSA Group

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Submittal Date: Mon Jan 26 16:23:29 EST 2026

Committee: BAT-AAA



Public Input No. 289-NFPA 800-2026 [Section No. 3.3.66.1]

3.3.66.1 Damaged or Defective Battery.

A battery that exhibits signs of swelling, leaking, overheating, or electrical malfunctions, requiring special handling and disposal procedures.

Statement of Problem and Substantiation for Public Input

Duplicate Term, 3.3.12 define "Damaged, Defective, or Recalled (DDR)". Suggest deleting term 3.3.66.1

Submitter Information Verification

Submitter Full Name: Anujkumar Amin

Organization: CSA Group

Street Address:

City:

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Zip:

Submittal Date: Mon Jan 26 16:24:13 EST 2026

Committee: BAT-AAA



Public Input No. 434-NFPA 800-2026 [Section No. 3.3.66.1]

3.3.66.1 Damaged or Defective Battery.

A battery that exhibits signs of swelling, leaking, overheating, or electrical malfunctions, requiring special handling and disposal procedures. The section describes various potential states of damaged batteries; however, it fails to mention mechanical or structural defects, such as a cracked battery that partially or fully exposes internal components or a crushed battery.

Statement of Problem and Substantiation for Public Input

The section describes various potential states of damaged batteries; however, it fails to mention mechanical or structural defects, such as a cracked battery that partially or fully exposes internal components or a crushed battery.

Exposing internal components to environmental conditions can lead to quicker thermal events.

Submitter Information Verification

Submitter Full Name: Michael Marino

Organization: Recycled Materials Association (ReMA)

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 10:04:06 EST 2026

Committee: BAT-AAA



Public Input No. 548-NFPA 800-2026 [Section No. 3.3.66.1]

3.3.66.1 Damaged or Defective Battery.

A battery that exhibits signs of swelling, leaking, overheating, or electrical malfunctions, ~~requiring special~~

Add as annex material:

A.3.3.66.1

These may require special handling and disposal procedures.

Statement of Problem and Substantiation for Public Input

Relocating supplemental information to the annex.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

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Submittal Date: Thu Jan 29 17:39:02 EST 2026

Committee: BAT-AAA



3.3.66.3 Recycling Facility.

A facility designed to process used batteries for material recovery and environmental compliance. This section attempts to define a recycling facility; it does not cover the full scope of recycling operations industry-wide. The definition of standard recycling terminology should also be used and added to the standard's definition section. Recycling is a series of operations, and this definition assumes singularity and linearity rather than the dynamic nature of current recycling operations. Further, the standard should account for facilities that receive batteries unintentionally, such as a Materials Recovery Facility (MRF), versus a facility that is designed and intended to recycle, versus a facility that is designed and intended to recycle batteries.

Recommend

"A recycling facility is an industrial operation where previously used, obsolete, off-specification, or surplus materials are received, sorted, processed, and prepared into specification-grade commodities for use as raw material feedstock in manufacturing, in lieu of virgin materials."

**Recommend ** Including other definitional material to assuage complexity.

Recycled Materials Association (ReMA) approved, and previously published/industry consensus process definitions include:

Recycling:

"The series of activities during which obsolete, previously used, off-specification, surplus, or incidentally produced materials are processed into specification-grade commodities and consumed as raw-material feedstock, in lieu of virgin materials, in the manufacture of new products."

Recyclable Material:

"A previously used material that can be processed into a specification-grade commodity for which a market exists."

Recycling versus disposal:

"Recycling includes mechanical and non-mechanical processes only when materials are returned to manufacturing as feedstock and not converted to energy or fuels."

For example, how does this Standard apply to a facility that only separates materials versus one that actively recycles batteries and components?

Statement of Problem and Substantiation for Public Input

This section attempts to define a recycling facility; it does not cover the full scope of recycling operations industry-wide. The definition of standard recycling terminology should also be used and added to the standard's definition section. Recycling is a series of operations, and this definition assumes singularity and linearity rather than the dynamic nature of current recycling operations. Further, the standard should account for facilities that receive batteries unintentionally, such as a Materials Recovery Facility (MRF), versus a facility that is designed and intended to recycle, versus a facility that is designed and intended to recycle batteries.

Recommend

"A recycling facility is an industrial operation where previously used, obsolete, off-specification, or surplus materials are received, sorted, processed, and prepared into specification-grade commodities for use as raw material feedstock in manufacturing, in lieu of virgin materials."

**Recommend ** Including other definitional material to assuage complexity.

Recycled Materials Association (ReMA) approved, and previously published/industry consensus process definitions include:

Recycling:

"The series of activities during which obsolete, previously used, off-specification, surplus, or incidentally produced materials are processed into specification-grade commodities and consumed as raw-material feedstock, in lieu of virgin materials, in the manufacture of new products."

Recyclable Material:

"A previously used material that can be processed into a specification-grade commodity for which a market exists."

Recycling versus disposal:

"Recycling includes mechanical and non-mechanical processes only when materials are returned to manufacturing as feedstock and not converted to energy or fuels."

For example, how does this Standard apply to a facility that only separates materials versus one that actively recycles batteries and components?

Submitter Information Verification

Submitter Full Name: Michael Marino

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Submittal Date: Thu Jan 29 10:10:57 EST 2026

Committee: BAT-AAA



Public Input No. 292-NFPA 800-2026 [Section No. 3.3.66.4]

~~3.3.66.4 – Second-Use Battery:~~

~~A previously used battery repurposed for an application other than its original intended use, such as stationary energy storage.~~

Statement of Problem and Substantiation for Public Input

Duplicate term, Suggest removing term "Second Use Battery" and keep 3.3.55 Repurposed Battery

Submitter Information Verification

Submitter Full Name: Anujkumar Amin

Organization: CSA Group

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Submittal Date: Mon Jan 26 16:53:14 EST 2026

Committee: BAT-AAA



Public Input No. 293-NFPA 800-2026 [Section No. 3.3.66.5]

3.3.66.5 – Transport Packaging:

Packaging designed to contain batteries for safe transportation, preventing physical damage, short circuits, and accidental ignition.

Statement of Problem and Substantiation for Public Input

Suggest deleting Term "3.3.66.5 Transport Packaging", as its not used in NFPA 800.

Submitter Information Verification

Submitter Full Name: Anujkumar Amin

Organization: CSA Group

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Submittal Date: Mon Jan 26 16:55:30 EST 2026

Committee: BAT-AAA



Public Input No. 374-NFPA 800-2026 [Section No. 4.2.1]

4.2.1* Life Safety.

The facility shall be designed, constructed, operated, and maintained to safeguard persons and ~~property~~, and to mitigate hazards associated with electrochemical batteries and cells.

4.2.1.1

The facility shall prepare plans to support design, construction, maintenance, and training to protect its occupants from hazard related to fire, deflagration and explosion.

4.2.1.2

The AHJ shall be notified upon any changes which impact life safety mitigation in process or involve the relocation of process equipment.

4.2.1.3*

Batteries shall be listed and labeled in accordance with the applicable product certification standard.

Statement of Problem and Substantiation for Public Input

Removed property as it does not apply when evaluating Life Safety situations

Submitter Information Verification

Submitter Full Name: Lisa Parks

Organization: GM

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Submittal Date: Wed Jan 28 13:50:14 EST 2026

Committee: BAT-AAA



Public Input No. 61-NFPA 800-2026 [Section No. 4.2.1 [Excluding any Sub-Sections]]

The facility shall be designed, constructed, operated, and maintained to ~~safeguard persons and property, and to mitigate hazards~~ protect occupants from the hazards associated with electrochemical batteries and cells.

Statement of Problem and Substantiation for Public Input

If property protection is an objective, it should be stated as a separate objective from life safety. Otherwise, property protection is only an objective to the extent that is necessary to safeguard occupants.

Submitter Information Verification

Submitter Full Name: Kristen Dentici

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Submittal Date: Mon Jan 05 16:54:10 EST 2026

Committee: BAT-AAA



Public Input No. 63-NFPA 800-2026 [Section No. 4.2.1.1]

4.2.1.1 –

~~The facility shall prepare plans to support design, construction, maintenance, and training to protect its occupants from hazard related to fire, deflagration and explosion.~~

Statement of Problem and Substantiation for Public Input

Required plans are not part of an objective statement. Any plans that are required by the code should be covered in a different section.

Submitter Information Verification

Submitter Full Name: Kristen Dentici

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Submittal Date: Mon Jan 05 16:56:18 EST 2026

Committee: BAT-AAA



Public Input No. 23-NFPA 800-2026 [Section No. 4.2.1.2]

4.2.1.2

The AHJ shall be notified upon any ~~changes which impact~~ major change which impacts life safety mitigation in ~~process- associated processes~~ or ~~involve~~ involves the relocation of process equipment.

Statement of Problem and Substantiation for Public Input

“Any changes which impact life safety mitigation” is very broad and could capture routine maintenance and minor revisions. Aligning with the HMA modification trigger makes it enforceable and consistent. This should be tied to the major change defined in 4.3.3.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 21-NFPA 800-2026 [Section No. 4.3.3]</u>	

Submitter Information Verification

Submitter Full Name: Jacob Dentici
Organization: Bowman Fire & Life Safety
Street Address:
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Zip:
Submittal Date: Fri Jan 02 20:11:23 EST 2026
Committee: BAT-AAA



Public Input No. 375-NFPA 800-2026 [Section No. 4.2.1.2]

4.2.1.2

The AHJ shall be notified upon any changes which impact life safety mitigation in ~~process~~ processes or involve the relocation of process equipment related to life safety .

Statement of Problem and Substantiation for Public Input

Re-worded to define life safety equipment impacts and not generic/any equipment

Submitter Information Verification

Submitter Full Name: Lisa Parks

Organization: GM

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jan 28 13:52:20 EST 2026

Committee: BAT-AAA



Public Input No. 66-NFPA 800-2026 [Section No. 4.2.1.2]

4.2.1.2 – X

The AHJ shall be notified upon any changes which impact life safety mitigation in process or involve the relocation of process equipment.

Statement of Problem and Substantiation for Public Input

This section should be removed from the objectives section since it is not stating an objective of the code.

Submitter Information Verification

Submitter Full Name: Kristen Dentici

Organization: Bowman Fire and Life Safety

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Submittal Date: Mon Jan 05 16:59:08 EST 2026

Committee: BAT-AAA



Public Input No. 24-NFPA 800-2026 [Section No. 4.2.1.3]

4.2.1.3*

Batteries shall be listed and labeled in accordance with the applicable product certification standard. Where a listing is not available for the specific battery type, configuration, chemistry, or intended use, the battery shall be permitted to be approved based on a field evaluation or third-party product evaluation by an organization acceptable to the AHJ.

Statement of Problem and Substantiation for Public Input

The current "shall be listed and labeled" language can be interpreted as a universal prerequisite, which may not be feasible for certain industrial battery types, intermediate manufacturing states, custom configurations, or repurposed applications, even where hazards can be effectively controlled through an HMA-driven design and third-party evaluation. Annex A.4.2.1.3 already acknowledges that standards beyond the listed UL documents may apply based on product category and scope; the mandatory text should correlate by allowing an AHJ-accepted field evaluation or third-party product evaluation where an applicable listing is not available. This preserves the safety intent, supports enforceable approval pathways, and avoids unintentionally prohibiting legitimate operations solely due to the absence of a directly applicable product certification standard.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 25-NFPA 800-2026 [Section No. 4.2.2.3]</u>	

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

Street Address:

City:

State:

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Submission Date: Fri Jan 02 20:17:42 EST 2026

Committee: BAT-AAA



Public Input No. 352-NFPA 800-2026 [Section No. 4.2.1.3]

4.2.1.3*

Batteries shall be listed and labeled in accordance with the applicable product certification standard.

4.2.1.3.1 Section 4.2.1.3 shall not apply to batteries comprised of lead-acid and nickel-cadmium cells.

Statement of Problem and Substantiation for Public Input

Lead-acid and nickel-cadmium cells, particularly vented cells, are not available listed and labeled, even though they are quite safe.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

Street Address:

City:

State:

Zip:

Submittal Date: Tue Jan 27 21:26:02 EST 2026

Committee: BAT-AAA



4.2.1.3 * _

Batteries

Cells and batteries shall be listed and labeled in accordance with the applicable product certification

standard, based on their chemistry and intended use, such as:

- (1) UL 1642, Lithium Batteries
- (2) UL 1973, Batteries for Use in Stationary and Motive Auxiliary Power Applications
- (3) UL 1989, Valve Regulated or Vented Batteries with Aqueous Electrolytes,
- (4) UL 2054, Household and Commercial Batteries
- (5) UL 2271, Batteries for Use in Light Electric Vehicle (LEV) Applications,
- (6) UL 2580, Batteries for Use in Electric Vehicles
- (7) UL 60086-4, Primary Batteries — Part 4: Safety of Lithium Batteries.
- (8) UL 62133-1, Secondary Cells and Batteries Containing Alkaline or Other Non-Acid Electrolytes - Safety Requirements for Portable Sealed Secondary Cells, and for Batteries Made from Them, for Use in Portable Applications - Part 1: Nickel Systems
- (9) UL 62133-2, Secondary Cells and Batteries Containing Alkaline or Other Non-Acid Electrolytes - Safety Requirements for Portable Sealed Secondary Cells, and for Batteries Made from Them, for Use in Portable Applications - Part 2: Lithium Systems

4.2.1.3.1

The AHJ is authorized to accept batteries listed and labeled to other standards applicable to the specific product category or scope of that standard.

Statement of Problem and Substantiation for Public Input

Move the content from A.4.2.1.3 to 4.2.1.3 regarding applicable standards. Applicable standards are recommended for batteries and should be highlighted accordingly.

Submitter Information Verification

Submitter Full Name: Yi Ji

Organization: UL Standards & Engagement

Affiliation: UL Standards & Engagement

Street Address:

City:

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Zip:

Submittal Date: Wed Jan 28 14:01:23 EST 2026

Committee: BAT-AAA



Public Input No. 480-NFPA 800-2026 [Section No. 4.2.1.3]

4.2.1.3*

~~Batteries shall~~ Where required, batteries shall be listed and labeled in accordance with the applicable product certification standard.

Statement of Problem and Substantiation for Public Input

While listed batteries are generally acknowledged to exhibit a reduced risk profile relative to unlisted units and should be considered a minimum safety standard for consumer and industrial use, many facilities covered by this code, such as research, design, testing facilities, are likely to handle, use, and store batteries or cells that have never been UL listed or have not yet undergone listing. If UL listing is deemed an essential safety measure to support certain approaches required by this code, it should be specified in the relevant sections rather than imposed as a blanket requirement in Chapter 4 for the code's overall application.

Submitter Information Verification

Submitter Full Name: Andrew Taggart

Organization: Coffman Engineers

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 14:42:27 EST 2026

Committee: BAT-AAA



Public Input No. 68-NFPA 800-2026 [Section No. 4.2.1.3]

4.2.1.3* –

~~Batteries shall be listed and labeled in accordance with the applicable product certification standard.~~

Statement of Problem and Substantiation for Public Input

This should be moved to other chapters as necessary since requirements in this chapter will apply to anything subject to the code. There are many situations where batteries may not be listed, such as in research and development, or where they may not be labeled, such as during manufacturing.

Submitter Information Verification

Submitter Full Name: Kristen Dentici

Organization: Bowman Fire and Life Safety

Street Address:

City:

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Zip:

Submittal Date: Mon Jan 05 17:00:26 EST 2026

Committee: BAT-AAA



Public Input No. 69-NFPA 800-2026 [Section No. 4.2.2.1]

4.2.2.1

The facility shall be designed to ~~prevent or mitigate~~ reasonably protect against fire spread and explosions that cause failure of adjacent buildings or building compartments, or other enclosures, emergency life safety systems, adjacent properties, adjacent storage, or the facility's structural elements.

Statement of Problem and Substantiation for Public Input

Aligning with language used in other codes (NFPA 1 for example). This section in general could use more work. Why is the objective to "mitigate fire spread and explosions"? Mitigating fire spread and explosions is a facet of meeting the objective of life safety and/or property protection.

Submitter Information Verification

Submitter Full Name: Kristen Dentici

Organization: Bowman Fire and Life Safety

Street Address:

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Zip:

Submittal Date: Mon Jan 05 17:03:50 EST 2026

Committee: BAT-AAA



Public Input No. 71-NFPA 800-2026 [Section No. 4.2.2.2]

4.2.2.2 * –

~~Facility owners or the party responsible shall prepare and document the prevention and mitigation plan for AHJ review and approval.~~

Statement of Problem and Substantiation for Public Input

At a minimum, this needs to be relocated as it is not an objective.

Submitter Information Verification

Submitter Full Name: Kristen Dentici

Organization: Bowman Fire and Life Safety

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 05 17:11:03 EST 2026

Committee: BAT-AAA



Public Input No. 25-NFPA 800-2026 [Section No. 4.2.2.3]

4.2.2.3

Cells and batteries used in battery powered equipment (BPE) shall be listed to a BPE, or listed to an applicable cell or battery product safety standard for the intended use. Where no applicable BPE- specific product safety standard exists for the equipment category or configuration, approval shall be permitted based on a field evaluation or third-party product evaluation acceptable to the AHJ .

Statement of Problem and Substantiation for Public Input

The current “shall be listed and labeled” language can be interpreted as a universal prerequisite, which may not be feasible for certain industrial battery types, intermediate manufacturing states, custom configurations, or repurposed applications, even where hazards can be effectively controlled through an HMA-driven design and third-party evaluation. Annex A.4.2.1.3 already acknowledges that standards beyond the listed UL documents may apply based on product category and scope; the mandatory text should correlate by allowing an AHJ-accepted field evaluation or third-party product evaluation where an applicable listing is not available. This preserves the safety intent, supports enforceable approval pathways, and avoids unintentionally prohibiting legitimate operations solely due to the absence of a directly applicable product certification standard.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 24-NFPA 800-2026 [Section No. 4.2.1.3]</u>	

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

Street Address:

City:

State:

Zip:

Submittal Date: Fri Jan 02 20:19:13 EST 2026

Committee: BAT-AAA



Public Input No. 514-NFPA 800-2026 [Section No. 4.2.2.3]

4.2.2.3

Cells and batteries used ~~in battery powered equipment (BPE) shall~~ in BPE shall be listed to a BPE specific product safety standard.

Statement of Problem and Substantiation for Public Input

BPE has already been defined and it should be used in place of battery powered equipment throughout the document

Submitter Information Verification

Submitter Full Name: Luke Webber

Organization: Mitsubishi Logisnext Americas

Street Address:

City:

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Submittal Date: Thu Jan 29 16:40:21 EST 2026

Committee: BAT-AAA



Public Input No. 73-NFPA 800-2026 [Section No. 4.2.2.3]

4.2.2.3 –

~~Cells and batteries used in battery powered equipment (BPE) shall be listed to a BPE specific product safety standard.~~

Statement of Problem and Substantiation for Public Input

Again, this is not an objective and should not be in this section. This should be relocated to the chapter that is specific to BPE.

Submitter Information Verification

Submitter Full Name: Kristen Dentici

Organization: Bowman Fire and Life Safety

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City:

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Submittal Date: Mon Jan 05 17:12:57 EST 2026

Committee: BAT-AAA



Public Input No. 26-NFPA 800-2026 [Section No. 4.2.2.4]

4.2.2.4

Based on the hazard mitigation analysis (HMA) of the facility and BPE manufacturer requirement, BPEs shall be separated from ~~each other BPE and other combustible material to mitigate the fire spread from~~ combustible materials by distances and arrangements determined in accordance with Chapters 5 through 9.

Statement of Problem and Substantiation for Public Input

The current language requires BPE to be “separated” but provides no measurable criteria, which will be interpreted inconsistently and may conflict with prescriptive separation requirements later in Chapters 5 through 9. Revising the text to explicitly defer separation distances and arrangement criteria to Chapters 5 through 9, with consideration of the HMA and manufacturer instructions, makes the requirement enforceable and avoids unintended conflicts.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

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Submittal Date: Fri Jan 02 20:23:22 EST 2026

Committee: BAT-AAA



Public Input No. 353-NFPA 800-2026 [Section No. 4.2.2.4]

~~4.2.2.4 –~~

~~Based on the hazard mitigation analysis (HMA) of the facility and BPE manufacturer requirement, BPEs shall be separated from each other and other combustible material to mitigate the fire spread.~~

Statement of Problem and Substantiation for Public Input

This requirement is fully addressed in chapter 8 and is not needed here.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

Street Address:

City:

State:

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Submission Date: Tue Jan 27 21:29:51 EST 2026

Committee: BAT-AAA



Public Input No. 75-NFPA 800-2026 [Section No. 4.2.2.4]

4.2.2.4 –

~~Based on the hazard mitigation analysis (HMA) of the facility and BPE manufacturer requirement, BPEs shall be separated from each other and other combustible material to mitigate the fire spread.~~

Statement of Problem and Substantiation for Public Input

Not an objective. Should be relocated to BPE specific Chapter.

Submitter Information Verification

Submitter Full Name: Kristen Dentici

Organization: Bowman Fire and Life Safety

Street Address:

City:

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Submittal Date: Mon Jan 05 17:14:24 EST 2026

Committee: BAT-AAA



Public Input No. 495-NFPA 800-2026 [New Section after 4.3.1]

4.3.2 Performance Goals.

4.3.2.1* Fire Conditions.

No occupant who is not intimate with ignition shall be exposed to instantaneous or cumulative untenable conditions. [1:5.2.2.1]

4.3.2.2* Explosion Conditions.

The facility design shall provide an acceptable level of safety for occupants and for individuals immediately adjacent to the property from the effects of unintentional detonation or deflagration. [1:5.2.2.2]

4.3.2.3* Hazardous Materials Exposure.

The facility design shall provide an acceptable level of safety for occupants and for individuals immediately adjacent to the property from the effects of an unauthorized release of hazardous materials or the unintentional reaction of hazardous materials. [1:5.2.2.3]

4.3.2.4* Property Protection.

The facility design shall limit the effects of all required design scenarios from causing an unacceptable level of property damage. [1:5.2.2.4]

4.3.2.5* Public Welfare.

For facilities that serve a public welfare role as defined in 4.1.5, the facility design shall limit the effects of all required design scenarios from causing an unacceptable interruption of the facility's mission. [1:5.2.2.5]

4.3.2.6 Occupant Protection from Untenable Conditions.

Means shall be provided to evacuate, relocate, or defend in place occupants not intimate with ignition for sufficient time so that they are not exposed to instantaneous or cumulative untenable conditions from smoke, heat, or flames. [1:5.2.2.6]

4.3.2.7 Emergency Responder Protection.

Buildings shall be designed and constructed to reasonably prevent structural failure under fire conditions for sufficient time to enable fire fighters and emergency responders to conduct search and rescue operations. [1:5.2.2.7]

4.3.2.8 Occupant Protection from Structural Failure.

Buildings shall be designed and constructed to reasonably prevent structural failure under fire conditions for sufficient time to protect the occupants. [1:5.2.2.8]

Statement of Problem and Substantiation for Public Input

Defining a set of safety goals establishes the foundation for identifying the minimum mitigations required to reduce the hazards posed by the operations within the facility to an acceptable level. Incorporating a codified set of generalized goals within the HMA provides a structured framework for evaluating whether the proposed facility, its operations, and its safety systems satisfy a minimum standard of safety. Just as importantly, this framework provides the AHJ with a clearer basis for evaluating if the HMA's conclusions are appropriately justified.

Performance requirement language from NFPA 1 is proposed, as it has been previously developed, broadly accepted by industry, and promotes consistency in safety expectations. Using generalized safety goals rather than prescriptive design criteria affords necessary flexibility, both for addressing conditions and hazard configurations not directly anticipated by this code and for enabling a range of analysis methodologies to be applied to demonstrate compliance.

Since individual fire protection mitigation systems collectively contribute to overall risk reduction, it is appropriate to state the minimum safety goals as general requirements in Chapter 4, while leaving the specific HMA requirements pertaining to individual systems within the code listed in the applicable sections.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 493-NFPA 800-2026</u> [Section No. 4.3.1]	Proposed new language for the existing Section 4.3.1 will reference the new performance goals listed in new section 4.3.2.
<u>Public Input No. 497-NFPA 800-2026</u> [New Section after A.4.3.1]	New annex material is also proposed to be added to provide context for new Section 4.3.2
<u>Public Input No. 497-NFPA 800-2026</u> [New Section after A.4.3.1]	

Submitter Information Verification

Submitter Full Name: Andrew Taggart

Organization: Coffman Engineers

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City:

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Zip:

Submittal Date: Thu Jan 29 15:08:55 EST 2026

Committee: BAT-AAA



Public Input No. 366-NFPA 800-2026 [Section No. 4.3.1]

4.3.1* General.

An HMA shall be conducted to evaluate fire, explosions, processes hazards, equipment, and facilities, as well as the risks to occupants in accordance with Chapter 5 through Chapter 9.

Statement of Problem and Substantiation for Public Input

This section will place a new, large burden on significant amount of buildings. Recommend coming up with standards to which an HMA would be more appropriate. For example: if the facility meets all of the prescriptive requirements, then why would an HMA also be required? Recommend transitioning this section to more of a performance based design approach to determine if additional protection measures are required above and beyond the prescriptive requirements or where the prescriptive requirements cannot be met.

Submitter Information Verification

Submitter Full Name: Joseph Sellers

Organization: U.S. Department of Energy, National Nuclear Security Administration

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jan 28 10:44:12 EST 2026

Committee: BAT-AAA



4.3.1* General.

An HMA shall be conducted to identify and evaluate fire, explosions explosion, processes and process hazards, equipment, and facilities, as well as the risks to occupants in accordance with Chapter 5 through Chapter to ensure that the provided hazard mitigation systems achieve the performance objectives specified in Section 4.3.2, in compliance with Chapters 5 through 9.

Statement of Problem and Substantiation for Public Input

Defining a set of safety goals establishes the foundation for identifying the minimum mitigations required to reduce the hazards posed by the operations within the facility to an acceptable level. Incorporating a codified set of generalized goals within the HMA provides a structured framework for evaluating whether the proposed facility, its operations, and its safety systems satisfy a minimum standard of safety. Just as importantly, this framework provides the AHJ with a clearer basis for evaluating if the HMA's conclusions are appropriately justified.

Performance requirement language from NFPA 1 is proposed, as it has been previously developed, broadly accepted by industry, and promotes consistency in safety expectations. Using generalized safety goals rather than prescriptive design criteria affords necessary flexibility, both for addressing conditions and hazard configurations not directly anticipated by this code and for enabling a range of analysis methodologies to be applied to demonstrate compliance.

Since individual fire protection mitigation systems collectively contribute to overall risk reduction, it is appropriate to state the minimum safety goals as general requirements in Chapter 4, while leaving the specific HMA requirements pertaining to individual systems within the code listed in the applicable sections.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 495-NFPA 800-2026 [New Section after 4.3.1]</u>	

Submitter Information Verification

Submitter Full Name: Andrew Taggart
Organization: Coffman Engineers
Street Address:
City:
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Zip:
Submittal Date: Thu Jan 29 15:05:38 EST 2026
Committee: BAT-AAA



Public Input No. 538-NFPA 800-2026 [Section No. 4.3.1]

4.3.1* General.

An HMA shall be conducted to evaluate fire, explosions, and processes hazards with regards to occupants , equipment, and facilities ~~, as well as the risks to occupants~~ in accordance with Chapter 5 through Chapter 9.

Statement of Problem and Substantiation for Public Input

Section needs to be rephrase for clarity to indicate the intent of the requirement.

Submitter Information Verification

Submitter Full Name: Hubert Biteau

Organization: Code Red Consultants, LLC

Street Address:

City:

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Zip:

Submittal Date: Thu Jan 29 17:24:00 EST 2026

Committee: BAT-AAA



Public Input No. 78-NFPA 800-2026 [Section No. 4.3.1]

4.3.1* General.

An HMA shall be conducted to evaluate fire, explosions, processes hazards, equipment, and facilities, as well as the risks to occupants in accordance with Chapter 5 through Chapter 9.

Statement of Problem and Substantiation for Public Input

Making a general comment to the entire HMA section here. While it is understood that an HMA can only be bound to a limited extent, this code is heavily reliant on the HMA to achieve the prescribed objectives of the Code. Therefore, in order to provide a substantiative code while relying on the HMA, the HMA process including hazards are to be addressed, mitigation measures, outcomes, etc. need to have a well-defined minimum. I suggest on a high level that additional prescriptive requirements are added in order to relieve reliance on the HMA and that the HMA section is significantly developed.

Submitter Information Verification

Submitter Full Name: Kristen Dentici

Organization: Bowman Fire and Life Safety

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 05 17:29:05 EST 2026

Committee: BAT-AAA



Public Input No. 379-NFPA 800-2026 [Section No. 4.3.2.1.1]

4.3.2.1.1

The HMA shall be submitted to the authority having jurisdiction (AHJ) for review and approval.

Statement of Problem and Substantiation for Public Input

Need to define response time by the AHJ and what to do if no response received

Submitter Information Verification

Submitter Full Name: Lisa Parks

Organization: GM

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jan 28 14:01:40 EST 2026

Committee: BAT-AAA



Public Input No. 170-NFPA 800-2026 [Section No. 4.3.2.1.2]

4.3.2.1.2*

The HMA shall be prepared by an engineering team with proven competency in the areas in battery design including component failure modes, battery manufacturing processing, controls and BMS, isolation and venting. The final HMA shall be reviewed and approved by a registered design professional with demonstrated competence in fire protection, process safety, or a related engineering discipline commensurate with the hazards.

Statement of Problem and Substantiation for Public Input

A cross-functional engineering design team is going to be more comprehensive than a single third party. They need to stand behind the HMA and the design. A third party can verify it.

I don't think we want first year engineers designing these things alone. Or designing them and having one single PE signing off. It's too big and too important.

Submitter Information Verification

Submitter Full Name: Beth Schroeder

Organization: Belay Energy Solutions

Street Address:

City:

State:

Zip:

Submittal Date: Fri Jan 16 12:37:56 EST 2026

Committee: BAT-AAA



Public Input No. 22-NFPA 800-2026 [Section No. 4.3.2.1.2]

4.3.2.1.2*

The HMA shall be prepared by a registered design professional with demonstrated competence in fire protection, process safety, ~~or~~ a related engineering discipline, or other qualified person acceptable to the AHJ with competence commensurate with the hazards.

Statement of Problem and Substantiation for Public Input

Some facilities, industries, and jurisdictions use qualified process safety professionals, CFPS, CSP, or multidisciplinary teams who may not be RDPs. Overly prescriptive credentialing can be a barrier without improving safety, especially if the AHJ can already evaluate qualifications.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

Street Address:

City:

State:

Zip:

Submittal Date: Fri Jan 02 20:07:31 EST 2026

Committee: BAT-AAA



Public Input No. 229-NFPA 800-2026 [Section No. 4.3.2.1.2]

4.3.2.1.2*

The HMA shall be prepared by ~~a registered design a~~ professional with demonstrated competence in fire protection, process safety, or a related engineering discipline commensurate with the hazards.

Statement of Problem and Substantiation for Public Input

As written, this would indicate a PE or similar registration is required to perform the HMA. System safety/ hazard evaluation practices and techniques are not a core area of study or testing as part of PE licensing; however there are various standards and professional training programs to develop these skills (MIL-STD-822E, DOE-STD-3009, INCOSE systems engineering professional, etc.) that do not result in a 'professional registration' that would meet the definition in this standard and potentially prevent qualified personnel from performing this function. Recommend removing this registered professional requirement for the HMA function.

Submitter Information Verification

Submitter Full Name: Adam Jivelekas

Organization: Pacific Northwest National Lab

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City:

State:

Zip:

Submittal Date: Thu Jan 22 12:20:25 EST 2026

Committee: BAT-AAA



Public Input No. 377-NFPA 800-2026 [Section No. 4.3.2.1.2]

4.3.2.1.2*

The HMA shall be prepared by ~~a registered design professional with~~ an expert with demonstrated competence in fire protection, process safety, or a related engineering discipline commensurate with the hazards.

Statement of Problem and Substantiation for Public Input

updated to reflect an expert (not requiring a registration or certification) as many have the skill set needed but do not obtain official registrations. This eliminates the unnecessary cost burden of hiring engineering firms when not required and may not be an expert in the topic area

Submitter Information Verification

Submitter Full Name: Lisa Parks

Organization: GM

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jan 28 13:55:35 EST 2026

Committee: BAT-AAA



Public Input No. 437-NFPA 800-2026 [Section No. 4.3.2.1.2]

4.3.2.1.2*

The HMA shall be prepared by a registered design professional with demonstrated competence in fire protection, process safety, or a related engineering discipline commensurate with the hazards.

The required qualifications for preparing and submitting a Hazard Mitigation Analysis to the AHJ are not well defined. Specific certifications (such as a PE), degree or experience should be outlined.

Statement of Problem and Substantiation for Public Input

The problem is that additional guidance is required for recyclers to understand the intent and practicality of this section.

It will also help AHJs audit submitted hazard analyses without ambiguity.

Submitter Information Verification

Submitter Full Name: Michael Marino

Organization: Recycled Materials Association (ReMA)

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 10:12:55 EST 2026

Committee: BAT-AAA



Public Input No. 171-NFPA 800-2026 [Section No. 4.3.3]

4.3.3* Modifications.

An HMA analysis shall be updated whenever a major change to the ~~process, equipment, facility, or technology introduces new hazards or alters existing hazards, that were not addressed in a previous HMA.~~ fit, form or function of the battery faces change. Fit, form or function changes shall drive a new part number and a corresponding change to the HMA document. New hazards must be updated, revised or introduced accordingly. The HMA on file must match the part number for the device(s) including any on-site modifications made.

Statement of Problem and Substantiation for Public Input

Need to be precise about change management. If fit, form or functions change, it's likely we need to redo some of the engineering - or at least some portion of the HMA. (Or at least have a breakpoint and explain why some of the re-testing didn't apply)

Submitter Information Verification

Submitter Full Name: Beth Schroeder

Organization: Belay Energy Solutions

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City:

State:

Zip:

Submittal Date: Fri Jan 16 12:43:40 EST 2026

Committee: BAT-AAA



Public Input No. 21-NFPA 800-2026 [Section No. 4.3.3]

4.3.3* Modifications.

An HMA analysis shall be updated whenever a major change to the process, equipment, facility, or technology introduces new hazards or alters existing hazards, that were not addressed in a previous HMA. Major change includes, but is not limited to, any of the following:

- (1) A change of occupancy as defined by the adopted building code, including a change in occupancy classification, or a change in the purpose of, or level of activity within, a building or structure where the code requires a greater degree of safety, accessibility, structural strength, fire protection, means of egress, ventilation, or sanitation than currently exists.
- (2) Changes to battery characteristics or configuration that affect hazard evaluation, including chemistry, form factor, maximum stored energy, arrangement, enclosure type, or energy management/control strategy (BMS/ESMS).
- (3) Addition, relocation, or replacement of process equipment or battery-related equipment that changes credible fire, deflagration, or explosion scenarios, or changes separation distances or exposure conditions.
- (4) Changes to fire protection, detection, alarm/monitoring, explosion control/prevention, ventilation/exhaust, electrical protection, emergency shutdown, or emergency response features relied upon by the HMA.
- (5) Introduction of new processes, materials, or operations (including charging/discharging profiles) that create new initiating events, new fuels/oxidizers, or new off-gassing/deflagration potential not addressed in the prior HMA.

Statement of Problem and Substantiation for Public Input

“Major change” is currently undefined, which makes the HMA update trigger subjective and inconsistently applied. Adding objective criteria improves enforceability and correlation. Incorporating “change of occupancy” aligns the trigger with established model code concepts used by AHJs to determine when a greater degree of safety and protection is required. Alternatively, major change can be added to definitions in Ch.3.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 23-NFPA 800-2026 [Section No. 4.2.1.2]	

Submitter Information Verification

Submitter Full Name: Jacob Dentici
Organization: Bowman Fire & Life Safety
Street Address:
City:
State:
Zip:
Submission Date: Fri Jan 02 20:03:37 EST 2026
Committee: BAT-AAA



Public Input No. 82-NFPA 800-2026 [Section No. 4.3.3]

4.3.3* Modifications.

An HMA analysis shall be updated whenever a major change to the process, equipment, facility, or technology introduces new hazards or alters existing hazards, that were not addressed in a previous HMA.

Statement of Problem and Substantiation for Public Input

Code should define if and when the updated HMA needs to be submitted and approved by AHJ.

Submitter Information Verification

Submitter Full Name: Kristen Dentici

Organization: Bowman Fire and Life Safety

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 05 17:35:46 EST 2026

Committee: BAT-AAA



Public Input No. 354-NFPA 800-2026 [Section No. 4.4.1]

4.4.1 General.

Facilities and areas covered under this code shall incorporate fire protection and explosion prevention measures to mitigate hazards associated with thermal runaway, off-gassing, and electrical faults, as identified in the HMA .

Statement of Problem and Substantiation for Public Input

It should be made clear in this requirement that the protective measures are conditional on the HMA indicating they are appropriate. Not every installation will need all of these measures. For example, not all batteries will have thermal runaway and off-gas.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

Street Address:

City:

State:

Zip:

Submittal Date: Tue Jan 27 21:31:32 EST 2026

Committee: BAT-AAA



Public Input No. 380-NFPA 800-2026 [Section No. 4.4.1]

4.4.1 General.

Facilities and areas covered under this code shall incorporate fire protection and explosion prevention measures to mitigate hazards associated with fire_ thermal runaway, off-gassing, and electrical faults.

Statement of Problem and Substantiation for Public Input

Added fire as this can be different than Thermal Runaway and is an indicator needed for this item

Submitter Information Verification

Submitter Full Name: Lisa Parks

Organization: GM

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jan 28 14:03:05 EST 2026

Committee: BAT-AAA



Public Input No. 416-NFPA 800-2026 [Section No. 4.4.1]

4.4.1 General.

Facilities and areas covered under this code shall incorporate fire protection and explosion prevention measures to mitigate hazards associated with thermal runaway, off-gassing, and electrical faults, flammable gas, vapor and combustible dust inherent in battery manufacturing processes .

Statement of Problem and Substantiation for Public Input

The fire and explosion protection measures of facilities and areas should also consider the explosive hazardous environment caused by flammable volatiles (electrolytes) or combustible dust that will be produced during the battery manufacturing process

Submitter Information Verification

Submitter Full Name: Wenmo Liang

Organization: Contemporary Amperex Technology Co. Limited

Street Address:

City:

State:

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Submittal Date: Thu Jan 29 08:47:09 EST 2026

Committee: BAT-AAA



Public Input No. 438-NFPA 800-2026 [Section No. 4.4.1]

4.4.1 General.

Facilities and areas covered under this code shall incorporate fire protection and explosion prevention measures to mitigate hazards associated with thermal runaway, off-gassing, and electrical faults.

Separating facilities into storage, processing, or both, as requested above, will help this section. The requirements for protection vary widely. Keeping them lumped together will create an undue burden on the recycling industry.

Statement of Problem and Substantiation for Public Input

Separating facilities into storage, processing, or both, as requested above, will help this section. The requirements for protection vary widely. Keeping them lumped together will create an undue burden on the recycling industry.

Submitter Information Verification

Submitter Full Name: Michael Marino

Organization: Recycled Materials Association (ReMA)

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 10:17:12 EST 2026

Committee: BAT-AAA



Public Input No. 469-NFPA 800-2026 [Section No. 4.4.1]

4.4.1 General.

Facilities and areas covered under this code shall incorporate fire protection and explosion prevention measures to mitigate hazards associated with thermal runaway, off-gassing, and electrical faults in the areas where these conditions exist per the HMA .

Statement of Problem and Substantiation for Public Input

In a hospital as it is currently worded the entire hospital could be considered required to utilize explosion proof fittings, etc. This change limits it to where the hazard exists according to the HMA.

Submitter Information Verification

Submitter Full Name: Shay Rankhorn

Organization: Facility Diagnostics, LLC

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 12:42:22 EST 2026

Committee: BAT-AAA



Public Input No. 27-NFPA 800-2026 [Section No. 4.4.2.1]

4.4.2.1

~~Automatic. Where required by Chapters 5 through 9, automatic, manual, or an automatic a combination automatic and manual combined fire suppression systems shall be provided in accordance with Chapter 5 through Chapter 9. _~~

Statement of Problem and Substantiation for Public Input

As written, 4.4.2.1 can be read as a universal mandate to provide suppression for all facilities and areas, with Chapters 5 through 9 only governing design details. Chapters 5 through 9 are expected to tailor where suppression is required based on application and hazard. Revising the opening clause to "Where required" preserves the intent while preventing over-application and improving consistency with later chapter requirements.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

Street Address:

City:

State:

Zip:

Submittal Date: Fri Jan 02 20:25:35 EST 2026

Committee: BAT-AAA



Public Input No. 565-NFPA 800-2026 [Section No. 4.4.2.1]

4.4.2.1

Automatic, manual, ~~or an automatic~~ or automatic and manual combined fire suppression systems shall be provided in accordance with Chapter 5 through Chapter 9.

Statement of Problem and Substantiation for Public Input

Delete "an" for correct grammar.

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 18:27:47 EST 2026

Committee: BAT-AAA



Public Input No. 382-NFPA 800-2026 [Section No. 4.4.2.2]

4.4.2.2

Automatic fire suppression system designs shall be based on hazard classification, battery chemistry, format, energy density, and quantity.

Statement of Problem and Substantiation for Public Input

Added energy density to key information needed

Submitter Information Verification

Submitter Full Name: Lisa Parks

Organization: GM

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jan 28 14:04:20 EST 2026

Committee: BAT-AAA



Public Input No. 205-NFPA 800-2026 [Section No. 4.4.2.3]

4.4.2.3

The design, installation, testing, and maintenance of fire suppression, fire protection, and life safety systems shall be in accordance with the following applicable standards : or other approved safety systems.

- (1) NFPA 11
- (2) NFPA 12
- (3) NFPA 13
- (4) NFPA 15
- (5) NFPA 18
- (6) NFPA 18A
- (7) NFPA 24
- (8) NFPA 25
- (9) NFPA 68
- (10) NFPA 69
- (11) *NFPA 72*
- (12) NFPA 750
- (13) NFPA 770
- (14) NFPA 2001
- (15) NFPA 2010

Statement of Problem and Substantiation for Public Input

There is new technology coming out using dry ice and liquid nitrogen to mitigate thermal runaway propagation. None of the standards listed can mitigate thermal runaway propagation.

Submitter Information Verification

Submitter Full Name: Derrick Shaver

Organization: Shaver Fire Engineering & Design

Street Address:

City:

State:

Zip:

Submittal Date: Tue Jan 20 08:22:03 EST 2026

Committee: BAT-AAA



Public Input No. 367-NFPA 800-2026 [Section No. 4.4.2.3]

4.4.2.3

The design, installation, testing, and maintenance of fire suppression, fire protection, and life safety systems shall be in accordance with the following appropriate applicable standards:

- (1) NFPA-11
- (2) NFPA-12
- (3) NFPA-13
- (4) NFPA-15
- (5) NFPA-18
- (6) NFPA-18A
- (7) NFPA-24
- (8) NFPA-25
- (9) NFPA-68
- (10) NFPA-69
- (11) NFPA-72
- (12) NFPA-750
- (13) NFPA-770
- (14) NFPA-2001
- (15) NFPA-2010

standard.

Statement of Problem and Substantiation for Public Input

This list is not all encompassing. If the intent is to ensure that designs meet their respective requirements, then you are excluding other appropriate design standards and future standards.

Submitter Information Verification

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Submittal Date: Wed Jan 28 10:47:40 EST 2026

Committee: BAT-AAA



Public Input No. 383-NFPA 800-2026 [Section No. 4.4.2.3]

4.4.2.3

The design, installation, testing, and maintenance of fire suppression, fire protection, and life safety systems shall be in accordance with the following applicable standards:

- (1) NFPA 11
- (2) NFPA 12
- (3) NFPA 13
- (4) NFPA 15
- (5) NFPA 18
- (6) NFPA 18A
- (7) NFPA 24
- (8) NFPA 25
- (9) NFPA 68
- (10) NFPA 69
- (11) NFPA 70/70E
- (12) NFPA 72
- (13) NFPA 497
- (14) NFPA 750
- (15) NFPA 770
- (16) NFPA 2001
- (17) NFPA 2010

Statement of Problem and Substantiation for Public Input

Added a couple missing references

Submitter Information Verification

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Submission Date: Wed Jan 28 14:05:24 EST 2026

Committee: BAT-AAA



Public Input No. 564-NFPA 800-2026 [Section No. 4.4.2.3]

4.4.2.3

The design, installation, testing, and maintenance of fire suppression, fire protection, and life safety systems shall be in accordance with the following applicable NFPA standards:

- (1) ~~NFPA-11~~
- (2) ~~NFPA-12~~
- (3) ~~NFPA-13~~
- (4) ~~NFPA-15~~
- (5) ~~NFPA-18~~
- (6) ~~NFPA-18A~~
- (7) ~~NFPA-24~~
- (8) ~~NFPA-25~~
- (9) ~~NFPA-68~~
- (10) ~~NFPA-69~~
- (11) ~~NFPA-72~~
- (12) ~~NFPA-750~~
- (13) ~~NFPA-770~~
- (14) ~~NFPA-2001~~
- (15) ~~NFPA-2010~~

-

Statement of Problem and Substantiation for Public Input

Stating blanket compliance with 15 codes may not be practically feasible and may not produce prudent design results.

Submitter Information Verification

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Submittal Date: Thu Jan 29 18:26:25 EST 2026

Committee: BAT-AAA



Public Input No. 84-NFPA 800-2026 [Section No. 4.4.2.3]

4.4.2.3

The design, installation, testing, and maintenance of fire suppression, fire protection, and life safety systems shall be in accordance ~~Fire suppression systems shall comply~~ with the following applicable ~~standards standards, or equivalent, unless modified in Chapter X through XX~~ :

- (1) NFPA 11
- (2) NFPA 12
- (3) NFPA 13
- (4) NFPA 14
- (5) NFPA 15
- (6) NFPA 18
- (7) NFPA 18A
- (8) ~~NFPA 24~~
- (9) ~~NFPA 25~~
- (10) ~~NFPA 68~~
- (11) ~~NFPA 69~~
- (12) ~~NFPA 72~~
- (13) ~~NFPA 750~~
- (14) NFPA 770
- (15) NFPA 2001
- (16) NFPA 2010

Statement of Problem and Substantiation for Public Input

Removed standards unrelated to fire suppression as the rest of this section seems to relate to only fire suppression. Added NFPA 14 as manual suppression is stated as potentially acceptable. Removed NFPA 18A. NFPA 24 should be covered in a separate water supply section. NFPA 25 is referenced by the applicable standard when necessary/required.

Submitter Information Verification

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Submission Date: Mon Jan 05 17:37:59 EST 2026

Committee: BAT-AAA



Public Input No. 194-NFPA 800-2026 [Section No. 4.4.4]

4.4.4 Explosion Prevention and Control ~~and Prevention~~ .

4.4.4.1

~~Explosion~~ Explosion prevention and control ~~and prevention~~ shall be provided in accordance with Chapter 5 through Chapter 9.

4.4.4.2

Explosion prevention and control ~~and prevention~~ shall be provided where the HMA has determined an explosion hazard exists within a building.

4.4.4.3

~~Explosion control and prevention~~ shall be designed and installed in accordance with NFPA 68 ~~or NFPA 69~~. In addition, a partial-volume deflagration evaluation shall be conducted in accordance with NFPA 68.

4.4.4.4

Facilities shall have gas detection and exhaust systems in accordance with the HMA to mitigate risks from off-gassing.

Statement of Problem and Substantiation for Public Input

An NFPA 68-only option should not be allowed. Revised text is consistent with proposed revisions to 5.6.2.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 193-NFPA 800-2026 [Section No. 5.6.2]</u>	Consistent treatment of explosion prevention.
<u>Public Input No. 203-NFPA 800-2026 [Section No. 8.2.5]</u>	

Submitter Information Verification

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Submittal Date: Mon Jan 19 13:25:45 EST 2026

Committee: BAT-AAA



Public Input No. 90-NFPA 800-2026 [Section No. 4.4.4]

4.4.4 Explosion Control and Prevention.

4.4.4.1

Explosion control and prevention shall be provided in accordance with Chapter 5 through Chapter 9.

4.4.4.2

Explosion control and prevention shall be provided where the HMA has determined an explosion hazard exists within a building.

4.4.4.3

Explosion control and prevention shall be designed and installed in accordance with NFPA 68 or NFPA 69.

~~4.4.4.4 –~~

~~Facilities shall have gas detection and exhaust systems in accordance with the HMA to mitigate risks from off-gassing.~~

Statement of Problem and Substantiation for Public Input

There are probably additional edits that are needed to this section, pending comments in other Chapters. There is no primary statement here for when Explosion Control and Prevention is required. Is it always going to be required unless specifically exempted? Is it only ever required when the HMA says it is required? Whatever is the primary driver (or multiple) should be stated first, i.e.: "Where required elsewhere in this standard..." or "Shall be provided unless modified" or "Where the HMA has determined an explosion hazard exists".

4.4.4.4 should be covered by 4.4.4.3 if off-gassing flammable gases. This is probably carryover from NFPA 855, where specific battery chemistries are known to off-gas a small amount of flammable gas during charge and/or discharge and NFPA 855 codifies a protection strategy (exhaust ventilation). In that case, the exhaust ventilation is deemed separate from an explosion control or prevention system. There is no reason for this to carry over into this code, as in general off-gassing either creates an explosion hazard that needs to be mitigated (which then is covered by 4.4.4.3), or it doesn't. If it creates some other hazard (i.e. toxic hazard), then that needs to be addressed separated from explosion control.

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Submittal Date: Mon Jan 05 17:50:05 EST 2026

Committee: BAT-AAA



Public Input No. 28-NFPA 800-2026 [Section No. 4.4.4.2]

4.4.4.2

Explosion control and prevention shall be provided where the HMA has determined an explosion hazard exists within a building, enclosed structure, or enclosure .

Statement of Problem and Substantiation for Public Input

Many battery installations are located in enclosures or enclosed structures that are not classified as “buildings”. Limiting the requirement to hazards “within a building” creates a regulatory gap where explosion hazards can still exist. Expanding applicability to enclosed structures and enclosures aligns the requirement with real-world configurations while retaining the HMA-based trigger.

Submitter Information Verification

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Submittal Date: Fri Jan 02 20:27:22 EST 2026

Committee: BAT-AAA



Public Input No. 230-NFPA 800-2026 [Section No. 4.4.4.3]

4.4.4.3

Explosion control and prevention shall be designed and installed in accordance with NFPA 68 or NFPA 69.

Statement of Problem and Substantiation for Public Input

NFPA 69 15.5.5.1.1 directs that all systems for explosion control be designed as a SIL-2 SIS. This level of reliability and cost in battery enclosures is being strongly resisted by system integrators and is unreasonable in most applications. The foundation of the ISA 61511 process is defining risk tolerance and using that to define the design/reliability requirements of safety systems; this section of NFPA 69 short circuits the ability of a utility or other user of battery systems to define event consequences based on their local conditions and drives a level of system reliability that may be inappropriate for their application. Please provide either relief from this dictated requirement from 69 or otherwise allow for site-specific hazard evaluation to define the explosion control design basis.

Submitter Information Verification

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Submittal Date: Thu Jan 22 12:39:36 EST 2026

Committee: BAT-AAA



Public Input No. 384-NFPA 800-2026 [Section No. 4.4.4.4]

4.4.4.4

Facilities or areas shall be adequately ventilated and where HMA specifies shall have gas detection and exhaust systems ~~in accordance with the HMA~~ incorporated to mitigate risks from off-gassing.

Statement of Problem and Substantiation for Public Input

Re-worded for clarification

Submitter Information Verification

Submitter Full Name: Lisa Parks

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Submittal Date: Wed Jan 28 14:08:08 EST 2026

Committee: BAT-AAA



Public Input No. 490-NFPA 800-2026 [Section No. 4.4.4.4]

4.4.4.4

Facilities shall have gas detection and exhaust systems if required in accordance with the HMA to mitigate risks from off-gassing.

Statement of Problem and Substantiation for Public Input

If the HMA indicates that these systems are not required, then they should not have to be provided.

Submitter Information Verification

Submitter Full Name: Steve Edley

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Submittal Date: Thu Jan 29 14:58:09 EST 2026

Committee: BAT-AAA



Public Input No. 479-NFPA 800-2026 [Section No. 4.5]

4.5 Electrical Safety and Protection.

Electrical safety for facilities and areas covered under this code shall comply with NFPA 1, *NFPA 70*, and *NFPA 70E*, as applicable.

As battery systems inherently have high DC short circuit currents, the risk of an arc flash accident or fire initiated by short-circuiting the battery system by miswiring should be primarily mitigated by preventing accidental miswiring with technical and design measures such as using connectors which fit only in their correct counterparts. Other methods include but are not limited to color-coding the connectors or warning particularly about specific possible miswiring hazards in the service manual.

Statement of Problem and Substantiation for Public Input

The sentence should be reviewed by a native speaker but as this is a common hazard in battery system repair, I hope this is addressed in the standard. See my other linked comment also.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 474-NFPA 800-2026 [Section No. B.3.3]</u>	The same hazard, different place in standard.

Submitter Information Verification

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Submittal Date: Thu Jan 29 14:16:11 EST 2026

Committee: BAT-AAA



Public Input No. 29-NFPA 800-2026 [Section No. 4.6.1.1]

4.6.1.1

Ventilation shall be designed and installed in accordance with the applicable ~~NFPA standard~~ building code and mechanical code, and applicable referenced standards, as determined by the HMA and Chapters 5 through 9.

Statement of Problem and Substantiation for Public Input

There is not always a single “applicable NFPA standard” governing ventilation design, and the current text does not provide an enforceable basis for compliance. Ventilation is typically regulated by adopted building and mechanical codes, with referenced standards applied based on the specific hazard and configuration. Tying ventilation design to the applicable codes and to the HMA and later prescriptive chapters clarifies the compliance path and improves enforceability.

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Submittal Date: Fri Jan 02 20:28:56 EST 2026

Committee: BAT-AAA



Public Input No. 30-NFPA 800-2026 [Section No. 4.7.2.1]

4.7.2.1*

Incompatible battery ~~chemistries~~ chemistries that are determined by the HMA to present incompatible hazards when stored together shall be separated. (See also Annex B and Annex C).

Statement of Problem and Substantiation for Public Input

“Incompatible battery chemistries” is not defined, which can lead to arbitrary or inconsistent separation requirements across facilities and AHJs. Separation should be based on hazard characteristics and credible interaction outcomes rather than chemistry labels alone. Tying incompatibility determinations to the HMA provides a defensible, risk-informed basis and supports consistent enforcement.

Submitter Information Verification

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Submittal Date: Fri Jan 02 20:30:24 EST 2026

Committee: BAT-AAA



Public Input No. 418-NFPA 800-2026 [Section No. 4.7.2.2]

4.7.2.2

Damaged, defective, or recalled (DDR) batteries or batteries suspected of DDR shall be in accordance with Chapter 5 through Chapter 9. In addition, other effective measures shall be taken, such as water immersion treatment, covering terminals with non-conductive material, isolating from other batteries and combustibles, and storing in a well-ventilated area equipped with fire detection and suppression systems

Statement of Problem and Substantiation for Public Input

In addition to storage in fireproof areas or containers, other necessary measures can be taken to reduce the risk of thermal failure and fire of batteries, such as immersion discharge

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Submittal Date: Thu Jan 29 08:56:32 EST 2026

Committee: BAT-AAA



Public Input No. 31-NFPA 800-2026 [Section No. 4.7.3.2]

4.7.3.2

Packaging used to store cells, batteries, and battery powered equipment (BPE) shall be provided by the manufacturer or ~~shall be equivalent to the packaging provided by the manufacturer-~~ demonstrated to be equivalent. Equivalent packaging shall, at a minimum:

- (1) Protect against physical damage under normal handling.
- (2) Prevent inadvertent contact with terminals and unintentional activation
- (3) Prevent short circuit by insulating or securing terminals
- (4) Retain the contents during normal handling and stacking, and
- (5) Be durable for the intended storage environment

Statement of Problem and Substantiation for Public Input

The phrase "or equivalent" is subjective without defined performance criteria, which can create disputes and inconsistent enforcement. Packaging performance directly affects short-circuit prevention, physical damage prevention, and ignition risk during storage and handling. Providing minimum equivalency criteria establishes a clear compliance baseline without restricting innovation or preventing the use of alternative packaging methods.

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Submittal Date: Fri Jan 02 20:32:11 EST 2026

Committee: BAT-AAA



Public Input No. 439-NFPA 800-2026 [Section No. 4.8.2.2]

4.8.2.2

Facilities shall coordinate training with the emergency responders annually, not to exceed twelve months.

This section is vague in specifying which training is required to complete with local first responders. Given the annual timeframe, specifics are warranted here. Is this a site tour, tabletop exercise, or hands-on? While ReMA supports the intent and concept of the section, it requires greater specificity. More labor-intensive training efforts may not be achievable annually, either by the AHJ or the facility.

Statement of Problem and Substantiation for Public Input

This section is vague in specifying which training is required to complete with local first responders. Given the annual timeframe, specifics are warranted here. Is this a site tour, tabletop exercise, or hands-on? While ReMA supports the intent and concept of the section, it requires greater specificity. More labor-intensive training efforts may not be achievable annually, either by the AHJ or the facility.

Submitter Information Verification

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Submittal Date: Thu Jan 29 10:18:22 EST 2026

Committee: BAT-AAA



Public Input No. 368-NFPA 800-2026 [Section No. 4.8.3.1]

4.8.3.1 * –

~~Battery fires shall be managed using methods appropriate for the chemistry involved. (See Annex D.)~~

Statement of Problem and Substantiation for Public Input

This section places a requirement on a facility owner that is the responsibility of the responding agency. Although the owner could, and should, provide detailed information about battery chemistry to first responders and occupants with the ability to provide manual suppression, making this a requirement creates undue burden in which the facility owner would be unable to meet the requirement on behalf of a responding agency.

Submitter Information Verification

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Submittal Date: Wed Jan 28 10:57:17 EST 2026

Committee: BAT-AAA



Public Input No. 209-NFPA 800-2026 [Section No. 4.10.1]

4.10.1 Routine Inspections.

4.10.1.1

Inspection, testing, and maintenance (of what) shall be in accordance with the applicable code or standard.

4.10.1.2

Storage racks, enclosures, and electrical connections shall be inspected yearly, not to exceed twelve months.

Statement of Problem and Substantiation for Public Input

The ITM requirement is under general but it does not tell the user what should be ITM should be accomplished and on what.

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Submittal Date: Tue Jan 20 08:42:04 EST 2026

Committee: BAT-AAA



Public Input No. 498-NFPA 800-2026 [New Section after 4.10.1.2]

4.10.1.3*

Cell and battery usage shall be reviewed at least annually to verify continued compliance with the facility's HMA.

Statement of Problem and Substantiation for Public Input

Hazardous mitigation analyses are developed based on specific assumptions regarding the type, quantity, configuration, and condition of materials present within a facility. For facilities utilizing lithium-ion cells and batteries, these parameters can change over time without obvious physical alterations to the building or protection systems. Changes such as increases in storage volume, variations in battery state of charge, modifications to manufacturing or testing processes, or changes in battery configuration can significantly alter the fire and explosion hazards present. Without periodic review, an HMA may no longer accurately represent actual operating conditions, potentially resulting in inadequate protection measures.

Requiring an annual review of cell and battery usage against the facility's HMA ensures that evolving operational conditions are evaluated and that protection strategies remain appropriate throughout the lifecycle of the facility. This review aligns with existing NFPA approaches to hazardous materials management and supports consistent enforcement by authorities having jurisdiction.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 499-NFPA 800-2026 [New Section after A.4.8.3.1]</u>	Annex section for the proposed new section 4.10.1.3.
<u>Public Input No. 499-NFPA 800-2026 [New Section after A.4.8.3.1]</u>	

Submitter Information Verification

Submitter Full Name: Jon Reymann

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Submittal Date: Thu Jan 29 15:13:33 EST 2026

Committee: BAT-AAA



Chapter 5 Manufacturing; Assembly; and Laboratory Research, Development and Testing

5.1* Scope.

The requirements in this chapter shall apply to facilities that meet any of the following criteria related to battery cells, blocs, modules, or packs:

- (1) Manufacture, recondition, repurpose or assemble
- (2) Perform research and development (R&D)
- (3) Perform destructive or non-destructive indoor or outdoor testing
- (4) Perform return material analysis (RMA)

5.1.1 Facilities engaged in reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery production shall meet the fire protection and safety standards in accordance with this code.

5.2 General Requirements.

5.2.1 Facility Classification.

5.2.1.1*

Occupancy classifications shall be in accordance with NFPA 101.

5.2.1.2*

Facilities processing flammable electrolytes or lithium-based materials shall be classified based on hazardous material quantity thresholds as defined in NFPA 400.

5.2.1.2.1

The AHJ shall be permitted to increase the classification in accordance with the HMA.

~~**5.2.1.3-**~~

~~Facilities engaged in reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery production shall meet the fire protection and safety standards in accordance with this code.~~

~~5.2.1.3.1_*~~

The HMA shall evaluate the hazard of contents for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte production or R&D facilities.

5.2.2 Means of Egress.

5.2.2.1

Exit routes, egress pathways, and emergency exits shall comply with applicable provisions of NFPA 101 or the locally adopted building code.

5.2.2.2*

The design and construction of production lines, conveyors, and physical obstacles shall be designed and constructed to allow direct access to exits and not allow entrapment of personnel.

5.2.3 Fire Protection and Life Safety.

5.2.3.1* Automatic Sprinkler Protection.

An automatic sprinkler system in accordance with the HMA shall be provided throughout battery manufacturing facilities, battery assembly facilities, and facilities or portions of facilities involving in R&D and testing of batteries.

5.2.3.1.1

The HMA shall address the specific chemistries that are manufactured, assembled, or tested within the facility.

5.2.3.1.2

The automatic sprinkler system shall be designed in accordance with NFPA 13.

5.2.3.1.3

The active fire protection system design for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery production and R&D facilities shall be in accordance with the HMA.

5.2.3.2 Inspection, Testing, and Maintenance.

The inspection, testing, and maintenance of the automatic sprinkler system shall comply with NFPA 25.

5.2.3.3 Fire Detection.

Automatic fire detection shall be provided for each stage of battery manufacturing and assembly facilities, as well as facilities or portions thereof involving R&D or testing of batteries.

5.2.3.3.1*

The facility shall be protected by a fire alarm system when required by the HMA.

5.2.3.3.2*

The fire detection system design for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery production and R&D facilities shall be per the HMA.

5.2.3.3.3*

Public mode audible and visual occupant notification shall be provided in accordance with *NFPA 72*, or an equivalent.

5.2.3.4 Fire-Resistant Separations.

Except where specified in this chapter, fire resistance separations shall be in accordance with the adopted building or fire code.

5.2.3.4.1*

The HMA shall determine an increase in the fire resistance rating where the state-of-charge (SOC) is greater than 30 percent for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte.

5.2.4 Hazardous Materials and Chemical Handling.

5.2.4.1

Electrolytes, solvents, and flammable materials used in manufacturing shall be handled in accordance with NFPA 30 and NFPA 400.

5.2.4.2

Combustible dusts shall be handled in accordance with NFPA 660.

5.2.4.3*

Employees handling hazardous chemicals shall be trained in compliance with OSHA 29 CFR 1910.1200, "Hazardous Communication (HAZCOM)," or an equivalent global hazard system (GHS) for their local jurisdiction.

5.2.4.4*

Spill containment and hazardous waste disposal shall comply with NFPA 1 or the locally adopted fire code and other applicable governmental regulations.

5.2.5 Administrative Controls.

5.2.5.1

A housekeeping program shall be developed to minimize accumulations of fugitive dust and other combustible materials in accordance with NFPA 660 when required based on the HMA.

5.2.5.2

Separate written procedures shall be developed for handling end-of-life (EOL) damaged, defective, or recalled (DDR) cells, blocks, modules, or batteries.

5.2.5.2.1

These procedures and plans shall be posted in all manufacturing areas.

5.2.5.2.2

All manufacturing personnel implementing these procedures shall be trained in doing so.

5.2.5.3*

Written procedures shall be developed in accordance with Section 4.8 for emergency response to a thermal runaway event.

5.2.5.4*

A documented management of change (MoC) program that includes revisions to the HMA shall be developed and maintained on-site.

5.2.5.4.1

Written procedures shall be established and implemented to manage proposed changes to materials, staffing, job tasks, technology, equipment, procedures, and facilities.

5.2.5.4.2*

Implementation of the MoC procedure shall not be required for replacements in kind.

5.2.5.5*

To ensure that employees are knowledgeable about fire and explosion hazards in their work environment, initial and yearly trainings shall be provided on the procedures addressed in 5.2.5.1 through 5.2.5.3.

5.2.6 Personal Protective Equipment (PPE)

5.2.6.1*

An assessment of workplace hazards shall be part of the HMA to determine PPE requirements for facility personnel.

5.2.6.1.1*

Arc flash hazards shall be evaluated in accordance with *NFPA 70E*.

5.2.6.1.2

Appropriate protection and signage shall be provided in accordance with *NFPA 70* and *NFPA 70E*.

5.2.6.1.3

Flash fire hazards shall be evaluated in accordance with *NFPA 2113*.

5.2.6.1.4

Clothing requirements shall be adopted in accordance with the evaluation required by 5.2.6.1.3.

5.2.6.2

Personnel shall be provided with and wear flame-resistant garments where flame-resistant garments have been identified as necessary in accordance with 5.2.6.1.

5.2.6.2.1

Arc-rated and arc-resistant clothing required for protecting personnel against arc flash hazards shall comply with *NFPA 70E*, or an equivalent per the AHJ.

5.2.6.2.2

Flame-resistant clothing required for protecting personnel against flash fire hazards shall comply with *NFPA 2112*.

5.2.6.3

PPE required for chemical protection shall comply with *NFPA 1990*.

5.3* Manufacturing Area Requirements.

5.3.1 Flammable and Combustible Liquids.

5.3.1.1

Storage, dispensing, use, processing, and handling of ignitable liquids shall be in accordance with *NFPA 30*.

5.3.2 Combustible Particulate Solids and Combustible Dusts.

Processing, dispensing, use, handling or generation of combustible dusts shall be in accordance with *NFPA 660*.

5.3.3 Process Equipment Fire and Explosion Protection.

5.3.3.1 General.

5.3.3.1.1

An HMA shall be conducted to identify fire and explosion hazards associated with battery manufacturing equipment.

5.3.3.1.1.1

The HMA shall address foreseeable failure modes in equipment, processes, or personnel handling that lead to thermal events.

5.3.3.1.2*

Where a fire hazard exists in an equipment enclosure as determined in 5.3.3.1.1, manual and automatic fire protection means shall be provided in accordance with the HMA.

5.3.3.1.3*

Automatic fire protection systems shall be provided in accordance 5.2.3.1.

5.3.3.1.4

Where an explosion hazard exists in an equipment enclosure as determined in 5.3.3.1.1, explosion protection shall be provided in accordance with NFPA 68 or NFPA 69.

5.3.3.2 Ignition Source Control.

5.3.3.2.1

Ignition hazards associated with hazardous (classified) locations shall be managed in accordance with 4.4.5.

5.3.3.2.2*

Equipment handling flammable vapors, mists, or dust shall be constructed of conductive or static-dissipative materials, with grounding and bonding in accordance with *NFPA 70*.

5.3.3.2.3

Hot work shall be conducted in accordance with NFPA 51B.

5.3.3.3 Ovens and Furnaces.

Drying ovens shall be designed, installed, and maintained in accordance with NFPA 86.

5.3.4 Process-Specific Requirements.

5.3.4.1 Electrode Manufacturing. (Reserved)

5.3.4.2* Cell Assembly.

5.3.4.2.1

Welding and heat-sealing processes shall be in accordance with NFPA 51B.

5.3.4.2.2

Battery assembly workstations shall be constructed from noncombustible materials.

5.3.4.2.2.1*

Battery assembly workstations constructed from conductive materials shall have their structural components bonded to each other and bonded to ground.

5.3.4.2.2.2

Grounding and bonding connections shall be in accordance with *NFPA 70*.

5.3.4.2.3

Compressed gases used in welding or sealing shall be stored in accordance with NFPA 55.

5.3.4.3* Electrolyte Filling and Cell Sealing.

5.3.4.3.1*

Reactive metal chemistry or reactive ion chemistry batteries with flammable liquid electrolyte filling stations shall be Class I, Division 2 in accordance with *NFPA 70*.

5.3.4.3.2

Combustible gas detection and ventilation systems for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery manufacturing facilities shall interface with an explosion prevention system in accordance with NFPA 69 where required by the HMA.

5.3.4.3.3

Eyewash stations and emergency showers shall be installed in accordance with ANSI/ISEA Z358.1, *American National Standard for Emergency Eyewash and Shower Equipment*.

5.3.4.3.4*

Cells filled with electrolyte that are capped to prevent vapor from being liberated to the atmosphere shall be considered as closed use in accordance with NFPA 400.

5.3.4.4* Formation Cycling and Battery Activation.

5.3.4.4.1*

Fire suppression systems shall be installed in formation rooms for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries in accordance with the HMA.

5.3.4.4.2*

Automatic detection and fire protection systems for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery formation rooms and formation equipment shall be designed and installed as stipulated in the HMA.

5.3.4.4.3

Dedicated mechanical exhaust ventilation shall be provided where battery charging operations are performed for aqueous electrolyte batteries and where the HMA (see Section 4.3) analysis identifies a risk of the production of flammable gases under normal circumstances for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries.

5.3.4.4.3.1

Where required by the calculations in 5.6.3, mechanical exhaust shall consist of enclosures or hoods designed in accordance with that subsection.

5.3.4.4.4* Rack Storage and Automated Storage Systems.

Formation areas and aging areas for reactive metal chemistry and reactive ion chemistry shall be protected with flammable liquid electrolyte per the HMA.

5.3.4.4.4.1*

Automatic sprinkler protection for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery formation and aging areas shall be protected as stipulated in the HMA.

5.3.4.4.4.2

A minimum of 2 in. (5 cm) of clearance shall be provided between in-rack sprinkler piping/sprinklers and automated storage crane ranges of motion.

5.3.4.4.4.3

In-field validation shall be documented for AHJ approval.

5.3.4.4.4.4*

Ceiling-level sprinkler protection beyond the storage area for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries shall be designed to protect the surrounding occupancy.

5.3.4.4.4.5*

The sprinkler system for reactive metal chemistry and reactive metal ion chemistry with flammable liquid electrolyte batteries shall be hydraulically calculated for a hose stream of 500 gpm (1900 L/min) and a minimum duration of 2 hours.

5.3.4.4.4.6*

If the HMA for reactive metal battery production facilities recommends an automated storage and retrieval system (ASRS), automated storage cranes shall be capable of removing a cell magazine and depositing it into an adjacent water tank upon detection of cell thermal runaway per 5.3.4.4.3.

5.3.4.4.4.7

See Chapter 6 for additional storage requirements for the aging area that have not been covered in this section.

5.3.4.5 Battery Testing.

Whether at the battery manufacturing facility or at another manufacturing facility using battery packs or modules in their end-use products, end-of-line testing and repair shall be considered fire protection measures in the HMA.

5.3.4.6* Returned, Rejected, and Field-Removed Batteries.

Returned, rejected, or field-removed batteries that are undergoing evaluation or are known to be defective or suspect, including RMA units, warranty returns, and disassembled modules or cells, shall be separated from other battery manufacturing areas.

5.4 Battery Storage.

Battery storage in battery manufacturing facilities shall be protected in accordance with this section and Chapter 6.

5.4.1* Incidental Storage.

5.4.1.1

See Chapter 6 for storage requirements not covered in this section.

5.4.1.2*

Incidental storage shall be protected based on the HMA.

5.4.1.3*

Automatic sprinkler protection for incidental storage shall be protected in accordance with NFPA 13 for expanded and nonexpanded, cartoned Group A plastics.

5.4.2 Defective and Suspect Batteries.

5.4.2.1

Batteries stored in quarantine areas shall be in accordance with Chapter 6.

5.5 Research, Development, and Testing.

5.5.1

Equipment used for research, development, and testing of batteries shall be designed for the intended use.

5.5.2

An HMA for R&D and testing facilities for reactive metal chemistry and reactive ion chemistry with flammable liquid electrolyte batteries shall be required to evaluate hazards and controls.

5.6 Explosion Prevention and Gas Management.

5.6.1 Hazard Identification.

The HMA shall identify all areas in the facility where explosion hazards exist.

5.6.2* Explosion Prevention.

5.6.2.1*

Where an explosion hazard exists, explosion prevention shall be provided via one of the following methods:

- (1) Explosion protection by deflagration venting in accordance with NFPA 68
- (2) Explosion prevention by combustible concentration reduction in accordance with NFPA 69

5.6.3* Ventilation.

5.6.3.1*

A dedicated, mechanical exhaust system shall be provided where operations, under normal operating conditions and in the absence of such exhaust, could result in concentrations of flammable vapors, gases, fumes, mists, or dusts greater than 25 percent of the lower flammability limit (LFL) of combustible substances or 25 percent of the IDLH for toxic gases at the expected room temperature.

5.6.3.1.1

If there are no calculations to determine whether additional mechanical exhaust ventilation would be required under normal operating conditions, above what is minimally required for the occupancy classification of the room or area in accordance with the local building code, a minimum normal ventilation rate of not less than 1 cfm/ft² (18.3 m³/h per m²) of floor area shall be provided.

5.6.3.1.2

Where required under normal operating conditions due to the hazard potential, exhaust systems shall comply with NFPA 91.

5.6.3.1.3*

Where required due to the hazard potential (see the HMA, Section 4.3), fan blades utilized by the ventilation system shall be of non-sparking construction.

5.6.3.1.4

Makeup air shall be taken from areas where ignitable vapors or dusts are not present.

5.6.3.1.5

Exhaust outlets shall be located toward the top of an enclosure or room where gases are lighter-than-air, and toward the bottom of the enclosure where gases are heavier-than-air.

5.6.3.1.6

The bottom of air inlets shall be no greater than 6 in. (15 cm) above the floor.

5.6.3.1.7

Where required under normal operating conditions due to a hazard potential, exhaust ventilation shall be monitored by the fire alarm system and interlocked to enable automatic shutdown of the protected process in the event of failure of the ventilation system.

5.6.3.2*

Where ventilation is used for explosion prevention for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries, the required ventilation rate shall be determined from an engineering analysis in accordance with NFPA 69; or an emergency ventilation rate of 150 percent of the normal ventilation rate, shall be automatically activated, upon gas detection installed in accordance with 5.6.2.

5.6.3.2.1

Emergency ventilation for explosion prevention shall be automatically activated by gas detection in accordance with NFPA 69 and 5.6.4.

5.6.4 Gas Detection.

5.6.4.1*

Combustible and carbon monoxide gas detection shall be provided in all manufacturing and storage areas where explosion hazards associated with thermal runaway from reactive metal chemistry batteries or reactive ion chemistry batteries with flammable liquid electrolyte have been identified in accordance with 5.6.1.

5.6.4.2

For wet coating operations and drying operations with cells/batteries using carbonate electrolytes, combustible gas detection shall be used where indicated by the HMA.

5.6.4.2.1

For wet coating operations and drying operations that use NMP solvents, specialized NMP detectors shall be used where indicated by the HMA.

5.6.4.3*

For reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries, hydrogen fluoride (HF) detection shall be used in filling and formation/activation areas if indicated by the HMA.

5.6.4.4*

Combustible gas detectors shall be designed to alarm at a threshold of 25 percent of the LFL or less.

5.6.4.5*

Gas detection systems shall be designed, installed, tested, and maintained in accordance with *NFPA 72*.

5.7 Emergency Response.

5.7.1 Emergency Action Plan.

5.7.1.1*

Facilities shall implement an emergency response plan (ERP) in accordance with NFPA 1660 or an equivalent standard per the AHJ.

5.7.1.1.1*

OEMs assembling equipment that contains a battery pack rated at 1 kWh or greater shall implement an ERP that includes emergency response guidance from the battery module or pack manufacturer.

5.7.1.1.2*

See Chapter 4 for further guidance on emergency response plans.

5.8 Inspection, Testing, and Maintenance. (Reserved)

5.9 Compliance and Recordkeeping.

5.9.1

Incident logs shall be maintained in accordance with OSHA 29 CFR 1904, "Recording and Reporting Occupational Injuries and Illnesses," or an equivalent regulation per the AHJ.

5.9.2

Safety training records shall be documented for at least three years.

It seems current draft section 5.2.1.3 should be included as part of the chapter's scope. I propose relocating it to the scope section.

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Committee: BAT-AAA



Chapter 5 Manufacturing; Assembly; and Laboratory Research, Development and Testing

5.1 * – Scope:

The requirements in this chapter shall apply to facilities that meet any of the following criteria related to battery cells, blocs, modules, or packs:

- (1) Manufacture, recondition, repurpose or assemble
- (2) Perform research and development (R&D)
- (3) Perform destructive or non-destructive indoor or outdoor testing
- (4) Perform return material analysis (RMA)

5.2 – General Requirements:

5.2.1 – Facility Classification:

5.2.1.1 * –

Occupancy classifications shall be in accordance with NFPA 101.

5.2.1.2 * –

Facilities processing flammable electrolytes or lithium-based materials shall be classified based on hazardous material quantity thresholds as defined in NFPA 400.

5.2.1.2.1 –

The AHJ shall be permitted to increase the classification in accordance with the HMA.

5.2.1.3 –

Facilities engaged in reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery production shall meet the fire protection and safety standards in accordance with this code.

5.2.1.3.1 * –

The HMA shall evaluate the hazard of contents for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte production or R&D facilities.

5.2.2 – Means of Egress:

5.2.2.1 –

Exit routes, egress pathways, and emergency exits shall comply with applicable provisions of NFPA 101 or the locally adopted building code.

5.2.2.2 * –

The design and construction of production lines, conveyors, and physical obstacles shall be designed and constructed to allow direct access to exits and not allow entrapment of personnel.

5.2.3 – Fire Protection and Life Safety:

5.2.3.1 * – Automatic Sprinkler Protection:

An automatic sprinkler system in accordance with the HMA shall be provided throughout battery manufacturing facilities, battery assembly facilities, and facilities or portions of facilities involving in R&D and testing of batteries.

5.2.3.1.1 –

The HMA shall address the specific chemistries that are manufactured, assembled, or tested within the facility.

5.2.3.1.2 –

The automatic sprinkler system shall be designed in accordance with NFPA 13.

5.2.3.1.3 –

The active fire protection system design for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery production and R&D facilities shall be in accordance with the HMA.

5.2.3.2 – Inspection, Testing, and Maintenance:

The inspection, testing, and maintenance of the automatic sprinkler system shall comply with NFPA 25.

5.2.3.3 – Fire Detection:

Automatic fire detection shall be provided for each stage of battery manufacturing and assembly facilities, as well as facilities or portions thereof involving R&D or testing of batteries.

5.2.3.3.1 * –

The facility shall be protected by a fire alarm system when required by the HMA.

5.2.3.3.2 * –

The fire detection system design for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery production and R&D facilities shall be per the HMA.

5.2.3.3.3 * –

Public mode audible and visual occupant notification shall be provided in accordance with *NFPA 72*, or an equivalent.

5.2.3.4 – Fire-Resistant Separations:

Except where specified in this chapter, fire resistance separations shall be in accordance with the adopted building or fire code.

5.2.3.4.1 * –

The HMA shall determine an increase in the fire resistance rating where the state-of-charge (SOC) is greater than 30 percent for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte.

5.2.4 – Hazardous Materials and Chemical Handling:

5.2.4.1 –

Electrolytes, solvents, and flammable materials used in manufacturing shall be handled in accordance with NFPA 30 and NFPA 400.

5.2.4.2 –

Combustible dusts shall be handled in accordance with NFPA 660.

5.2.4.3 * –

Employees handling hazardous chemicals shall be trained in compliance with OSHA 29 CFR 1910.1200; "Hazardous Communication (HAZCOM)," or an equivalent global hazard system (GHS) for their local jurisdiction.

5.2.4.4 * –

Spill containment and hazardous waste disposal shall comply with NFPA 1 or the locally adopted fire code and other applicable governmental regulations.

5.2.5 – Administrative Controls:

5.2.5.1 –

A housekeeping program shall be developed to minimize accumulations of fugitive dust and other combustible materials in accordance with NFPA 660 when required based on the HMA.

5.2.5.2 –

Separate written procedures shall be developed for handling end-of-life (EOL) damaged, defective, or recalled (DDR) cells, blocks, modules, or batteries.

5.2.5.2.1 –

These procedures and plans shall be posted in all manufacturing areas.

5.2.5.2.2 –

All manufacturing personnel implementing these procedures shall be trained in doing so.

5.2.5.3 * –

Written procedures shall be developed in accordance with Section 4.8 for emergency response to a thermal runaway event.

5.2.5.4 * –

A documented management of change (MoC) program that includes revisions to the HMA shall be developed and maintained on-site.

5.2.5.4.1 –

Written procedures shall be established and implemented to manage proposed changes to materials, staffing, job tasks, technology, equipment, procedures, and facilities.

5.2.5.4.2 * –

Implementation of the MoC procedure shall not be required for replacements in kind.

5.2.5.5 * –

To ensure that employees are knowledgeable about fire and explosion hazards in their work environment, initial and yearly trainings shall be provided on the procedures addressed in 5.2.5.1 through 5.2.5.3 :

5.2.6 – Personal Protective Equipment (PPE)

5.2.6.1 * –

An assessment of workplace hazards shall be part of the HMA to determine PPE requirements for facility personnel.

5.2.6.1.1 * –

Arc flash hazards shall be evaluated in accordance with NFPA 70E :

5.2.6.1.2 –

Appropriate protection and signage shall be provided in accordance with NFPA 70 and NFPA 70E :

5.2.6.1.3 –

Flash fire hazards shall be evaluated in accordance with NFPA 2113.

5.2.6.1.4 –

Clothing requirements shall be adopted in accordance with the evaluation required by 5.2.6.1.3 :

5.2.6.2 –

Personnel shall be provided with and wear flame-resistant garments where flame-resistant garments have been identified as necessary in accordance with 5.2.6.1 :

5.2.6.2.1 –

Arc-rated and arc-resistant clothing required for protecting personnel against arc flash hazards shall comply with NFPA 70E , or an equivalent per the AHJ.

5.2.6.2.2 –

Flame-resistant clothing required for protecting personnel against flash fire hazards shall comply with NFPA 2112.

5.2.6.3 –

PPE required for chemical protection shall comply with NFPA 4990.

5.3 * – Manufacturing Area Requirements:

5.3.1 – Flammable and Combustible Liquids:

5.3.1.1 –

Storage, dispensing, use, processing, and handling of ignitable liquids shall be in accordance with NFPA 30.

5.3.2 – Combustible Particulate Solids and Combustible Dusts:

Processing, dispensing, use, handling or generation of combustible dusts shall be in accordance with NFPA 660.

5.3.3 – Process Equipment Fire and Explosion Protection:

5.3.3.1 – General:

5.3.3.1.1 –

An HMA shall be conducted to identify fire and explosion hazards associated with battery manufacturing equipment.

5.3.3.1.1.1 –

The HMA shall address foreseeable failure modes in equipment, processes, or personnel handling that lead to thermal events:

5.3.3.1.2* –

Where a fire hazard exists in an equipment enclosure as determined in 5.3.3.1.1, manual and automatic fire protection means shall be provided in accordance with the HMA.

5.3.3.1.3* –

Automatic fire protection systems shall be provided in accordance 5.2.3.4 :

5.3.3.1.4 –

Where an explosion hazard exists in an equipment enclosure as determined in 5.3.3.1.1, explosion protection shall be provided in accordance with NFPA 68 or NFPA 69.

5.3.3.2 – Ignition Source Control:

5.3.3.2.1 –

Ignition hazards associated with hazardous (classified) locations shall be managed in accordance with 4.4.5 :

5.3.3.2.2* –

Equipment handling flammable vapors, mists, or dust shall be constructed of conductive or static-dissipative materials, with grounding and bonding in accordance with *NFPA 70* :

5.3.3.2.3 –

Hot work shall be conducted in accordance with NFPA 51B:

5.3.3.3 – Ovens and Furnaces:

Drying ovens shall be designed, installed, and maintained in accordance with NFPA 86:

5.3.4 – Process-Specific Requirements:

5.3.4.1 – Electrode Manufacturing- (Reserved)

5.3.4.2* – Cell Assembly:

5.3.4.2.1 –

Welding and heat-sealing processes shall be in accordance with NFPA 51B:

5.3.4.2.2 –

Battery assembly workstations shall be constructed from noncombustible materials:

5.3.4.2.2.1* –

Battery assembly workstations constructed from conductive materials shall have their structural components bonded to each other and bonded to ground:

5.3.4.2.2.2 –

Grounding and bonding connections shall be in accordance with *NFPA 70* :

5.3.4.2.3 –

Compressed gases used in welding or sealing shall be stored in accordance with NFPA 55:

5.3.4.3* – Electrolyte Filling and Cell Sealing:

5.3.4.3.1* –

Reactive metal chemistry or reactive ion chemistry batteries with flammable liquid electrolyte filling stations shall be Class I, Division 2 in accordance with *NFPA 70* :

5.3.4.3.2 –

Combustible gas detection and ventilation systems for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery manufacturing facilities shall interface with an explosion prevention system in accordance with NFPA 69 where required by the HMA.

5.3.4.3.3 –

Eyewash stations and emergency showers shall be installed in accordance with ANSI/ISEA Z358.1; *American National Standard for Emergency Eyewash and Shower Equipment* :

5.3.4.3.4* –

Cells filled with electrolyte that are capped to prevent vapor from being liberated to the atmosphere shall be considered as closed use in accordance with NFPA 400:

5.3.4.4* – Formation Cycling and Battery Activation:

5.3.4.4.1 * –

Fire suppression systems shall be installed in formation rooms for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries in accordance with the HMA.

5.3.4.4.2 * –

Automatic detection and fire protection systems for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery formation rooms and formation equipment shall be designed and installed as stipulated in the HMA.

5.3.4.4.3 –

Dedicated mechanical exhaust ventilation shall be provided where battery charging operations are performed for aqueous electrolyte batteries and where the HMA (see Section 4.3) analysis identifies a risk of the production of flammable gases under normal circumstances for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries.

5.3.4.4.3.1 –

Where required by the calculations in 5.6.3, mechanical exhaust shall consist of enclosures or hoods designed in accordance with that subsection.

5.3.4.4.4 * – Rack Storage and Automated Storage Systems:

Formation areas and aging areas for reactive metal chemistry and reactive ion chemistry shall be protected with flammable liquid electrolyte per the HMA.

5.3.4.4.4.1 * –

Automatic sprinkler protection for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery formation and aging areas shall be protected as stipulated in the HMA.

5.3.4.4.4.2 –

A minimum of 2 in. (5 cm) of clearance shall be provided between in-rack sprinkler piping/sprinklers and automated storage crane ranges of motion.

5.3.4.4.4.3 –

In-field validation shall be documented for AHJ approval.

5.3.4.4.4.4 * –

Ceiling-level sprinkler protection beyond the storage area for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries shall be designed to protect the surrounding occupancy.

5.3.4.4.4.5 * –

The sprinkler system for reactive metal chemistry and reactive metal ion chemistry with flammable liquid electrolyte batteries shall be hydraulically calculated for a hose stream of 500 gpm (1900 L/min) and a minimum duration of 2 hours.

5.3.4.4.4.6 * –

If the HMA for reactive metal battery production facilities recommends an automated storage and retrieval system (ASRS), automated storage cranes shall be capable of removing a cell magazine and depositing it into an adjacent water tank upon detection of cell thermal runaway per 5.3.4.4.3.

5.3.4.4.4.7 –

See Chapter 6 for additional storage requirements for the aging area that have not been covered in this section.

5.3.4.5 – Battery Testing:

Whether at the battery manufacturing facility or at another manufacturing facility using battery packs or modules in their end-use products, end-of-line testing and repair shall be considered fire protection measures in the HMA.

5.3.4.6 * – Returned, Rejected, and Field-Removed Batteries:

Returned, rejected, or field-removed batteries that are undergoing evaluation or are known to be defective or suspect, including RMA units, warranty returns, and disassembled modules or cells, shall be separated from other battery manufacturing areas.

5.4 – Battery Storage:

Battery storage in battery manufacturing facilities shall be protected in accordance with this section and Chapter 6.

5.4.1 * – Incidental Storage:

5.4.1.1 –

See Chapter 6 for storage requirements not covered in this section.

5.4.1.2 * –

Incidental storage shall be protected based on the HMA:

5.4.1.3 * –

Automatic sprinkler protection for incidental storage shall be protected in accordance with NFPA 13 for expanded and nonexpanded, cartoned Group A plastics:

5.4.2 – Defective and Suspect Batteries:

5.4.2.1 –

Batteries stored in quarantine areas shall be in accordance with Chapter 6 :

5.5 – Research, Development, and Testing:

5.5.1 –

Equipment used for research, development, and testing of batteries shall be designed for the intended use:

5.5.2 –

An HMA for R&D and testing facilities for reactive metal chemistry and reactive ion chemistry with flammable liquid electrolyte batteries shall be required to evaluate hazards and controls:

5.6 – Explosion Prevention and Gas Management:

5.6.1 – Hazard Identification:

The HMA shall identify all areas in the facility where explosion hazards exist:

5.6.2 * – Explosion Prevention:

5.6.2.1 * –

Where an explosion hazard exists, explosion prevention shall be provided via one of the following methods:

- (1) Explosion protection by deflagration venting in accordance with NFPA 68
- (2) Explosion prevention by combustible concentration reduction in accordance with NFPA 69

5.6.3 * – Ventilation:

5.6.3.1 * –

A dedicated, mechanical exhaust system shall be provided where operations, under normal operating conditions and in the absence of such exhaust, could result in concentrations of flammable vapors, gases, fumes, mists, or dusts greater than 25 percent of the lower flammability limit (LFL) of combustible substances or 25 percent of the IDLH for toxic gases at the expected room temperature:

5.6.3.1.1 –

If there are no calculations to determine whether additional mechanical exhaust ventilation would be required under normal operating conditions, above what is minimally required for the occupancy classification of the room or area in accordance with the local building code, a minimum normal ventilation rate of not less than 1 cfm/ft² (18.3 m³/h per m²) of floor area shall be provided:

5.6.3.1.2 –

Where required under normal operating conditions due to the hazard potential, exhaust systems shall comply with NFPA 91:

5.6.3.1.3 * –

Where required due to the hazard potential (see the HMA, Section 4.3), fan blades utilized by the ventilation system shall be of non-sparking construction:

5.6.3.1.4 –

Makeup air shall be taken from areas where ignitable vapors or dusts are not present:

5.6.3.1.5 –

Exhaust outlets shall be located toward the top of an enclosure or room where gases are lighter than air, and toward the bottom of the enclosure where gases are heavier than air:

5.6.3.1.6 –

The bottom of air inlets shall be no greater than 6 in. (15 cm) above the floor:

5.6.3.1.7 –

Where required under normal operating conditions due to a hazard potential, exhaust ventilation shall be monitored by the fire alarm system and interlocked to enable automatic shutdown of the protected process in the event of failure of the ventilation system.

5.6.3.2 * –

Where ventilation is used for explosion prevention for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries, the required ventilation rate shall be determined from an engineering analysis in accordance with NFPA 69; or an emergency ventilation rate of 150 percent of the normal ventilation rate, shall be automatically activated, upon gas detection installed in accordance with 5.6.2 :

5.6.3.2.1 –

Emergency ventilation for explosion prevention shall be automatically activated by gas detection in accordance with NFPA 69 and 5.6.4 :

5.6.4 – Gas Detection:

5.6.4.1 * –

Combustible and carbon monoxide gas detection shall be provided in all manufacturing and storage areas where explosion hazards associated with thermal runaway from reactive metal chemistry batteries or reactive ion chemistry batteries with flammable liquid electrolyte have been identified in accordance with 5.6.1 :

5.6.4.2 –

For wet coating operations and drying operations with cells/batteries using carbonate electrolytes, combustible gas detection shall be used where indicated by the HMA:

5.6.4.2.1 –

For wet coating operations and drying operations that use NMP solvents, specialized NMP detectors shall be used where indicated by the HMA:

5.6.4.3 * –

For reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries, hydrogen fluoride (HF) detection shall be used in filling and formation/activation areas if indicated by the HMA:

5.6.4.4 * –

Combustible gas detectors shall be designed to alarm at a threshold of 25 percent of the LFL or less:

5.6.4.5 * –

Gas detection systems shall be designed, installed, tested, and maintained in accordance with *NFPA 72* :

5.7 – Emergency Response:

5.7.1 – Emergency Action Plan:

5.7.1.1 * –

Facilities shall implement an emergency response plan (ERP) in accordance with NFPA 1660 or an equivalent standard per the AHJ:

5.7.1.1.1 * –

OEMs assembling equipment that contains a battery pack rated at 1 kWh or greater shall implement an ERP that includes emergency response guidance from the battery module or pack manufacturer:

5.7.1.1.2 * –

See Chapter 4 for further guidance on emergency response plans:

5.8 – Inspection, Testing, and Maintenance. (Reserved)

5.9 – Compliance and Recordkeeping:

5.9.1 –

Incident logs shall be maintained in accordance with OSHA 29 CFR 1904, "Recording and Reporting Occupational Injuries and Illnesses," or an equivalent regulation per the AHJ:

5.9.2 –

Safety training records shall be documented for at least three years:

The requirements in Chapter 5 are not appropriate for inclusion within a provisionally developed standard and should be reserved for consideration during the subsequent development cycle. The technical committee and task group have failed to demonstrate "a well-established need for the prompt dissemination of information that addresses an emergency situation or other special circumstance." For a provisional standard to warrant inclusion, there must be a compelling and urgent need for rapid dissemination of information to address genuine emergencies or exceptional circumstances - this has yet to be justified or established for the requirements in question. Moreover, NFPA rules and regulations requires that all discussions, debates, and deliberations be firmly grounded in loss history, technical and/or scientific merit. The committee has yet to identify specific articulated hazards associated with each of the proposed requirements with respect to gaps not addressed by existing requirements in prevailing NFPA, ICC, and FM codes.

Compounding the issue, the provisions in Chapter 5 impose excessively burdensome and impractical restrictions, drawn from anecdotal evidence rather than verifiable data. The chapter's overdependence on a Hazard Mitigation Assessment (HMA) places an undue burden on builders, developers, property owners, and AHJ's all while failing to provide basic standardized guidelines for conducting such assessments. Worse still, it largely recycles or conflicts with mature, well-established NFPA standards, making it wholly unsuitable for the expedited pathway of a provisional standard. This approach not only risks undermining the integrity of the standards process but also threatens to introduce confusion, inefficiency, unintended hazards, and unnecessary costs into an already regulated aspect of the prevailing codes.

Fire safety must be grounded in evidence, not perception. The committee is urged to avoid prioritizing haste over rigor. In accordance with ANSI provisional development guidelines and NFPA rules and regulations governing standards development, chapter 5 must be deferred for development through the traditional standards development process. The committee is additionally urged to solicit greater industry involvement from those that have experience in manufacturing, assembly, laboratory research, development and testing.

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Committee: BAT-AAA



Public Input No. 456-NFPA 800-2026 [Section No. 5.1]

5.1* Scope.

The requirements in this chapter shall apply to facilities that meet any of the following criteria related to battery cells, blocs, modules, or packs:

- (1) Manufacture, recondition, repurpose or assemble
- (2) Perform research and development (R&D)
- (3) Perform destructive or non-destructive indoor or outdoor testing
- (4) Perform return material analysis (RMA)

5.1.1* The requirements in this chapter shall not apply to the assembly and installation battery components at the end user location.

* A.5.1.1 Assembly of battery components at the end user location are addressed in chapter 8 and for ESS in NFPA 855.

Statement of Problem and Substantiation for Public Input

Chapter 5 seems to focus on manufacturing and test locations, but batteries can be assembled from finished cells and blocs at an end customer location as well. In these instances, the requirements of chapter 8 should be used. An exclusion for from chapter 5 for these assembly operations is recommended.

Submitter Information Verification

Submitter Full Name: Richard Kluge

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Affiliation: ATIS

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Submittal Date: Thu Jan 29 11:14:53 EST 2026

Committee: BAT-AAA



Public Input No. 566-NFPA 800-2026 [Section No. 5.1]

5.1* Scope.

The requirements in this chapter shall apply to facilities that meet any of the following criteria related to battery cells, ~~blocs~~, modules, or packs:

- (1) Manufacture, recondition, repurpose or assemble
- (2) Perform research and development (R&D)
- (3) Perform destructive or non-destructive indoor or outdoor testing
- (4) Perform return material analysis (RMA)

Statement of Problem and Substantiation for Public Input

"blocs" is not a defined term.

Submitter Information Verification

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Submittal Date: Thu Jan 29 18:29:14 EST 2026

Committee: BAT-AAA



Public Input No. 107-NFPA 800-2026 [Section No. 5.2.1.1]

5.2.1.1*

Occupancy classifications shall be in accordance with NFPA 101 or the local building code .

Statement of Problem and Substantiation for Public Input

To cover jurisdictions that adopt NFPA 800 but not 101

Submitter Information Verification

Submitter Full Name: Kristen Dentici

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Submittal Date: Mon Jan 05 19:02:54 EST 2026

Committee: BAT-AAA



Public Input No. 109-NFPA 800-2026 [Section No. 5.2.1.2]

5.2.1.2*

Facilities ~~processing flammable electrolytes or lithium-based materials shall~~ containing high-hazard contents shall be classified based on hazardous material quantity thresholds as defined in NFPA 400.

5.2.1.2.1

The AHJ shall be permitted to increase the classification in accordance with the HMA.

Statement of Problem and Substantiation for Public Input

I'm not sure what the intent of this section is, but don't think it makes sense to only bound this to specific materials. The facility should be classified based on all contents. Potentially this is addressed elsewhere, but what is the benefit of stating this classification without then referencing NFPA 400 as required either partially or in its entirety?

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Submittal Date: Mon Jan 05 19:10:23 EST 2026

Committee: BAT-AAA



Public Input No. 129-NFPA 800-2026 [Section No. 5.2.1.2 [Excluding any Sub-Sections]]

Facilities processing flammable ~~electrolytes or lithium-based materials~~ (liquid, gas, or solid) electrolyte materials used in batteries (Lithium ion, Sodium ion, etc.) shall be classified based on hazardous material quantity thresholds as defined in NFPA 400.

Statement of Problem and Substantiation for Public Input

Clarification

Submitter Information Verification

Submitter Full Name: Jackie Huynh

Organization: Pacific Northwest National Laboratory

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Zip:

Submittal Date: Wed Jan 07 16:39:39 EST 2026

Committee: BAT-AAA



Public Input No. 34-NFPA 800-2026 [Section No. 5.2.1.2 [Excluding any Sub-Sections]]

Facilities processing flammable electrolytes- ~~or lithium-based materials~~ , solvents, or reactive metal materials (including alkali metals such as lithium, sodium, potassium, and their alloys or compounds, as applicable) shall be classified based on hazardous material quantity thresholds as defined in NFPA 400.

Statement of Problem and Substantiation for Public Input

As written, the trigger is limited to "lithium-based materials," but the apparent intent is to capture reactive metal hazards and hazardous materials thresholds. Other chemistries and materials used in battery R&D/manufacturing can present similar or greater reactivity/handling hazards. Aligning with "reactive metal chemistry" terminology improves clarity, scope, and enforceability.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

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Submittal Date: Mon Jan 05 13:50:13 EST 2026

Committee: BAT-AAA



Public Input No. 567-NFPA 800-2026 [Section No. 5.2.1.2 [Excluding any Sub-Sections]]

Facilities ~~processing flammable electrolytes or lithium-based~~ storing or using hazardous materials shall be classified based on hazardous material quantity thresholds as defined in NFPA 400.

Statement of Problem and Substantiation for Public Input

Expand to include all hazardous materials.

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

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Submittal Date: Thu Jan 29 18:30:31 EST 2026

Committee: BAT-AAA



Public Input No. 110-NFPA 800-2026 [Section No. 5.2.1.3 [Excluding any Sub-Sections]]

Facilities engaged in reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery production shall meet the fire protection and safety standards in accordance with this code.

Statement of Problem and Substantiation for Public Input

Is this intended to be a scoping statement (i.e. these facilities manufacturing, assembling, etc. these types of batteries need to comply with this Chapter?)? This section should be moved to 5.1 if so, otherwise should be removed. Otherwise, are other types of batteries required to comply with this Chapter, but not required to meet fire protection and safety standards? If for some reason that is the case, then this separation needs to be made much more clear.

Submitter Information Verification

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Submittal Date: Mon Jan 05 19:21:02 EST 2026

Committee: BAT-AAA



Public Input No. 370-NFPA 800-2026 [Section No. 5.2.1.3 [Excluding any Sub-Sections]]

Facilities engaged in reactive metal chemistry or reactive ion chemistry with flammable liquid ~~electrolyte~~ electrolyte ~~battery production shall~~ electrolyte shall meet the fire protection and safety standards in accordance with this code.

Statement of Problem and Substantiation for Public Input

Only applies to facility engaged in battery production, other facility covered under scope (Section5.1) are exempt from fire protection and safety standards. if any facility that need to exempt from not meeting fire protection and safety standard need to document.

Submitter Information Verification

Submitter Full Name: Anujkumar Amin

Organization: CSA Group

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City:

State:

Zip:

Submittal Date: Wed Jan 28 11:52:07 EST 2026

Committee: BAT-AAA



Public Input No. 111-NFPA 800-2026 [Section No. 5.2.1.3.1]

5.2.1.3.1*

The HMA shall evaluate the hazard of contents for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte production or R&D facilities.

Statement of Problem and Substantiation for Public Input

This should be relocated away from the facility classification section, and added to a section specific to content to be addressed in the HMA.

Submitter Information Verification

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Submittal Date: Mon Jan 05 19:25:34 EST 2026

Committee: BAT-AAA



Public Input No. 210-NFPA 800-2026 [Section No. 5.2.2.1]

5.2.2.1

~~Exit routes, egress pathways, and emergency exits shall~~ Means of egress shall comply with applicable provisions of NFPA 101 or the ~~locally adopted~~ building code.

Statement of Problem and Substantiation for Public Input

Means of egress covers all the items listed as well as configuration, arrangement etc.

Submitter Information Verification

Submitter Full Name: Steven Sawyer

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Zip:

Submittal Date: Tue Jan 20 08:44:28 EST 2026

Committee: BAT-AAA



Public Input No. 255-NFPA 800-2026 [Section No. 5.2.2.2]

5.2.2.2*

The design and construction of production lines, conveyors, and placement of physical fixed obstacles shall ~~be designed and constructed~~ have special considerations to allow direct access to exits and not ~~allow~~ entrapment ~~result in entrapment~~ of personnel.

Statement of Problem and Substantiation for Public Input

Fixed physical objects need to be considered to ensure sufficient egress paths are kept in production lines.

Submitter Information Verification

Submitter Full Name: Benjamin Woods

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Submittal Date: Mon Jan 26 14:31:50 EST 2026

Committee: BAT-AAA



Public Input No. 314-NFPA 800-2026 [Section No. 5.2.2.2]

5.2.2.2*

~~The design and construction of production lines, conveyors, and physical obstacles shall be designed and constructed to allow direct access to exits and not allow entrapment of personnel.~~

Statement of Problem and Substantiation for Public Input

5.2.2.2 I do not see any reason to state this regarding assembly lines and conveyor design and construction. It is already stated to follow NFPA101 in 5.2.2.1

Submitter Information Verification

Submitter Full Name: Gary Balash

Organization: East Penn Manufacturing Compan

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State:

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Submittal Date: Tue Jan 27 09:55:39 EST 2026

Committee: BAT-AAA



Public Input No. 35-NFPA 800-2026 [Section No. 5.2.2.2]

5.2.2.2*

~~The design and construction of production~~ Production lines, conveyors, and physical obstacles shall be designed and constructed to allow direct access to exits and not allow entrapment of personnel. arranged so they do not obstruct the required means of egress, reduce required exit access widths, or create dead-end exit access conditions. Required exit access shall remain continuously available.

Statement of Problem and Substantiation for Public Input

The current text reads like a design directive without measurable criteria. The revised text ties it directly to objective egress concepts (obstruction, width, dead-end). That keeps the intent (avoid trapping personnel) without duplicating building-code text verbatim.

Submitter Information Verification

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Submittal Date: Mon Jan 05 14:26:17 EST 2026

Committee: BAT-AAA



5.2.3 Fire Protection and Life Safety.

5.2.3.1* Automatic Sprinkler Protection.

An automatic sprinkler system in accordance with the HMA shall be provided throughout battery manufacturing facilities, battery assembly facilities, and facilities or portions of facilities involving in R&D and testing of batteries.

5.2.3.1.1

The HMA shall address the specific chemistries that are manufactured, assembled, or tested within the facility.

5.2.3.1.2

The automatic sprinkler system shall be designed in accordance with NFPA 13.

5.2.3.1.3

The active fire protection system design for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery production and R&D facilities shall be in accordance with the HMA.

5.2.3.2 Inspection, Testing, and Maintenance.

The inspection, testing, and maintenance of the automatic sprinkler system shall comply with NFPA 25.

5.2.3.3 Fire Detection.

Automatic fire detection shall be provided for each stage of battery manufacturing and assembly facilities, as well as facilities or portions thereof involving R&D or testing of batteries.

5.2.3.3.1*

The facility shall be protected by a fire alarm system when required by the HMA.

5.2.3.3.2*

The fire detection system design for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery production and R&D facilities shall be per the HMA.

5.2.3.3.3*

Public mode audible and visual occupant notification shall be provided in accordance with *NFPA 72*, or an equivalent.

5.2.3.4 Fire-Resistant Separations.

Except where specified in this chapter, fire resistance separations shall be in accordance with the adopted building or fire code.

5.2.3.4.1*

The HMA shall determine an increase in the fire resistance rating where the state-of-charge (SOC) is greater than 30 percent for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte.

Statement of Problem and Substantiation for Public Input

No change is proposed to the text; this comment addresses the approach used in this chapter and throughout the draft. NFPA 800 is being developed as a code; while performance-based elements and use of an HMA are appropriate, repeated reliance on "as determined by the HMA" as the primary compliance pathway can result in inconsistent application between jurisdictions, variable owner/operator obligations, and reduced enforceability for AHJs. A code is most effective when it establishes a minimum prescriptive baseline for common, repeatable hazards, with the HMA used to supplement and increase requirements as warranted by the specific hazard profile. The draft would be improved by adding prescriptive minimum criteria for frequent applications and hazards (for example, sprinkler protection expectations for typical areas such as storage and formation/aging, minimum ventilation and gas management criteria, minimum explosion prevention/control triggers, baseline detection/alarm and notification expectations, and minimum isolation/segregation concepts for off-specification and DDR batteries). As written, the draft frequently functions as a performance-based framework rather than a code with clear, enforceable minimum requirements.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 44-NFPA 800-2026 [Section No. 5.3.3.1]	
Public Input No. 45-NFPA 800-2026 [Section No. 5.3.4]	
Public Input No. 46-NFPA 800-2026 [Section No. 5.4]	
Public Input No. 47-NFPA 800-2026 [Section No. 5.6]	
Public Input No. 106-NFPA 800-2026 [Sections 6.2.3.1.1, 6.2.3.1.2]	
Public Input No. 108-NFPA 800-2026 [Sections 6.2.5.3.1, 6.2.5.3.2]	

Submitter Information Verification

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Submittal Date: Mon Jan 05 15:06:57 EST 2026

Committee: BAT-AAA



Public Input No. 112-NFPA 800-2026 [Section No. 5.2.3.1]

5.2.3.1* Automatic Sprinkler Protection.

An automatic sprinkler ~~system in accordance with the HMA shall be provided~~ system shall be installed throughout battery manufacturing facilities, battery assembly facilities, and facilities or portions of facilities involving in R&D and testing of batteries in accordance with NFPA 13 or equivalent .

5.2.3.1.1

The HMA shall ~~address the~~ provide the basis of design for the automatic sprinkler system based on the specific chemistries that are manufactured, assembled, or tested within the facility.

5.2.3.1.2 ~~3~~

The automatic sprinkler system ~~shall be designed in accordance with NFPA 13.~~

5.2.3.1.3 ~~–~~

~~The active fire protection system~~ design for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery production and R&D facilities shall be in accordance with the HMA.

5.2.3.1.4

Other automatic fire control and suppression systems installed in accordance with applicable standards shall be permitted when recommended by the HMA.

Statement of Problem and Substantiation for Public Input

Primarily, the sprinkler system should be installed in accordance with NFPA 13. NFPA 13 is only really lacking in terms of a hydraulic design basis, but all other provisions are applicable. The HMA should address the design basis.

Additionally, did the technical committee consider that there may be areas of these facilities where a sprinkler system potentially causes more harm than good? If this is a concern, it should be directly stated that the HMA needs to review this.

Submitter Information Verification

Submitter Full Name: Kristen Dentici

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Submission Date: Mon Jan 05 19:29:05 EST 2026

Committee: BAT-AAA



Public Input No. 316-NFPA 800-2026 [Section No. 5.2.3.1]

5.2.3.1* Automatic Sprinkler Protection.

~~An~~ When required as per HMA, an automatic sprinkler system in accordance with ~~the HMA 5.2.3.1.2~~ shall be provided throughout battery manufacturing facilities, battery assembly facilities, and facilities or portions of facilities involving in R&D and testing of batteries.

5.2.3.1.1

The HMA shall address the specific chemistries that are manufactured, assembled, or tested within the facility.

5.2.3.1.2

The automatic sprinkler system shall be designed in accordance with NFPA 13.

5.2.3.1.3

The active fire protection system design for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery production and R&D facilities shall be in accordance with the HMA.

Statement of Problem and Substantiation for Public Input

Various battery tests and abnormal-condition tests are intentionally designed to result in thermal runaway or fire as part of the test requirements. In areas where these tests are conducted, the presence of an automatic sprinkler system can influence the outcome of the test by activating during a controlled fire event. For this reason, when required by the HMA, certain test facilities must have an automatic sprinkler system installed.

However, for tests that are not expected to result in ignition—or when battery fire behavior is not meant to be controlled by specialized test equipment/test area—an automatic sprinkler system or other control is required.

Submitter Information Verification

Submitter Full Name: Anujkumar Amin

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Zip:

Submission Date: Tue Jan 27 10:29:02 EST 2026

Committee: BAT-AAA



Public Input No. 419-NFPA 800-2026 [Section No. 5.2.3.1 [Excluding any Sub-Sections]]

An automatic sprinkler system in accordance with the HMA shall be provided throughout battery manufacturing facilities, battery assembly facilities, and facilities or portions of facilities involving in R&D and testing of batteries.

Battery manufacturing and assembly facilities, as well as facilities or portions of facilities involving R&D and testing of batteries, shall have the entire building and general production areas protected by an automatic sprinkler system designed, installed, and maintained in accordance with NFPA 13. This requirement is based on the HMA (see 4.3) for the battery chemistries to be manufactured, assembled, or tested. For process equipment and dedicated test units in the above facilities, the installation of automatic sprinkler systems shall be determined based on the fire risk grading assessment combined with the HMA (see 4.3) results for the battery chemistries and equipment operating characteristics.

Statement of Problem and Substantiation for Public Input

Fire fighting facilities should be distinguished between plant and equipment. Plant should be protected by automatic sprinkler system. Equipment should be confirmed whether automatic sprinkler system is needed according to risk level

Submitter Information Verification

Submitter Full Name: Wenmo Liang

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Submittal Date: Thu Jan 29 08:59:33 EST 2026

Committee: BAT-AAA



Public Input No. 113-NFPA 800-2026 [Section No. 5.2.3.2]

~~5.2.3.2 – Inspection, Testing, and Maintenance:~~

~~The inspection, testing, and maintenance of the automatic sprinkler system shall comply with NFPA 25.~~

Statement of Problem and Substantiation for Public Input

NFPA 25 is already referenced by NFPA 13. Other codes (for example, NFPA 855) do not include this reference.

Submitter Information Verification

Submitter Full Name: Kristen Dentici

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Zip:

Submittal Date: Mon Jan 05 19:38:34 EST 2026

Committee: BAT-AAA



Public Input No. 114-NFPA 800-2026 [Section No. 5.2.3.3]

5.2.3.3 Fire Detection.

Automatic fire detection shall be provided for each stage of battery manufacturing and assembly facilities, as well as facilities or portions thereof involving R&D or testing of batteries.

5.2.3.3.1 * _ _

The

~~facility shall be protected by a~~

fire

~~alarm system when required by the HMA.~~

5.2.3.3.2 * _

The fire

detection system design for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery production and R&D facilities shall be per the HMA.

5.2.3.3.2 * _ _

The facility shall be protected by a fire alarm system when required by the HMA.

5.2.3.3.2.1 * _ _

Public

Where a fire alarm system is required by the HMA, public mode audible and visual occupant notification shall be provided in accordance with NFPA 72, or an equivalent.

Statement of Problem and Substantiation for Public Input

If fire alarm system is only required when required by HMA, then the notification should be a subset of that requirement.

Submitter Information Verification

Submitter Full Name: Kristen Dentici

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Submission Date: Mon Jan 05 23:31:12 EST 2026

Committee: BAT-AAA



Public Input No. 211-NFPA 800-2026 [Section No. 5.2.3.3]

5.2.3.3 Fire Detection.

Automatic fire detection shall be provided for each stage of battery manufacturing and assembly facilities, as well as facilities or portions thereof involving R&D or testing of batteries.

5.2.3.3.

4 * -

~~The facility shall be protected by a fire alarm system when required by the HMA.~~

5:

2

~~3.3.2~~

* -

The fire detection system design for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery production and R&D facilities shall be per the HMA.

5.2.3.3.3 * -

Public mode audible and visual occupant notification shall be provided in accordance with *NFPA 72*, or an equivalent.

Statement of Problem and Substantiation for Public Input

Per 5.2.3.3 a fire alarm system is already required.

Submitter Information Verification

Submitter Full Name: Steven Sawyer

Organization: Self-Employed

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Submittal Date: Tue Jan 20 08:48:49 EST 2026

Committee: BAT-AAA



Public Input No. 420-NFPA 800-2026 [Section No. 5.2.3.3 [Excluding any Sub-Sections]]

Automatic fire detection shall be provided

for each stage

throughout the building structure and general production areas of battery manufacturing and assembly facilities, as well as facilities or portions thereof involving R&D or testing of batteries. For process equipment and dedicated test units within the above facilities, the configuration of automatic fire detection systems shall be determined based on fire risk grading combined with the results of Hazard Mitigation Analysis (HMA).

Statement of Problem and Substantiation for Public Input

Fire fighting facilities should be distinguished between factory buildings and equipment. Factory buildings need to be equipped with automatic fire detection system. Equipment should confirm whether automatic fire detection system is needed according to risk level

Submitter Information Verification

Submitter Full Name: Wenmo Liang

Organization: Contemporary Amperex Technology Co. Limited

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City:

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Submittal Date: Thu Jan 29 09:00:55 EST 2026

Committee: BAT-AAA



Public Input No. 569-NFPA 800-2026 [Section No. 5.2.3.3 [Excluding any Sub-Sections]]

Automatic fire detection shall be provided for each stage of battery manufacturing and assembly facilities, as well as facilities or portions thereof involving R&D or testing of batteries when required by the HMA .

Statement of Problem and Substantiation for Public Input

Large portions of li-ion battery manufacturing are no different than other manufacturing facilities (ex. raw material storage, mixing of materials, coating of slurries onto foil, cutting/stacking/packaging, etc); the unique hazards of li-ion batteries are not present until the cells have a state of charge. This requirement for detection is disproportionate to other similar manufacturing activities that are not required to install detection systems. As written, this requirement has major cost implications. This requirement should be restated as automatic fire detection shall be provided per the HMA.

If this requirement is kept, then the wording needs more description. Is the intent manufacturing spaces only or does it include material storage areas, utility areas, office/control/support areas? Should it be restated as "throughout the entire building"?

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

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Submittal Date: Thu Jan 29 18:34:42 EST 2026

Committee: BAT-AAA



Public Input No. 48-NFPA 800-2026 [Section No. 5.2.3.3.3]

5.2.3.3.3*

Public mode audible and visual occupant notification shall be provided in accordance with *NFPA 72*, or an equivalent standard acceptable to the AHJ.

Statement of Problem and Substantiation for Public Input

Provision seems incomplete, providing equivalent standard acceptable to the AHJ seems to align with the intent.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

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Submittal Date: Mon Jan 05 15:59:10 EST 2026

Committee: BAT-AAA



Public Input No. 115-NFPA 800-2026 [Section No. 5.2.3.4]

5.2.3.4 Fire-Resistant Separations.

Except where specified in this chapter, fire resistance separations shall be in accordance with the adopted building or fire code.

5.2.3.4.1*

The HMA shall determine an increase in the fire resistance rating where the state-of-charge (SOC) is greater than 30 percent for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte.

Statement of Problem and Substantiation for Public Input

This section should specify the locations that fire resistance rated separations are required (for example, between cell assembly and cell conditioning, etc.) and a minimum fire-resistance rating. The HMA can then review if additional locations or increased rating is necessary.

Submitter Information Verification

Submitter Full Name: Kristen Dentici

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Submittal Date: Mon Jan 05 23:33:58 EST 2026

Committee: BAT-AAA



Public Input No. 457-NFPA 800-2026 [Section No. 5.2.3.4 [Excluding any Sub-Sections]]

Except where specified in this chapter, Minimum fire resistance separations shall be in accordance with the adopted building or fire code.

Statement of Problem and Substantiation for Public Input

Reword for clarity. Pointer to "except where specified in this chapter" is not needed. The following section clearly states the HMA can increase fire rating of separations. No other exceptions are made in the chapter. The building and fire code are always the minimum value.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 11:26:29 EST 2026

Committee: BAT-AAA



Public Input No. 130-NFPA 800-2026 [Section No. 5.2.3.4.1]

5.2.3.4.1*

The HMA shall determine an increase in the fire resistance rating where the state-of-charge (SOC) is greater than 30 percent for reactive metal chemistry or reactive ion chemistry with flammable liquid-~~electrolyte~~, gas, or solid electrolyte .

Statement of Problem and Substantiation for Public Input

Clarification

Submitter Information Verification

Submitter Full Name: Jackie Huynh

Organization: Pacific Northwest National Labs

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jan 07 16:45:00 EST 2026

Committee: BAT-AAA



Public Input No. 231-NFPA 800-2026 [Section No. 5.2.3.4.1]

5.2.3.4.1*

The HMA shall ~~determine an increase~~ evaluate if an increase in the fire resistance rating is necessary where the state-of-charge (SOC) is greater than 30 percent for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte.

Statement of Problem and Substantiation for Public Input

As written, this seems to state that an increase in fire rating SHALL be developed. The intent by the committee is likely that consideration shall be given to the need for an increased rating. Recommended red line changes provided.

Submitter Information Verification

Submitter Full Name: Adam Jivelekas

Organization: Pacific Northwest National Lab

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City:

State:

Zip:

Submittal Date: Thu Jan 22 12:58:56 EST 2026

Committee: BAT-AAA



Public Input No. 60-NFPA 800-2026 [Section No. 5.2.3.4.1]

5.2.3.4.1*

The HMA shall ~~determine~~ evaluate whether an increase in the fire resistance rating ~~where the state-of-charge (SOC) is greater than 30 percent~~ is warranted for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte operations based on state-of-charge (SOC) management, credible fire scenarios, separation/exposure conditions, and protection features .

Statement of Problem and Substantiation for Public Input

A fixed SOC threshold (30 percent) is likely to be challenged without technical basis and does not account for other key drivers (arrangement, credible fire size, protection, separation). Requiring the HMA to evaluate these factors yields a consistent, defensible outcome while maintaining AHJ enforceability.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

Street Address:

City:

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Zip:

Submittal Date: Mon Jan 05 16:53:08 EST 2026

Committee: BAT-AAA



Public Input No. 119-NFPA 800-2026 [Section No. 5.2.4.1]

5.2.4.1

~~Electrolytes The storage , solvents dispensing , and flammable materials used in manufacturing shall be handled in use, processing, and handling of flammable and combustible liquids shall be in~~ accordance with NFPA 30 and NFPA 400.

Statement of Problem and Substantiation for Public Input

Generalizing and limiting to flammable liquids since reference was made to NFPA 30. Potentially an additional section is needed for other materials that should be referenced to only NFPA 400.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 118-NFPA 800-2026 [Section No. 5.3.1]</u>	

Submitter Information Verification

Submitter Full Name: Kristen Dentici

Organization: Bowman Fire and Life Safety

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State:

Zip:

Submittal Date: Mon Jan 05 23:51:19 EST 2026

Committee: BAT-AAA



Public Input No. 152-NFPA 800-2026 [Section No. 5.2.4.1]

5.2.4.1

Electrolytes, solvents, flammable materials, and ~~flammable materials used~~ combustible materials heated above their flash point used in manufacturing shall be handled in accordance with NFPA 30 and NFPA 400.

Statement of Problem and Substantiation for Public Input

Battery Cell Manufacturing often uses N-methyl-2-pyrrolidone (NMP) as a solvent for Cathode manufacturing. NMP is a combustible material and during wet coating operations is heated above its flash point. This change targets that specific situation to ensure that engineers know to evaluate that situation.

Submitter Information Verification

Submitter Full Name: Antonio Ochoa

Organization: General Motors

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Submittal Date: Wed Jan 14 09:25:00 EST 2026

Committee: BAT-AAA



Public Input No. 571-NFPA 800-2026 [Section No. 5.2.4.2]

5.2.4.2

Combustible dusts shall be handled in accordance with NFPA 660 and an approved Dust Hazards Analysis .

Statement of Problem and Substantiation for Public Input

Identifies the need for a Dust Hazards Analysis when combustible dusts are used or produced.

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

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City:

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Submittal Date: Thu Jan 29 18:37:36 EST 2026

Committee: BAT-AAA



Public Input No. 572-NFPA 800-2026 [Section No. 5.2.4.4]

5.2.4.4*

Spill control, secondary containment, and hazardous waste disposal shall comply with NFPA 1 or the locally adopted fire code and other applicable governmental regulations.

Statement of Problem and Substantiation for Public Input

Names spill control and secondary containment as separate requirements.

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

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City:

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Submittal Date: Thu Jan 29 18:39:30 EST 2026

Committee: BAT-AAA



Public Input No. 573-NFPA 800-2026 [Section No. 5.2.5.1]

5.2.5.1

A housekeeping program shall be developed to minimize accumulations of fugitive dust and other combustible materials in accordance with NFPA 660 when required based on ~~the HMA~~ Dust Hazards Analysis.

Statement of Problem and Substantiation for Public Input

A Dust Hazard Analysis is the appropriate document to require a housekeeping program for combustible dust.

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

Street Address:

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Submittal Date: Thu Jan 29 18:41:42 EST 2026

Committee: BAT-AAA



Public Input No. 131-NFPA 800-2026 [Section No. 5.2.5.2 [Excluding any Sub-Sections]]

Separate written procedures shall be developed for handling end-of-life (EOL) damaged, defective, or recalled (DDR) cells, blocks, modules, ~~or~~ units, and systems of batteries.

Statement of Problem and Substantiation for Public Input

Clarification

Submitter Information Verification

Submitter Full Name: Jackie Huynh

Organization: Pacific Northwest National Lab

Street Address:

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Zip:

Submittal Date: Wed Jan 07 16:47:10 EST 2026

Committee: BAT-AAA



Public Input No. 37-NFPA 800-2026 [Section No. 5.2.5.2 [Excluding any Sub-Sections]]

Separate written procedures shall be developed for:

(1) handling end-of-life (EOL) cells/modules/batteries intended for recycling, purposing or disposal purposes, and

(2) damaged, defective,

or

(1) recalled (DDR), or suspected DDR cells

, blocks, modules, or batteries

(1) /modules/batteries, including quarantine, segregation, packaging, and escalation criteria .

Additional Proposed Changes

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
NFPA_800_PI_No._37_-_Section_5.2.5.2.docx	Clean text as text editor does not show revisions properly	

Statement of Problem and Substantiation for Public Input

EOL status does not inherently mean damaged/defective, and DDR status does not always mean end-of-life. Mixing the terms can drive overly conservative handling for EOL or, worse, under-control DDR. Separate procedures improves correlatability to actual handling and storage controls.

Submitter Information Verification

Submitter Full Name: Jacob Dentici
Organization: Bowman Fire & Life Safety
Street Address:
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Submittal Date: Mon Jan 05 15:17:12 EST 2026
Committee: BAT-AAA

Separate written procedures shall be developed for:

1. handling end-of-life (EOL) cells/modules/batteries intended for recycling, repurposing or disposal purposes, and
2. damaged, defective, recalled (DDR), or suspected DDR cells/modules/batteries, including quarantine, segregation, packaging, and escalation criteria.



Public Input No. 574-NFPA 800-2026 [Section No. 5.2.5.2 [Excluding any Sub-Sections]]

Separate written procedures shall be developed for handling end-of-life (EOL) damaged, defective, or recalled (DDR) cells, ~~blocks~~, modules, or batteries.

Statement of Problem and Substantiation for Public Input

"blocks" are not a defined term.

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

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Submittal Date: Thu Jan 29 18:43:10 EST 2026

Committee: BAT-AAA



Public Input No. 575-NFPA 800-2026 [Section No. 5.2.5.2 [Excluding any Sub-Sections]]

~~Separate written~~ Written battery handling procedures shall be developed for ~~handling~~ end-of-life (EOL), damaged, defective, or recalled (DDR) cells, blocks, modules, or batteries batteries and battery materials .

Statement of Problem and Substantiation for Public Input

Battery materials should be added to address jelly rolls, waste electrolyte or solvents. If added, battery materials should be added to Definitions.

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

Street Address:

City:

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Zip:

Submittal Date: Thu Jan 29 18:44:39 EST 2026

Committee: BAT-AAA



Public Input No. 576-NFPA 800-2026 [Section No. 5.2.5.2.1]

5.2.5.2.1

~~These procedures~~ Procedures and plans shall be posted in all manufacturing areas.

Statement of Problem and Substantiation for Public Input

Improved wording

Submitter Information Verification

Submitter Full Name: Corey Kinsman

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City:

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Submittal Date: Thu Jan 29 18:46:18 EST 2026

Committee: BAT-AAA



Public Input No. 577-NFPA 800-2026 [Section No. 5.2.5.2.2]

5.2.5.2.2

All manufacturing personnel implementing ~~these~~ procedures shall be trained ~~in doing so~~.

Statement of Problem and Substantiation for Public Input

More exact wording

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

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Submittal Date: Thu Jan 29 18:47:28 EST 2026

Committee: BAT-AAA



Public Input No. 458-NFPA 800-2026 [Section No. 5.2.5.3]

5.2.5.3*

Written procedures shall be developed in accordance with Section 4.8 for emergency response to a thermal runaway event, when the risk of a thermal runaway is identified in the HMA .

Statement of Problem and Substantiation for Public Input

Not every battery chemistry is susceptible to thermal runaway. The HMA should dictate when these response procedures are needed.

Submitter Information Verification

Submitter Full Name: Richard Kluge

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Affiliation: ATIS

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City:

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Submittal Date: Thu Jan 29 11:31:53 EST 2026

Committee: BAT-AAA



Public Input No. 116-NFPA 800-2026 [Section No. 5.2.5.4]

5.2.5.4*

A documented management of change (MoC) program that includes revisions to the HMA shall be developed and maintained on-site.

5.2.5.4.1

Written procedures shall be established and implemented to manage proposed changes to materials, staffing, job tasks, technology, equipment, procedures, and facilities.

5.2.5.4.2*

Implementation of the MoC procedure shall not be required for replacements in kind.

Statement of Problem and Substantiation for Public Input

These requirements seem like should be across the board for all HMAs, and therefore may fit better as a subsection in Chapter 4.

Submitter Information Verification

Submitter Full Name: Kristen Dentici

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Submittal Date: Mon Jan 05 23:42:12 EST 2026

Committee: BAT-AAA



Public Input No. 117-NFPA 800-2026 [Section No. 5.2.6]

5.2.6 Personal Protective Equipment (PPE)

5.2.6.1*

An assessment of workplace hazards shall be part of the HMA to determine PPE requirements for facility personnel.

5.2.6.1.1*

Arc flash hazards shall be evaluated in accordance with NFPA 70E.

5.2.6.1.2

Appropriate protection and signage shall be provided in accordance with NFPA 70 and NFPA 70E.

5.2.6.1.3

Flash fire hazards shall be evaluated in accordance with NFPA 2113.

5-

~~5.2.6.1.4~~

~~Clothing requirements shall be adopted in accordance with the evaluation required by~~

2

~~5.2.6.1.3.~~

5.2.6.2

Personnel shall be provided with and wear flame-resistant garments where flame-resistant garments have been identified as necessary in accordance with 5.2.6.1.

5.2.6.2.1

Arc-rated and arc-resistant clothing required for protecting personnel against arc flash hazards shall comply with NFPA 70E, or an equivalent per the AHJ.

5.2.6.2.2

Flame-resistant clothing shall be required for protecting personnel ~~against where~~ flash fire hazards have been identified as necessary in accordance with 5.2.6.1.3. Flame-resistant clothing shall comply with NFPA 2112.

5.2.6.3

PPE required for chemical protection shall comply with NFPA 1990.

Statement of Problem and Substantiation for Public Input

Making language more consistent across the section. A method is specified to identify each of the hazards, except for chemical hazards. If there is a method that can be referenced, it should be added.

Submitter Information Verification

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Submittal Date: Mon Jan 05 23:44:29 EST 2026

Committee: BAT-AAA



Public Input No. 578-NFPA 800-2026 [Section No. 5.2.6.1 [Excluding any Sub-Sections]]

An assessment of workplace hazards shall be part of ~~the HMA~~ a Process Hazards Analysis to determine PPE requirements for facility personnel.

Statement of Problem and Substantiation for Public Input

A Process Hazards Assessment (PHA) is the appropriate document for assessment of workplace hazards and PPE requirements. The HMA should not be a catch-all; it should be used to fill the gaps left in the requirements because of the lack of guidance for sprinkler design, fire barrier locations, ventilation, explosion control, and the variability of hazards in different manufacturing facilities due to changing battery types, processes, and evolving technology.

Submitter Information Verification

Submitter Full Name: Corey Kinsman

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Submittal Date: Thu Jan 29 18:48:35 EST 2026

Committee: BAT-AAA



Public Input No. 38-NFPA 800-2026 [Section No. 5.2.6.2.1]

5.2.6.2.1

Arc-rated and arc-resistant clothing required for protecting personnel against arc flash hazards shall comply with NFPA 70E, or an equivalent ~~per the~~ standard acceptable to the AHJ.

Statement of Problem and Substantiation for Public Input

Minor clarity and consistency edit; "acceptable to the AHJ" matches common NFPA phrasing.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

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Submittal Date: Mon Jan 05 15:22:48 EST 2026

Committee: BAT-AAA



Public Input No. 118-NFPA 800-2026 [Section No. 5.3.1]

5.3.1 – Flammable and Combustible Liquids:

5.3.1.1 –

~~Storage, dispensing, use, processing, and handling of ignitable liquids shall be in accordance with NFPA 30.~~

Statement of Problem and Substantiation for Public Input

Already covered in general requirements.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 120-NFPA 800-2026 [Section No. 5.3.2]	
Public Input No. 119-NFPA 800-2026 [Section No. 5.2.4.1]	
Public Input No. 120-NFPA 800-2026 [Section No. 5.3.2]	

Submitter Information Verification

Submitter Full Name: Kristen Dentici

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Submittal Date: Mon Jan 05 23:48:33 EST 2026

Committee: BAT-AAA



Public Input No. 132-NFPA 800-2026 [Section No. 5.3.1.1]

5.3.1.1

Storage, dispensing, use, processing, and handling of ~~ignitable~~ ignitable liquids, gases, or solids shall be in accordance with NFPA 30.

Statement of Problem and Substantiation for Public Input

Clarification

Submitter Information Verification

Submitter Full Name: Jackie Huynh

Organization: Pacific Northwest National Lab

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City:

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Zip:

Submittal Date: Wed Jan 07 16:50:08 EST 2026

Committee: BAT-AAA



Public Input No. 10-NFPA 800-2025 [New Section after 5.3.2]

Area classification for dust

Laser cutting station generates potentially explosive dusts. The area classification inside this kind of cutting station should follow NFPA 499, in accordance with NFPA 70.

Statement of Problem and Substantiation for Public Input

The dust generated during cutting shall be taken care of, by starting the area classification before determining the way to protect this area.

Submitter Information Verification

Submitter Full Name: Zhenlan GAO

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Submittal Date: Thu Dec 25 17:33:57 EST 2025

Committee: BAT-AAA



Public Input No. 120-NFPA 800-2026 [Section No. 5.3.2]

5.3.2 Combustible Particulate Solids and Combustible Dusts.

Processing, dispensing, use, handling or generation of combustible dusts shall be in accordance with NFPA 660.

Statement of Problem and Substantiation for Public Input

This is already somewhat covered in the general section above. Why is there a distinction between "handling" and "processing, dispensing, use, handling, or generation"? Suggest moving all to general section, similar to input for flammable and combustible liquids.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 118-NFPA 800-2026 [Section No. 5.3.1]</u>	
<u>Public Input No. 118-NFPA 800-2026 [Section No. 5.3.1]</u>	

Submitter Information Verification

Submitter Full Name: Kristen Dentici

Organization: Bowman Fire and Life Safety

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Submittal Date: Mon Jan 05 23:54:22 EST 2026

Committee: BAT-AAA



Public Input No. 44-NFPA 800-2026 [Section No. 5.3.3.1]

5.3.3.1 General.

5.3.3.1.1

An HMA shall be conducted to identify fire and explosion hazards associated with battery manufacturing equipment.

5.3.3.1.1.1

The HMA shall address foreseeable failure modes in equipment, processes, or personnel handling that lead to thermal events.

5.3.3.1.2*

Where a fire hazard exists in an equipment enclosure as determined in 5.3.3.1.1, manual and automatic fire protection means shall be provided in accordance with the HMA.

5.3.3.1.3*

Automatic fire protection systems shall be provided in accordance 5.2.3.1.

5.3.3.1.4

Where an explosion hazard exists in an equipment enclosure as determined in 5.3.3.1.1, explosion protection shall be provided in accordance with NFPA 68 or NFPA 69.

Statement of Problem and Substantiation for Public Input

No change proposed. Sections 5.3.3.1.1.1 through 5.3.3.1.4 rely primarily on the HMA to determine whether fire protection means and explosion protection are provided for equipment enclosures. For common, repeatable manufacturing equipment enclosure hazards, the draft would benefit from minimum prescriptive baseline requirements or objective triggers (with the HMA permitted to increase protection) rather than deferring entirely to the HMA. In addition, while the HMA is required to address foreseeable failure modes leading to thermal events, the draft does not establish minimum required HMA outputs for consistent application (for example, minimum scenarios, credible initiating events, or required evaluation of mitigation features). Establishing baseline criteria would improve uniformity of HMAs and AHJ review. See Public Input No. 36 for the general substantiation regarding enforceability and consistency impacts of overreliance on HMA.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 36-NFPA 800-2026 [Section No. 5.2.3]</u>	General substantiation to overreliance on HMA

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

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City:

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Submittal Date: Mon Jan 05 15:37:24 EST 2026

Committee: BAT-AAA



Public Input No. 134-NFPA 800-2026 [Section No. 5.3.3.1.1 [Excluding any Sub-Sections]]

An HMA shall be conducted to identify fire, explosion, and ~~explosion~~ plume hazards associated with battery manufacturing equipment and the site as applicable .

Statement of Problem and Substantiation for Public Input

Clarification

Submitter Information Verification

Submitter Full Name: Jackie Huynh

Organization: Pacific Northwest National Lab

Street Address:

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Zip:

Submittal Date: Wed Jan 07 16:52:16 EST 2026

Committee: BAT-AAA



Public Input No. 121-NFPA 800-2026 [Section No. 5.3.3.1.2]

5.3.3.1.2*

Where a fire hazard exists in an equipment enclosure as determined in 5.3.3.1.1, manual ~~and~~ or automatic fire protection means shall be provided in accordance with the HMA.

Statement of Problem and Substantiation for Public Input

There is potential for situations where having manual or automatic suppression may not be recommended (for example, accidental discharge may be a major issue or manual suppression may be a risk to occupants/responders).

Submitter Information Verification

Submitter Full Name: Kristen Dentici

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Submittal Date: Mon Jan 05 23:58:09 EST 2026

Committee: BAT-AAA



Public Input No. 459-NFPA 800-2026 [Section No. 5.3.3.1.2]

5.3.3.1.2*

Where a fire hazard exists in an equipment enclosure as determined in 5.3.3.1.1, ~~manual and automatic~~ dedicated in-cabinet manual or automatic fire protection means shall be provided in accordance with the HMA.

Statement of Problem and Substantiation for Public Input

The section speaks to hazards in the enclosure. My assumption is the suppression is attended to be an in-cabinet type as opposed to room or area. The text should be clarified to stipulate what level of suppression is needed for these instances - either in-cabinet/enclosure or room.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

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Submittal Date: Thu Jan 29 11:40:14 EST 2026

Committee: BAT-AAA



Public Input No. 122-NFPA 800-2026 [Section No. 5.3.3.1.4]

5.3.3.1.4

Where an explosion hazard exists in an equipment enclosure as determined in 5.3.3.1.1, explosion protection shall be provided in accordance with ~~NFPA 68 or NFPA 69~~ 4.XX.

Statement of Problem and Substantiation for Public Input

Recommend referring this to Chapter 4 material.

Submitter Information Verification

Submitter Full Name: Kristen Dentici

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Submittal Date: Tue Jan 06 00:00:26 EST 2026

Committee: BAT-AAA



Public Input No. 39-NFPA 800-2026 [Section No. 5.3.3.1.4]

5.3.3.1.4

Where an explosion hazard exists in an equipment enclosure as determined in 5.3.3.1.1, explosion protection shall be provided in accordance with NFPA 68-~~or~~, NFPA 69, NFPA 69, or another engineered method acceptable to the AHJ.

Statement of Problem and Substantiation for Public Input

NFPA 68/69 are core standards, but some installations may use alternative engineered approaches (for example, equipment-listed solutions, integrated OEM designs, or performance-based methods). Allowing an AHJ-accepted engineered method maintains safety intent and avoids forcing a prescriptive method that may not fit all equipment.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

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Submittal Date: Mon Jan 05 15:23:49 EST 2026

Committee: BAT-AAA



Public Input No. 123-NFPA 800-2026 [Section No. 5.3.3.2.1]

5.3.3.2.1

Ignition hazards associated with hazardous (classified) locations shall be managed in accordance with 4.4.5.

Statement of Problem and Substantiation for Public Input

4.4.5 is currently stated as reserved. This section should also be reserved, or removed, if 4.4.5 is not going to be developed for this release.

Submitter Information Verification

Submitter Full Name: Kristen Dentici

Organization: Bowman Fire and Life Safety

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Submittal Date: Tue Jan 06 00:01:31 EST 2026

Committee: BAT-AAA



Public Input No. 460-NFPA 800-2026 [Section No. 5.3.3.2.1]

5.3.3.2.1

~~Ignition hazards associated with hazardous (classified) locations shall be managed in accordance with 4.4.5 - RESERVED~~

Statement of Problem and Substantiation for Public Input

The referenced section 4.4.5 is RESERVED. There is no need to point to it.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

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Zip:

Submittal Date: Thu Jan 29 11:45:24 EST 2026

Committee: BAT-AAA



Public Input No. 62-NFPA 800-2026 [Section No. 5.3.3.2.1]

5.3.3.2.1

Ignition hazards associated with hazardous (classified) locations shall be managed in accordance with ~~4.4.5 -~~ NFPA 70.

Statement of Problem and Substantiation for Public Input

The current cross-reference points to a reserved section and is therefore non-functional. NFPA 70 is the controlling standard for hazardous (classified) locations and ignition source control, and direct reference restores enforceability.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

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Zip:

Submittal Date: Mon Jan 05 16:55:25 EST 2026

Committee: BAT-AAA



Public Input No. 153-NFPA 800-2026 [Section No. 5.3.3.2.2]

5.3.3.2.2*

Equipment handling flammable vapors, mists, or dust shall be constructed of conductive or static-dissipative materials, with grounding and bonding in accordance with *NFPA 70* and *NFPA 30*.

Statement of Problem and Substantiation for Public Input

This statement adds in the additional requirements NFPA 30 has for grounding and bonding of systems carrying flammables or combustibles for static discharge control.

Submitter Information Verification

Submitter Full Name: Antonio Ochoa

Organization: General Motors

Street Address:

City:

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Submittal Date: Wed Jan 14 09:30:29 EST 2026

Committee: BAT-AAA



Public Input No. 45-NFPA 800-2026 [Section No. 5.3.4]

5.3.4 Process-Specific Requirements.

5.3.4.1 Electrode Manufacturing. (Reserved)

5.3.4.2* Cell Assembly.

5.3.4.2.1

Welding and heat-sealing processes shall be in accordance with NFPA 51B.

5.3.4.2.2

Battery assembly workstations shall be constructed from noncombustible materials.

5.3.4.2.2.1*

Battery assembly workstations constructed from conductive materials shall have their structural components bonded to each other and bonded to ground.

5.3.4.2.2.2

Grounding and bonding connections shall be in accordance with *NFPA 70*.

5.3.4.2.3

Compressed gases used in welding or sealing shall be stored in accordance with NFPA 55.

5.3.4.3* Electrolyte Filling and Cell Sealing.

5.3.4.3.1*

Reactive metal chemistry or reactive ion chemistry batteries with flammable liquid electrolyte filling stations shall be Class I, Division 2 in accordance with *NFPA 70*.

5.3.4.3.2

Combustible gas detection and ventilation systems for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery manufacturing facilities shall interface with an explosion prevention system in accordance with NFPA 69 where required by the HMA.

5.3.4.3.3

Eyewash stations and emergency showers shall be installed in accordance with ANSI/ISEA Z358.1, *American National Standard for Emergency Eyewash and Shower Equipment*.

5.3.4.3.4*

Cells filled with electrolyte that are capped to prevent vapor from being liberated to the atmosphere shall be considered as closed use in accordance with NFPA 400.

5.3.4.4* Formation Cycling and Battery Activation.

5.3.4.4.1*

Fire suppression systems shall be installed in formation rooms for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries in accordance with the HMA.

5.3.4.4.2*

Automatic detection and fire protection systems for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery formation rooms and formation equipment shall be designed and installed as stipulated in the HMA.

5.3.4.4.3

Dedicated mechanical exhaust ventilation shall be provided where battery charging operations are performed for aqueous electrolyte batteries and where the HMA (see Section 4.3) analysis identifies a risk of the production of flammable gases under normal circumstances for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries.

5.3.4.4.3.1

Where required by the calculations in 5.6.3, mechanical exhaust shall consist of enclosures or hoods designed in accordance with that subsection.

5.3.4.4.4* Rack Storage and Automated Storage Systems.

Formation areas and aging areas for reactive metal chemistry and reactive ion chemistry shall be protected with flammable liquid electrolyte per the HMA.

5.3.4.4.4.1*

Automatic sprinkler protection for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery formation and aging areas shall be protected as stipulated in the HMA.

5.3.4.4.4.2

A minimum of 2 in. (5 cm) of clearance shall be provided between in-rack sprinkler piping/sprinklers and automated storage crane ranges of motion.

5.3.4.4.4.3

In-field validation shall be documented for AHJ approval.

5.3.4.4.4.4*

Ceiling-level sprinkler protection beyond the storage area for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries shall be designed to protect the surrounding occupancy.

5.3.4.4.4.5*

The sprinkler system for reactive metal chemistry and reactive metal ion chemistry with flammable liquid electrolyte batteries shall be hydraulically calculated for a hose stream of 500 gpm (1900 L/min) and a minimum duration of 2 hours.

5.3.4.4.4.6*

If the HMA for reactive metal battery production facilities recommends an automated storage and retrieval system (ASRS), automated storage cranes shall be capable of removing a cell magazine and depositing it into an adjacent water tank upon detection of cell thermal runaway per 5.3.4.4.3.

5.3.4.4.4.7

See Chapter 6 for additional storage requirements for the aging area that have not been covered in this section.

5.3.4.5 Battery Testing.

Whether at the battery manufacturing facility or at another manufacturing facility using battery packs or modules in their end-use products, end-of-line testing and repair shall be considered fire protection measures in the HMA.

5.3.4.6* Returned, Rejected, and Field-Removed Batteries.

Returned, rejected, or field-removed batteries that are undergoing evaluation or are known to be defective or suspect, including RMA units, warranty returns, and disassembled modules or cells, shall be separated from other battery manufacturing areas.

Statement of Problem and Substantiation for Public Input

No change proposed. Section 5.3.4 contains multiple common, repeatable manufacturing operations (for example, electrolyte filling and sealing, formation cycling/activation, and formation/aging storage arrangements) where the draft frequently defers key protection and mitigation features to the HMA (including suppression, detection, ventilation/gas management interfaces, explosion prevention/protection, and storage protection details). While the HMA is appropriate to tailor measures to site-specific hazards, the repeated use of "as stipulated/determined by the HMA" as the primary compliance pathway can result in inconsistent requirements between jurisdictions, variable operator obligations, and reduced enforceability for AHJs. The chapter would benefit from minimum prescriptive baseline criteria or objective triggers for these recurring operations (with the HMA permitted to increase protection) to improve consistency and support uniform HMA scope and AHJ review. See Public Input No. 36 for the general substantiation regarding enforceability and consistency impacts of overreliance on HMA.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 36-NFPA 800-2026 [Section No. 5.2.3]	General substantiation for overreliance on HMA

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 05 15:41:08 EST 2026

Committee: BAT-AAA



Public Input No. 421-NFPA 800-2026 [Section No. 5.3.4.2.2 [Excluding any Sub-Sections]]

Battery assembly workstations shall

be

have the main structural frame constructed from noncombustible or fire-retardant materials ; auxiliary components (e . g., operation surfaces, fixtures, protective parts) shall be determined based on a comprehensive assessment of production processes, fire hazard characteristics and functional requirements.

Statement of Problem and Substantiation for Public Input

Lithium battery assembly station is not a single "building structure", but a combination of station frame + operating table top + auxiliary accessories + process tooling. It is required to be completely non-combustible across the board, and there are obvious practical contradictions

Submitter Information Verification

Submitter Full Name: Wenmo Liang

Organization: Contemporary Amperex Technology Co. Limited

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Submittal Date: Thu Jan 29 09:04:13 EST 2026

Committee: BAT-AAA



Public Input No. 9-NFPA 800-2025 [New Section after 5.3.4.3.1]

The area classification of injection station shall be more precisely defined

Classify the whole injection station as Class I and Division 2 may not be necessary, as permanent ventilation (x6 times) is provided and enhanced ventilation (x12 times) per most of current machine design will be triggered as LEL 25% limit is reached. The quantity injected into each pouch/cell is quite limited. The quantity of electrolyte evaporated is quite limited and far below 25% as long as ventilation is provided and confirmed by the measurements carried out during operation.

It is more appropriated to propose that the area classification method should follow NFPA 497, which is consistent with NFPA 70. It can limit the ATEX areas inside the injection station and largely reduce the cost for machine manufacturing and civil construction of injection room.

This is the common practice already performed in this industry since a decade. The area classification is a precision work. It is better to propose a guideline for battery manufacturing in NFPA 497, if necessary.

Statement of Problem and Substantiation for Public Input

The area classification can have a major impact of CAPEX on injection station. The viability of battery manufacturing business in USA depends on the cost/return ratio. A more precised solution shall be proposed by this standard to meet the industrial needs, in safety as well as in cost control.

Classify the whole station as Class I, Division 2 is a simple solution but may kill the whole business in USA. As Trump administration hopes to move the manufacturing business to USA, it is important to consider the cost-effective solution for this issue.

Submitter Information Verification

Submitter Full Name: Zhenlan GAO

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Affiliation: Technical safety and compliance

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Submission Date: Thu Dec 25 17:29:15 EST 2025

Committee: BAT-AAA



Public Input No. 154-NFPA 800-2026 [Section No. 5.3.4.3.1]

5.3.4.3.1*

Reactive metal chemistry or reactive ion chemistry batteries with flammable liquid electrolyte filling stations shall be ~~Class 1, Division 2-~~ classified in accordance with *NFPA 70*.

Statement of Problem and Substantiation for Public Input

Explicitly classifying any area as a specific classification reduces flexibility and increases cost for any manufacturer, owner, operator of these facilities. Specifically, NFPA 70 offers alternative Zone classification systems that allow for more flexibility with device selection. As engineers application of the code should be allowed to function within the requirements of NFPA 70 and following the classification recommendations of NFPA 497 and not force decisions into a specific classification if the equipment design, operating parameters, or other situations require a stricter classification or allow for a lighter classification.

Submitter Information Verification

Submitter Full Name: Antonio Ochoa

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Submission Date: Wed Jan 14 09:38:33 EST 2026

Committee: BAT-AAA



Public Input No. 579-NFPA 800-2026 [Section No. 5.3.4.3.1]

5.3.4.3.1*

~~Reactive metal chemistry or reactive ion chemistry batteries with flammable liquid~~ Ignitable liquid electrolyte filling stations shall be Class I, Division 2 in accordance with *NFPA 70*.

Statement of Problem and Substantiation for Public Input

Unnecessary wording

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

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Submittal Date: Thu Jan 29 18:51:04 EST 2026

Committee: BAT-AAA



Public Input No. 64-NFPA 800-2026 [Section No. 5.3.4.3.1]

5.3.4.3.1*

Reactive metal chemistry or reactive ion chemistry batteries with flammable liquid electrolyte filling stations shall be ~~Class I, Division 2~~ classified as hazardous (classified) locations in accordance with NFPA 70, considering process conditions and ventilation. Where classified, the area shall be not less than Class I, Division 2.

Statement of Problem and Substantiation for Public Input

A blanket classification without defining extent or considering ventilation and process conditions can be overbroad and inconsistently applied. NFPA 70 provides established methods for classification and extent determination. Setting a minimum classification where classification is required preserves safety intent while improving enforceability and consistency.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

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Submittal Date: Mon Jan 05 16:56:26 EST 2026

Committee: BAT-AAA



Public Input No. 124-NFPA 800-2026 [Section No. 5.3.4.3.2]

5.3.4.3.2

Combustible gas detection and ventilation systems for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery manufacturing facilities shall interface with an explosion prevention system in accordance with NFPA 69 where required by the HMA.

Statement of Problem and Substantiation for Public Input

This section implies that somewhere else in the standard a combustible gas detection and ventilation system is required for these types of battery chemistries, however, I do not see this requirement elsewhere.

Submitter Information Verification

Submitter Full Name: Kristen Dentici

Organization: Bowman Fire and Life Safety

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Submittal Date: Tue Jan 06 00:03:56 EST 2026

Committee: BAT-AAA



Public Input No. 580-NFPA 800-2026 [Section No. 5.3.4.3.2]

5.3.4.3.2

~~Combustible gas detection and ventilation systems for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery manufacturing facilities shall interface with an explosion prevention system.~~ Explosion prevention systems shall be installed, in accordance with NFPA 69 where required by the HMA.

Statement of Problem and Substantiation for Public Input

Reworded for clarity

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 18:53:25 EST 2026

Committee: BAT-AAA



TITLE OF NEW CONTENT

Type your content here ...

1. The formation/capacity workshop shall be separated from other parts by fire partition walls with fire resistance limit of not less than 3h, and the fire partition walls shall be separated from the floor base to the bottom base of the roof panel. Class A fire doors should be used when interconnected doors need to be opened on partition walls.

2. The formation/capacity workshop should be set up as multiple independent fire prevention units, and each fire prevention unit should meet the following requirements:

A) Use fireproof partition walls with fire resistance not less than 2h to separate from other fireproof units. When the partition walls need to be connected with each other,

Class A fire doors are used for doors;

B) Set up independent smoke exhaust system and air supplement system, and set up and down the ceiling independently.

3. Automatic fire extinguishing system should be set up for formation and capacity equipment, and automatic sprinkler fire extinguishing system should be adopted

4. Formation and capacity equipment shall be equipped with an automatic fire alarm system with accurate alarm positioning to specific storage locations, and shall have the following functions:

A) Detecting smoke, heat, flame, voltage, current, capacity and other early characteristics of fire caused by thermal runaway of battery core in this process stage

Parameter anomaly;

B) Send out the fire alarm signal and transmit it to the post where the personnel are on duty 24 hours a day;

C) The linkage equipment stops charging and discharging;

D) Activate the automatic fire extinguishing system.

5. Water-based fire extinguishers, fire sandboxes, fire blankets and other fire extinguishers shall be equipped in the formation and capacity processes

6. The formation/capacity workshop of lithium ion batteries for portable electronic products may not adopt the above measures when the separation process such as fixture or box formation can prevent the fire from spreading after the failure of a single battery”

Statement of Problem and Substantiation for Public Input

The chemical/capacity workshop has high fire risk, so it is necessary to strengthen fire control measures

Submitter Information Verification

Submitter Full Name: Wenmo Liang

Organization: Contemporary Amperex Technology Co. Limited

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Submittal Date: Thu Jan 29 09:06:10 EST 2026

Committee: BAT-AAA



Public Input No. 295-NFPA 800-2026 [Section No. 5.3.4.3.4]

5.3.4.3.4*

Cells filled with electrolyte that are ~~capped to~~ sealed to prevent vapor from being liberated to the atmosphere shall be considered as closed use in accordance with NFPA 400.

Statement of Problem and Substantiation for Public Input

capped is specific to certain cell design/geometry - to keep this generic use "sealed"

Submitter Information Verification

Submitter Full Name: Michael Leffert

Organization: General Motors

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Submittal Date: Mon Jan 26 17:25:24 EST 2026

Committee: BAT-AAA



Public Input No. 387-NFPA 800-2026 [Section No. 5.3.4.3.4]

5.3.4.3.4*

Cells filled with electrolyte that are sealed/ capped to prevent vapor from being liberated to the atmosphere shall be considered as closed use in accordance with NFPA 400.

Statement of Problem and Substantiation for Public Input

Added the word sealed as capped typically refers to prismatic format and sealed would indicate a "closed" pouch cell

Submitter Information Verification

Submitter Full Name: Lisa Parks

Organization: GM

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Submittal Date: Wed Jan 28 14:12:21 EST 2026

Committee: BAT-AAA



Public Input No. 491-NFPA 800-2026 [Section No. 5.3.4.3.4]

5.3.4.3.4*

Cells filled with electrolyte that are capped to prevent vapor from being liberated to the atmosphere shall be considered ~~as closed use~~ lithium-ion cells and shall not be subject to hazardous material quantity and protection requirements of NFPA 400.

5.3.4.3.4.1

Prior to the cap being applied to a cell, the contents of the cell shall be individually evaluated with regard to hazardous material classification and required protection measures in accordance with NFPA 400.

Statement of Problem and Substantiation for Public Input

During lithium-ion cell manufacturing, this code does not presently define when the assembly of individual components constitutes a “cell” for hazard evaluation purposes. This proposed change establishes that delineation at the point when the electrolyte-filled cell is capped, thereby sealing the electrolyte within the cell enclosure. Once a lithium-ion cell is formed, the individual internal constituents (such as electrolyte, electrodes, and separators) are no longer evaluated or classified independently as hazardous materials. Instead, the cell is treated as an article with an integrated hazard profile, and the maximum allowable quantities for hazardous materials in NFPA 400 are not applied to the individual contents of completed lithium-ion cells. The hazards of the cell are instead addressed through commodity classification, storage, and protection requirements applicable to lithium-ion cells, as outlined in this code.

Prior to capping, the electrolyte-filled assembly functions as an open container of flammable liquid electrolyte and presents hazards consistent with open use under NFPA 400. Although some electrical charge may be applied to the unsealed cell, the absence of a sealed enclosure prevents pressure accumulation and gas confinement; therefore, a fire or thermal runaway event cannot produce the failure characteristics associated with a completed lithium-ion cell. Applying the cap marks the point at which the hazard profile transitions from that of exposed flammable liquid to that of a lithium-ion cell. At this stage, it is no longer appropriate to treat the electrolyte as an open use hazardous material subject to NFPA 400 MAQs. Instead, the capped cell should be evaluated and protected as a lithium-ion cell in production in accordance with the applicable provisions of this code.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 494-NFPA 800-2026 [Section No. A.5.3.4.3.4]</u>	Annex material to the revised Section A.5.3.4.3.4.
<u>Public Input No. 494-NFPA 800-2026 [Section No. A.5.3.4.3.4]</u>	

Submitter Information Verification

Submitter Full Name: Jon Reymann

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Submittal Date: Thu Jan 29 15:01:02 EST 2026

Committee: BAT-AAA



Public Input No. 581-NFPA 800-2026 [Section No. 5.3.4.3.4]

5.3.4.3.4*

Cells filled with electrolyte that are capped to prevent vapor from being liberated to the atmosphere shall be considered as closed use in accordance with NFPA 400.

Statement of Problem and Substantiation for Public Input

“Closed System Use” as defined in NFPA 400 does not exclude quantities of flammable liquid and so this section could in practice be enforced as having an MAQ. Also, this section would imply that unsealed cells would be treated as open use and therefore have an even stricter MAQ. The cost implications of this are enormous.

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

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Submittal Date: Thu Jan 29 18:55:02 EST 2026

Committee: BAT-AAA



Public Input No. 125-NFPA 800-2026 [Sections 5.3.4.4.1, 5.3.4.4.2]

Sections 5.3.4.4.1, 5.3.4.4.2

~~5.3.4.4.1~~ * –

~~Fire suppression systems shall be installed in formation rooms for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries in accordance with the HMA.~~

~~5.3.4.4.2~~ * –

~~Automatic detection and fire protection systems for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery formation rooms and formation equipment shall be designed and installed as stipulated in the HMA.~~

Statement of Problem and Substantiation for Public Input

This is all seemingly addressed in the general requirements section since those sections say "all areas".

Submitter Information Verification

Submitter Full Name: Kristen Dentici

Organization: Bowman Fire and Life Safety

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Submittal Date: Tue Jan 06 00:08:02 EST 2026

Committee: BAT-AAA



Public Input No. 385-NFPA 800-2026 [Section No. 5.3.4.4.3]

5.3.4.4.3

Dedicated mechanical exhaust ventilation shall be provided where battery charging operations are performed for aqueous electrolyte batteries and where the HMA (see Section 4.3) analysis identifies a risk of the production of flammable gases under ~~normal circumstances~~ identified circumstances for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries.

5.3.4.4.3.1

Where required by the calculations in 5.6.3, mechanical exhaust shall consist of enclosures or hoods designed in accordance with that subsection.

Statement of Problem and Substantiation for Public Input

removed "Normal" and added "identified" circumstances

Submitter Information Verification

Submitter Full Name: Lisa Parks

Organization: GM

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Submittal Date: Wed Jan 28 14:10:22 EST 2026

Committee: BAT-AAA



Public Input No. 141-NFPA 800-2026 [Section No. 5.3.4.4.3 [Excluding any Sub-Sections]]

Dedicated mechanical exhaust ventilation shall be provided where battery charging operations are performed for aqueous electrolyte batteries and where the HMA (see Section 4.3) analysis identifies a ~~risk~~ possibility of the production of flammable gases under normal circumstances for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries.

Statement of Problem and Substantiation for Public Input

In safety documents such as this one the word "risk" should be reserved for and used only when the intended meaning is "the combination of the probability of occurrence of an adverse event and the potential consequences of that event."

The phrase "risk of" in this type of document generally refers to a "possibility of" or "the potential for" regardless of the potential consequence.

Based on the context of this sentence, the phrase "risk of the production of..." should be replaced with the phrase "and the possibility of the production of...".

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 140-NFPA 800-2026 [New Section after 3.3.33]</u>	

Submitter Information Verification

Submitter Full Name: Daniel Roberts

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City:

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Submittal Date: Thu Jan 08 14:29:24 EST 2026

Committee: BAT-AAA



Public Input No. 195-NFPA 800-2026 [Section No. 5.3.4.4.3 [Excluding any Sub-Sections]]

Dedicated mechanical exhaust ventilation shall be provided where battery charging operations are performed for aqueous electrolyte batteries and where the HMA (see Section 4.3) analysis identifies a risk of the production of flammable gases under normal circumstances- ~~for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries .~~

Statement of Problem and Substantiation for Public Input

Alkali-metal and alkali-metal-ion batteries do not produce flammable gases under normal circumstances during formation and battery activation.

Submitter Information Verification

Submitter Full Name: James McDowall

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Submittal Date: Mon Jan 19 13:33:25 EST 2026

Committee: BAT-AAA



Public Input No. 461-NFPA 800-2026 [Section No. 5.3.4.4.3 [Excluding any Sub-Sections]]

~~Dedicated mechanical~~ Mechanical exhaust ventilation shall be provided where battery charging operations are performed for aqueous electrolyte batteries and where the HMA (see Section 4.3) analysis identifies a risk of the production of flammable gases under normal circumstances for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries.

Statement of Problem and Substantiation for Public Input

It is unclear that the exhaust needs to be dedicated. Current codes don't require dedicated exhaust.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 464-NFPA 800-2026 [Section No. 5.6.3.1 [Excluding any Sub-Sections]]	

Submitter Information Verification

Submitter Full Name: Richard Kluge

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Submittal Date: Thu Jan 29 11:47:14 EST 2026

Committee: BAT-AAA



Public Input No. 388-NFPA 800-2026 [Section No. 5.3.4.4.4]

5.3.4.4.4* Rack Storage and Automated Storage Systems.

Formation areas and aging areas for reactive metal chemistry and reactive ion chemistry ~~shall be protected~~ with flammable liquid electrolyte ~~per~~ shall be protected per the HMA.

5.3.4.4.4.1*

Automatic sprinkler protection for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery formation and aging areas shall be protected as stipulated in the HMA.

5.3.4.4.4.2

A minimum of 2 in. (5 cm) of clearance shall be provided between in-rack sprinkler piping/sprinklers and automated storage crane ranges of motion.

5.3.4.4.4.3

In-field validation shall be documented for AHJ approval.

5.3.4.4.4.4*

Ceiling-level sprinkler protection beyond the storage area for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries shall be designed to protect the surrounding occupancy.

5.3.4.4.4.5*

The sprinkler system for reactive metal chemistry and reactive metal ion chemistry with flammable liquid electrolyte batteries shall be hydraulically calculated for a hose stream of 500 gpm (1900 L/min) and a minimum duration of 2 hours.

5.3.4.4.4.6*

If the HMA for reactive metal battery production facilities recommends an automated storage and retrieval system (ASRS), automated storage cranes shall be capable of removing a cell magazine and depositing it into an adjacent water tank upon detection of cell thermal runaway per 5.3.4.4.3.

5.3.4.4.4.7

See Chapter 6 for additional storage requirements for the aging area that have not been covered in this section.

Statement of Problem and Substantiation for Public Input

Re-worded as sentence was out of order

Submitter Information Verification

Submitter Full Name: Lisa Parks

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Submittal Date: Wed Jan 28 14:14:17 EST 2026

Committee: BAT-AAA



Public Input No. 126-NFPA 800-2026 [Section No. 5.3.4.4.4 [Excluding any Sub-Sections]]

Formation areas and aging areas for reactive metal chemistry and reactive ion chemistry ~~shall be protected~~ with flammable liquid electrolyte shall be protected per the HMA.

Statement of Problem and Substantiation for Public Input

Sentence was out of order.

Submitter Information Verification

Submitter Full Name: Kristen Dentici

Organization: Bowman Fire and Life Safety

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City:

State:

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Submittal Date: Tue Jan 06 00:10:07 EST 2026

Committee: BAT-AAA



Public Input No. 159-NFPA 800-2026 [Section No. 5.3.4.4.4 [Excluding any Sub-Sections]]

Formation areas and aging areas for reactive metal chemistry and reactive ion chemistry shall be protected with ~~flammable liquid electrolyte~~ fire suppression systems per the HMA.

Statement of Problem and Substantiation for Public Input

current language requiring protection "WITH flammable liquid electrolyte" doesn't seem to make sense. my edit is an assumption about what was intended for this section but there may have been some other intent.

Submitter Information Verification

Submitter Full Name: Jake West

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Submittal Date: Thu Jan 15 18:38:43 EST 2026

Committee: BAT-AAA



Public Input No. 40-NFPA 800-2026 [Section No. 5.3.4.4.4 [Excluding any Sub-Sections]

]

Formation ~~areas~~ and aging areas for reactive metal chemistry and reactive ion chemistry batteries with flammable liquid electrolyte shall be protected in accordance with flammable liquid electrolyte per the HMA.

Statement of Problem and Substantiation for Public Input

Current wording reads as though the area is “protected with flammable liquid electrolyte,” which is not the intent. This is a plain-language correction that prevents misinterpretation.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

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Submittal Date: Mon Jan 05 15:25:21 EST 2026

Committee: BAT-AAA



Public Input No. 582-NFPA 800-2026 [Section No. 5.3.4.4.4 [Excluding any Sub-Sections]]

Formation areas and aging areas for reactive metal chemistry and reactive ion chemistry shall be protected with flammable liquid electrolyte per the HMA.

Statement of Problem and Substantiation for Public Input

What is this section saying? "shall be protected with flammable liquid electrolyte" wording is incorrect.

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

Street Address:

City:

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Submittal Date: Thu Jan 29 19:00:26 EST 2026

Committee: BAT-AAA



Public Input No. 583-NFPA 800-2026 [Section No. 5.3.4.4.4.3]

5.3.4.4.4.3

In-field validation shall be documented for AHJ approval.

Statement of Problem and Substantiation for Public Input

In-field validation of what specifically? Is this referencing the 2 inch clearance requirement in the previous section 5.3.4.4.4.2?

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

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City:

State:

Zip:

Submittal Date: Thu Jan 29 19:01:21 EST 2026

Committee: BAT-AAA



Public Input No. 65-NFPA 800-2026 [Section No. 5.3.4.4.3]

5.3.4.4.3

In-field validation shall be documented ~~for AHJ approval~~ and submitted to the AHJ. Documentation shall include the validation scope, test procedures, acceptance criteria, and results demonstrating performance of detection, interlocks, and mitigation actions relied upon by the design.

Statement of Problem and Substantiation for Public Input

“In-field validation” is currently undefined, which makes it difficult for AHJs and owners to know what must be validated and documented. Specifying minimum documentation elements improves consistency and supports enforceable acceptance.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

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Submittal Date: Mon Jan 05 16:58:10 EST 2026

Committee: BAT-AAA



Public Input No. 41-NFPA 800-2026 [Section No. 5.3.4.4.4.5]

5.3.4.4.4.5*

The sprinkler system ~~for reactive metal chemistry and reactive metal ion chemistry with flammable liquid electrolyte batteries~~ serving formation and aging rack storage or automated storage systems shall be hydraulically calculated ~~for~~ to include a hose stream allowance of 500 gpm (1900 L/min) and a minimum duration of 2 hours.

Statement of Problem and Substantiation for Public Input

As written, it can be read as applying to the entire manufacturing occupancy. The apparent intent is formation/aging and high-challenge storage arrangements. FM guidance distinguishes water supply duration, including 2 hours for formation/aging and also uses 500 gpm hose stream allowances in multiple sections.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

Street Address:

City:

State:

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Submittal Date: Mon Jan 05 15:27:24 EST 2026

Committee: BAT-AAA



Public Input No. 390-NFPA 800-2026 [Section No. 5.3.4.4.4.6]

5.3.4.4.4.6*

If the HMA for reactive metal battery production facilities recommends an automated storage and retrieval system (ASRS), automated storage cranes shall be capable of removing a cell magazine and depositing it into an adjacent water tank or other acceptable mitigation method upon detection of cell thermal runaway per 5.3.4.4.3.

Statement of Problem and Substantiation for Public Input

Water tanks are not used for all mitigation techniques and would be prohibited for use with Lithium-Metal

Submitter Information Verification

Submitter Full Name: Lisa Parks

Organization: GM

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jan 28 14:16:19 EST 2026

Committee: BAT-AAA



5.3.4.4.4.6*

If the HMA (see 4.3) for reactive metal battery production facilities recommends an automated storage and retrieval system (ASRS), automated storage cranes

shall be capable

are recommended to be equipped with the function of removing a cell magazine and depositing it into an adjacent water tank

upon

after effectively extinguishing and suppressing the battery upon detection of cell thermal runaway per Section 5.3.4.4.3, considering the fire risk of igniting batteries in other storage positions by carrying fire sources during the transfer process, this function shall not be a mandatory requirement . .

Statement of Problem and Substantiation for Public Input

The smoke detection system of the stacker crane can only detect thermal runaway on the stacker crane, while thermal runaway in the battery compartment is detected by the smoke or temperature detection system in the compartment and communicated with the stacker crane.

Based on recent domestic fire safety experiments, there is a risk of stacker crane burning and obstructing fire rescue when picking up goods without suppressing the fire source.

There is a fire risk of carrying a fire source to ignite batteries in other locations during the transfer process. This function is not a mandatory requirement, but can be used as a recommended standard

Submitter Information Verification

Submitter Full Name: Wenmo Liang

Organization: CATL

Street Address:

City:

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Submittal Date: Thu Jan 29 09:10:47 EST 2026

Committee: BAT-AAA



Public Input No. 584-NFPA 800-2026 [Section No. 5.3.4.4.4.6]

5.3.4.4.4.6*

If the HMA for reactive metal battery production facilities recommends an automated storage and retrieval system (ASRS), automated storage cranes shall be capable of removing a cell magazine and depositing it into an adjacent water tank upon detection of cell thermal runaway per 5.3.4.4.3.

Statement of Problem and Substantiation for Public Input

Selection of material handling equipment is not the decision of an HMA. "magazine" is not defined. There is not industry consensus or fire tests/research available that show that automatically moving batteries in active thermal runaway out of their storage location with fixed suppression, handled by equipment that is not fire resistive, and placed in a water tank is good practice. Section reference 5.3.4.4.3 looks like the wrong subsection; this subsection is about mechanical exhaust.

Submitter Information Verification

Submitter Full Name: Corey Kinsman

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Submittal Date: Thu Jan 29 19:02:41 EST 2026

Committee: BAT-AAA



Public Input No. 67-NFPA 800-2026 [Section No. 5.3.4.4.6]

5.3.4.4.6*

if

Where the HMA

~~for reactive metal battery production facilities~~

recommends an automated storage and retrieval system (ASRS), automated storage cranes shall be

capable of removing

permitted to remove a cell magazine and

depositing

deposit it into

an adjacent

a dedicated mitigation location (for example, a water tank) upon detection of cell thermal runaway.

~~per 5.3.4.4.3 :~~

. Where water immersion is used, the method shall be demonstrated compatible with the battery chemistry and shall include controls to manage secondary hazards, in accordance with the HMA and manufacturer guidance.

Statement of Problem and Substantiation for Public Input

The current text reads as mandatory and can introduce secondary hazards for certain chemistries or configurations. Making this an optional, HMA-driven mitigation approach and requiring chemistry compatibility and hazard controls preserves the concept while improving safety and applicability. The existing cross-reference also appears inconsistent with the intended trigger, so revising to “upon detection of cell thermal runaway” avoids dependence on an unrelated subsection.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

Street Address:

City:

State:

Zip:

Submission Date: Mon Jan 05 16:59:19 EST 2026

Committee: BAT-AAA



Public Input No. 462-NFPA 800-2026 [Section No. 5.3.4.4.4.7]

A. 5.3.4.4.4.7 – 6

See Chapter 6 for additional storage requirements for the aging area that have not been covered in this section.

Statement of Problem and Substantiation for Public Input

This comment might be appropriate to include in the annex for 5.3.4.4.4.6. As written, it does not provide a requirement.

Submitter Information Verification

Submitter Full Name: Richard Kluge

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Submittal Date: Thu Jan 29 11:50:25 EST 2026

Committee: BAT-AAA



Public Input No. 232-NFPA 800-2026 [Section No. 5.3.4.5]

5.3.4.5 Battery Testing.

Whether at the battery manufacturing facility or at another manufacturing facility using battery packs or modules in their end-use products, end-of-line testing and repair shall be considered fire protection measures in the HMA.

Statement of Problem and Substantiation for Public Input

The intent of this statement is unclear: "end-of-line testing and repair shall be considered fire protection measures in the HMA." Is this meant to say that 'fire protection measures for end of line testing shall be considered in the HMA?'

Submitter Information Verification

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Submittal Date: Thu Jan 22 13:15:51 EST 2026

Committee: BAT-AAA



Public Input No. 585-NFPA 800-2026 [Section No. 5.3.4.5]

5.3.4.5 Battery Testing.

Whether at the battery manufacturing facility or at another manufacturing facility using battery packs or modules in their end-use products, end-of-line testing and repair shall be considered fire protection measures in the HMA.

Statement of Problem and Substantiation for Public Input

“...testing and repair shall be considered fire protection measures in the HMA.” This needs rewording for clarification. Also, battery testing is also happening at storage facilities.

Submitter Information Verification

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Submittal Date: Thu Jan 29 19:03:51 EST 2026

Committee: BAT-AAA



Public Input No. 46-NFPA 800-2026 [Section No. 5.4]

5.4 Battery Storage.

Battery storage in battery manufacturing facilities shall be protected in accordance with this section and Chapter 6.

5.4.1* Incidental Storage.

5.4.1.1

See Chapter 6 for storage requirements not covered in this section.

5.4.1.2*

Incidental storage shall be protected based on the HMA.

5.4.1.3*

Automatic sprinkler protection for incidental storage shall be protected in accordance with NFPA 13 for expanded and nonexpanded, cartoned Group A plastics.

5.4.2 Defective and Suspect Batteries.

5.4.2.1

Batteries stored in quarantine areas shall be in accordance with Chapter 6.

Statement of Problem and Substantiation for Public Input

No change proposed. Section 5.4 addresses battery storage within manufacturing facilities, including incidental storage and quarantine storage for defective or suspect batteries, but relies heavily on “based on the HMA” and defers many protection decisions to Chapter 6 without establishing a clear prescriptive baseline within this chapter for common storage conditions encountered in manufacturing environments. For common, repeatable storage arrangements (incidental storage, quarantine/segregation areas, and typical packaged storage), the draft would benefit from minimum prescriptive criteria or objective triggers, with the HMA permitted to increase requirements. This would improve consistency between jurisdictions, reduce variability in AHJ interpretation, and support enforceable minimum expectations. See Public Input No. 36 for the general substantiation regarding enforceability and consistency impacts of overreliance on HMA.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 36-NFPA 800-2026 [Section No. 5.2.3]	General substantiation for overreliance on HMA

Submitter Information Verification

Submitter Full Name: Jacob Dentici
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Submission Date: Mon Jan 05 15:44:24 EST 2026
Committee: BAT-AAA



Public Input No. 463-NFPA 800-2026 [Section No. 5.4]

~~5.4 – Battery Storage:~~

~~Battery storage in battery manufacturing facilities shall be protected in accordance with this section and Chapter 6 :~~

~~5.4.1 * – Incidental Storage:~~

~~5.4.1.1 –~~

~~See Chapter 6 for storage requirements not covered in this section:~~

~~5.4.1.2 * –~~

~~Incidental storage shall be protected based on the HMA:~~

~~5.4.1.3 * –~~

~~Automatic sprinkler protection for incidental storage shall be protected in accordance with NFPA 13 for expanded and nonexpanded, cartoned Group A plastics:~~

~~5.4.2 – Defective and Suspect Batteries:~~

~~5.4.2.1 –~~

~~Batteries stored in quarantine areas shall be in accordance with Chapter 6 :~~

Statement of Problem and Substantiation for Public Input

All of this content is currently, or should be, covered by Chapter 6. It is not needed in Chapter 5.

Submitter Information Verification

Submitter Full Name: Richard Kluge

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Submittal Date: Thu Jan 29 11:52:19 EST 2026

Committee: BAT-AAA



Public Input No. 586-NFPA 800-2026 [Section No. 5.4.1]

5.4.1* Incidental Storage.

5.4.1.1

See Chapter 6 for storage requirements not covered in this section.

5.4.1.2*

Incidental storage shall be protected based on the HMA.

5.4.1.3*

Automatic sprinkler protection for incidental storage shall be protected in accordance with NFPA 13 for expanded and nonexpanded, cartoned Group A plastics.

Statement of Problem and Substantiation for Public Input

There needs to be some limitations on what can be considered incidental (ex. storage height, rack vs solid piled, limited area sqft, etc). Large facilities can have huge areas of "incidental" storage.

Submitter Information Verification

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Submittal Date: Thu Jan 29 19:05:02 EST 2026

Committee: BAT-AAA



Public Input No. 440-NFPA 800-2026 [Sections 5.4.1.1, 5.4.1.2]

Sections 5.4.1.1, 5.4.1.2

5.4.1.1

See Chapter 6 for storage requirements not covered in this section.

5.4.1.2*

Incidental storage shall be protected based on the HMA.

The standard should also account for the differences between facilities, such as Material Recovery Facilities (MRFs) that may receive batteries unintentionally, versus facilities that are designed to recycle batteries.

Statement of Problem and Substantiation for Public Input

The standard should also account for the differences between facilities, such as Material Recovery Facilities (MRFs) that may receive batteries unintentionally, versus facilities that are designed to recycle batteries.

Submitter Information Verification

Submitter Full Name: Michael Marino

Organization: Recycled Materials Association (ReMA)

Street Address:

City:

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Submittal Date: Thu Jan 29 10:22:37 EST 2026

Committee: BAT-AAA



TITLE OF NEW CONTENT

Type your content here ...

- 1.The Aging Workshop with high-level racks shall be separated from other areas by fire separation walls with a fire resistance rating of not less than 3.00 h. Such fire separation walls shall be constructed to extend from the base layer of the floor to the ceiling. Where intercommunicating doors are required on the fire separation walls, Class A fire doors shall be installed.
- 2.The Aging Workshop with high-level racks should be divided into multiple independent fire protection units, each meeting the following requirements:
 - a) Be separated from other fire protection units by fire separation walls with a fire resistance rating of not less than 1.00 h.
 - b) Be equipped with an independent smoke exhaust system and air make-up system, with separate air intake and exhaust ducts above and below the suspended ceiling respectively.
- 3.Fire protection units for the Aging storage positions with high-level racks shall be separated by fire separation walls with a fire resistance rating of not less than 0.50 h.
- 4.Automatic sprinkler systems shall be installed at the Aging storage positions with high-level racks, and fire pump connectors of the automatic sprinkler systems shall be installed at locations facilitating the installation and maintenance of the systems.
- 5.Automatic fire alarm systems shall be installed at the Aging storage positions with high-level racks; point, photoelectric, or linear heat fire detectors are recommended. Alarm signals from the equipment shall be able to be transmitted to the 24-hour manned duty post and the fire control room.

Statement of Problem and Substantiation for Public Input

Aging workshops present a high fire hazard potential, requiring enhanced fire protection measures.

Submitter Information Verification

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Submittal Date: Thu Jan 29 09:07:36 EST 2026

Committee: BAT-AAA



Public Input No. 587-NFPA 800-2026 [Section No. 5.4.1.3]

5.4.1.3* –

~~Automatic sprinkler protection for incidental storage shall be protected in accordance with NFPA 13 for expanded and nonexpanded, cartoned Group A plastics.~~

Statement of Problem and Substantiation for Public Input

Recommend deleting this and leaving the design to the HMA as per the previous section, unless there are fire tests that show exposed plastic containers storing charged batteries can be treated the same hazard as cartoned plastic commodities.

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

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Submittal Date: Thu Jan 29 19:06:16 EST 2026

Committee: BAT-AAA



Public Input No. 7-NFPA 800-2025 [Section No. 5.5.2]

5.5.2

An HMA for R&D and testing facilities for batteries with reactive metal chemistry ~~and or~~ reactive ion chemistry with flammable liquid electrolyte ~~batteries~~ shall be required to evaluate hazards and controls.

Statement of Problem and Substantiation for Public Input

As written, it is unclear if all three criteria must be met (reactive metal + reactive ion + flammable electrolyte) in order to require the HMA. Proposed revision is to clarify language if the intent is for HMAs to be required for batteries with: A. reactive metal OR B. reactive ion + flammable electrolyte. Recommend further revision if the intent is to require all three characteristics together or any of the three characteristics individually.

Submitter Information Verification

Submitter Full Name: Kyle Lehman

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Affiliation: SmithGroup

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Submittal Date: Tue Dec 23 11:07:11 EST 2025

Committee: BAT-AAA



5.6 Explosion Prevention and Gas Management.

5.6.1 Hazard Identification.

The HMA shall identify all areas in the facility where explosion hazards exist.

5.6.2* Explosion Prevention.

5.6.2.1*

Where an explosion hazard exists, explosion prevention shall be provided via one of the following methods:

- (1) Explosion protection by deflagration venting in accordance with NFPA 68
- (2) Explosion prevention by combustible concentration reduction in accordance with NFPA 69

5.6.3* Ventilation.

5.6.3.1*

A dedicated, mechanical exhaust system shall be provided where operations, under normal operating conditions and in the absence of such exhaust, could result in concentrations of flammable vapors, gases, fumes, mists, or dusts greater than 25 percent of the lower flammability limit (LFL) of combustible substances or 25 percent of the IDLH for toxic gases at the expected room temperature.

5.6.3.1.1

If there are no calculations to determine whether additional mechanical exhaust ventilation would be required under normal operating conditions, above what is minimally required for the occupancy classification of the room or area in accordance with the local building code, a minimum normal ventilation rate of not less than 1 cfm/ft² (18.3 m³/h per m²) of floor area shall be provided.

5.6.3.1.2

Where required under normal operating conditions due to the hazard potential, exhaust systems shall comply with NFPA 91.

5.6.3.1.3*

Where required due to the hazard potential (see the HMA, Section 4.3), fan blades utilized by the ventilation system shall be of non-sparking construction.

5.6.3.1.4

Makeup air shall be taken from areas where ignitable vapors or dusts are not present.

5.6.3.1.5

Exhaust outlets shall be located toward the top of an enclosure or room where gases are lighter-than-air, and toward the bottom of the enclosure where gases are heavier-than-air.

5.6.3.1.6

The bottom of air inlets shall be no greater than 6 in. (15 cm) above the floor.

5.6.3.1.7

Where required under normal operating conditions due to a hazard potential, exhaust ventilation shall be monitored by the fire alarm system and interlocked to enable automatic shutdown of the protected process in the event of failure of the ventilation system.

5.6.3.2*

Where ventilation is used for explosion prevention for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries, the required ventilation rate shall be determined from an engineering analysis in accordance with NFPA 69; or an emergency ventilation rate of 150 percent of the normal ventilation rate, shall be automatically activated, upon gas detection installed in accordance with 5.6.2.

5.6.3.2.1

Emergency ventilation for explosion prevention shall be automatically activated by gas detection in accordance with NFPA 69 and 5.6.4.

5.6.4 Gas Detection.

5.6.4.1*

Combustible and carbon monoxide gas detection shall be provided in all manufacturing and storage areas where explosion hazards associated with thermal runaway from reactive metal chemistry batteries or reactive ion chemistry batteries with flammable liquid electrolyte have been identified in accordance with 5.6.1.

5.6.4.2

For wet coating operations and drying operations with cells/batteries using carbonate electrolytes, combustible gas detection shall be used where indicated by the HMA.

5.6.4.2.1

For wet coating operations and drying operations that use NMP solvents, specialized NMP detectors shall be used where indicated by the HMA.

5.6.4.3*

For reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries, hydrogen fluoride (HF) detection shall be used in filling and formation/activation areas if indicated by the HMA.

5.6.4.4*

Combustible gas detectors shall be designed to alarm at a threshold of 25 percent of the LFL or less.

5.6.4.5*

Gas detection systems shall be designed, installed, tested, and maintained in accordance with *NFPA 72*.

Statement of Problem and Substantiation for Public Input

No change proposed. Section 5.6 establishes explosion hazard identification, explosion prevention methods, ventilation criteria, and gas detection; however, several key design and application decisions are driven primarily by the HMA or engineering analysis (for example, determining where explosion hazards exist, selecting prevention/control approaches, establishing ventilation rates beyond minimums, determining detector types and locations, and defining interlocks and shutdown logic). While HMA and engineering analysis are appropriate, the repeated reliance on them as the primary compliance pathway can lead to inconsistent implementation and AHJ review outcomes for similar operations. The chapter would benefit from minimum prescriptive baseline criteria or objective triggers for common manufacturing and storage configurations, with the HMA permitted to increase protection. See Public Input No. 36 for the general substantiation regarding enforceability and consistency impacts of overreliance on HMA.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 36-NFPA 800-2026 [Section No. 5.2.3]</u>	General substantiation for overreliance on HMA

Submitter Information Verification

Submitter Full Name: Jacob Dentici

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Submittal Date: Mon Jan 05 15:45:44 EST 2026

Committee: BAT-AAA



5.6 Explosion Prevention and Gas Management.

5.6.1 Hazard Identification.

The HMA shall identify all areas in the facility where explosion hazards exist.

5.6.2* Explosion Prevention.

5.6.2.1*

Where an explosion hazard exists, explosion prevention shall be provided via one of the following methods:

- (1) Explosion protection by deflagration venting in accordance with NFPA 68
- (2) Explosion prevention by combustible concentration reduction in accordance with NFPA 69

5.6.3* Ventilation.

5.6.3.1*

A dedicated, mechanical exhaust system shall be provided where operations, under normal operating conditions and in the absence of such exhaust, could result in concentrations of flammable vapors, gases, fumes, mists, or dusts greater than 25 percent of the lower flammability limit (LFL) of combustible substances or 25 percent of the IDLH for toxic gases at the expected room temperature.

5.6.3.1.1

If there are no calculations to determine whether additional mechanical exhaust ventilation would be required under normal operating conditions, above what is minimally required for the occupancy classification of the room or area in accordance with the local building code, a minimum normal ventilation rate of not less than 1 cfm/ft² (18.3 m³/h per m²) of floor area shall be provided.

5.6.3.1.2

Where required under normal operating conditions due to the hazard potential, exhaust systems shall comply with NFPA 91.

5.6.3.1.3*

Where required due to the hazard potential (see the HMA, Section 4.3), fan blades utilized by the ventilation system shall be of non-sparking construction.

5.6.3.1.4

Makeup air shall be taken from areas where ignitable vapors or dusts are not present.

5.6.3.1.5

Exhaust outlets shall be located toward the top of an enclosure or room where gases are lighter-than-air, and toward the bottom of the enclosure where gases are heavier-than-air.

5.6.3.1.6

The bottom of air inlets shall be no greater than 6 in. (15 cm) above the floor.

5.6.3.1.7

Where required under normal operating conditions due to a hazard potential, exhaust ventilation shall be monitored by the fire alarm system and interlocked to enable automatic shutdown of the protected process in the event of failure of the ventilation system.

5.6.3.2*

Where ventilation is used for explosion prevention for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries, the required ventilation rate shall be determined from an engineering analysis in accordance with NFPA 69; or an emergency ventilation rate of 150 percent of the normal ventilation rate, shall be automatically activated, upon gas detection installed in accordance with 5.6.2.

5.6.3.2.1

Emergency ventilation for explosion prevention shall be automatically activated by gas detection in accordance with NFPA 69 and 5.6.4.

5.6.4 Gas Detection.

5.6.4.1*

Combustible and carbon monoxide gas detection shall be provided in all manufacturing and storage areas where explosion hazards associated with thermal runaway from reactive metal chemistry batteries or reactive ion chemistry batteries with flammable liquid electrolyte have been identified in accordance with 5.6.1.

5.6.4.2

For wet coating operations and drying operations with cells/batteries using carbonate electrolytes, combustible gas detection shall be used where indicated by the HMA.

5.6.4.2.1

For wet coating operations and drying operations that use NMP solvents, specialized NMP detectors shall be used where indicated by the HMA.

5.6.4.3*

For reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries, hydrogen fluoride (HF) detection shall be used in filling and formation/activation areas if indicated by the HMA.

5.6.4.4*

Combustible gas detectors shall be designed to alarm at a threshold of 25 percent of the LFL or less.

5.6.4.5*

Gas detection systems shall be designed, installed, tested, and maintained in accordance with *NFPA 72*.

Statement of Problem and Substantiation for Public Input

This title and all subsections need to be consistent with NFPA terminology for the terms gas/flammable vapors/ignitable vapors/combustible gas/flammable vs ignitable liquid.

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Submission Date: Thu Jan 29 19:08:06 EST 2026

Committee: BAT-AAA



Public Input No. 193-NFPA 800-2026 [Section No. 5.6.2]

5.6.2* Explosion Prevention and Control .

5.6.2.1*

Where an explosion hazard exists, explosion prevention shall be ~~provided via one of the following methods:~~

- ~~Explosion protection by deflagration venting in accordance with NFPA 68~~

~~Explosion prevention by~~ provided by combustible concentration reduction in accordance with NFPA 69 . In addition, a partial volume deflagration evaluation shall be conducted in accordance with NFPA 68.

Statement of Problem and Substantiation for Public Input

The text of 5.6.2.1, providing an option of deflagration venting, is inconsistent with the original wording of 5.6.2, 'explosion prevention.' The proposed modification to 5.6.2.1, requiring CCR to meet NFPA 69 and adding a partial-volume deflagration analysis, is consistent with the approach taken in NFPA 855. With the added requirement of the partial-volume deflagration analysis, it seems appropriate to rename the heading of 5.6.2 to 'Explosion prevention and control.'

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 194-NFPA 800-2026 [Section No. 4.4.4]	
Public Input No. 203-NFPA 800-2026 [Section No. 8.2.5]	

Submitter Information Verification

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Submission Date: Mon Jan 19 13:11:25 EST 2026

Committee: BAT-AAA



Public Input No. 155-NFPA 800-2026 [Section No. 5.6.2.1]

5.6.2.1*

Where an explosion hazard exists, explosion prevention shall be provided via one of the following methods:

- (1) Explosion protection by deflagration venting in accordance with NFPA 68
- (2) Explosion ~~prevention by combustible concentration reduction in~~ prevention in accordance with NFPA 69

Statement of Problem and Substantiation for Public Input

Explosion prevention only by Combustible Concentration Reduction limits flexibility of manufacturers, owners, and operators from utilizing all methods listed in NFPA 69 to control explosions. Any method of explosion control should be satisfactory for meeting the requirements of this specification and document as all methods are listed and approved in NFPA 69 for explosion prevention systems.

Submitter Information Verification

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Submittal Date: Wed Jan 14 09:48:41 EST 2026

Committee: BAT-AAA



Public Input No. 225-NFPA 800-2026 [Section No. 5.6.2.1]

5.6.2.1*

Where an explosion hazard exists, explosion prevention shall be provided via one of the following methods:

- (1) Explosion protection by deflagration venting in accordance with NFPA 68
- (2) Explosion prevention by combustible concentration reduction in accordance with NFPA 69
- (3) Explosion prevention by vapor encapsulation with deluge or mist with agent meeting NFPA 18A, Section 7.7 for the hazard as tested

Statement of Problem and Substantiation for Public Input

This provides an alternative to the other two methods which meets the purpose of the section, and also prevents further propagation of the thermal runaway/vapor producing event, thus eliminating the need. Stopping the event is more relevant to the problem than simply ventilating or reducing vapors, neither of which stops the event root cause.

Submitter Information Verification

Submitter Full Name: Daniel Miller

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Submittal Date: Tue Jan 20 12:46:32 EST 2026

Committee: BAT-AAA



Public Input No. 464-NFPA 800-2026 [Section No. 5.6.3.1 [Excluding any Sub-Sections]]

A ~~dedicated~~ mechanical exhaust system shall be provided where operations, under normal operating conditions and in the absence of such exhaust, could result in concentrations of flammable vapors, gases, fumes, mists, or dusts greater than 25 percent of the lower flammability limit (LFL) of combustible substances or 25 percent of the IDLH for toxic gases at the expected room temperature.

5.6.3.1 The system shall be sized and operated so that concentrations of flammable vapors, gases, fumes, mists, or dusts do not exceed 25 percent of the lower flammability limit (LFL) of combustible substances or 25 percent of the IDLH for toxic gases.

Statement of Problem and Substantiation for Public Input

Other codes and standards, including the IFC, older editions of NFPA 1 and currently NFPA 855 do not require a dedicated exhaust system. Any monitored and reliable exhaust system would be sufficient.

The current text says to provide ventilation, but does not clearly state the system shall maintain conditions below 25% LFL. That is important and can be addressed by rewording 5.6.3.1 or adding a subsequent requirement as proposed.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 461-NFPA 800-2026 [Section No. 5.3.4.4.3 [Excluding any Sub-Sections]]</u>	Same issue with respect to dedicated ventilation system

Submitter Information Verification

Submitter Full Name: Richard Kluge

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Affiliation: ATIS

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Submittal Date: Thu Jan 29 11:54:41 EST 2026

Committee: BAT-AAA



Public Input No. 70-NFPA 800-2026 [Section No. 5.6.3.1 [Excluding any Sub-Sections]]

A dedicated, mechanical exhaust system shall be provided where operations, under normal operating conditions and in the absence of such exhaust, could result in concentrations of flammable vapors, gases, fumes, ~~mists, or dusts greater~~ mists greater than 25 percent of the lower flammability limit (LFL) of ~~combustible substances or 25 percent of the IDLH for toxic gases~~ at the expected room temperature. Where toxic gas hazards are present under normal operating conditions, ventilation design shall be based on an engineering analysis using applicable exposure criteria and the HMA.

Statement of Problem and Substantiation for Public Input

IDLH is an emergency response planning value and is not typically used as a design concentration criterion for normal operations ventilation. Separating flammability-based criteria from toxicity-based criteria improves clarity, reduces misapplication, and provides a defensible engineering basis tied to recognized exposure criteria and the HMA.

Submitter Information Verification

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Organization: Bowman Fire & Life Safety

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Submittal Date: Mon Jan 05 17:09:19 EST 2026

Committee: BAT-AAA



Public Input No. 465-NFPA 800-2026 [Section No. 5.6.3.1.1]

5.6.3.1.1 –

~~If there are no calculations to determine whether additional mechanical exhaust ventilation would be required under normal operating conditions, above what is minimally required for the occupancy classification of the room or area in accordance with the local building code, a minimum normal ventilation rate of not less than 1 cfm/ft² (10.3 m³/h per m²) of floor area shall be provided.~~

Statement of Problem and Substantiation for Public Input

There is no correlation between floor area and hydrogen production. The amount of ventilation should be based on actual data. One CFM/square foot is extremely wasteful in almost every case. If we are concerned about energy efficiency, global warming and green initiatives this option should be eliminated. Regardless, for safety, ventilation always needs to meet the 25% limits of 5.6.3.1.1. If we want to indicate 1 cfm/square foot is a conservative (10x to 100x excessive) option to achieve 25% of LFL, it should be noted in an annex rather than the code body as 5.6.3.1 is the real goal.

Submitter Information Verification

Submitter Full Name: Richard Kluge

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Submittal Date: Thu Jan 29 12:09:58 EST 2026

Committee: BAT-AAA



Public Input No. 468-NFPA 800-2026 [Section No. 5.6.3.1.6]

5.6.3.1.6 –

The bottom of air inlets shall be no greater than 6 in. (15 cm) above the floor.

Statement of Problem and Substantiation for Public Input

This is a security, flooding and vandalism concern and would prevent ventilation air introduction from roof top units which are very common.

Submitter Information Verification

Submitter Full Name: Richard Kluge

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Submission Date: Thu Jan 29 12:38:04 EST 2026

Committee: BAT-AAA



Public Input No. 72-NFPA 800-2026 [Section No. 5.6.3.1.6]

5.6.3.1.6

~~The~~ Where gases are heavier-than-air, the bottom of air inlets shall be no greater than 6 in. (15 cm) above the floor.

Statement of Problem and Substantiation for Public Input

The draft already uses buoyancy logic for exhaust outlet location. Applying a fixed low-level inlet requirement to all gases may be inconsistent for lighter-than-air scenarios. Limiting the low-level inlet criterion to heavier-than-air gases aligns the provisions and supports appropriate capture.

Submitter Information Verification

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Submittal Date: Mon Jan 05 17:12:18 EST 2026

Committee: BAT-AAA



Public Input No. 74-NFPA 800-2026 [Section No. 5.6.3.1.7]

5.6.3.1.7

Where required under normal operating conditions due to a hazard potential, exhaust ventilation shall be monitored ~~by the fire alarm system and interlocked to enable automatic~~ and shall initiate an automatic safe shutdown of the ~~protected~~ affected process upon ventilation failure, in the event of failure of the ventilation system. accordance with the HMA.

Statement of Problem and Substantiation for Public Input

“Shutdown” without defining the objective can lead to inconsistent outcomes and unsafe states. Requiring a “safe shutdown” consistent with the HMA improves enforceability, clarifies intent, and supports reliable risk reduction.

Submitter Information Verification

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Submittal Date: Mon Jan 05 17:13:34 EST 2026

Committee: BAT-AAA



Public Input No. 501-NFPA 800-2026 [Section No. 5.6.3.2 [Excluding any Sub-Sections]]

Where ventilation is used for explosion prevention for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries, the required ventilation rate shall be determined from an engineering analysis in accordance with NFPA 69 ~~or an emergency ventilation rate of 150 percent of the normal ventilation rate,~~ and shall be automatically activated, upon gas detection installed in accordance with 5.6.2.

Statement of Problem and Substantiation for Public Input

The explosion hazards associated with reactive metal chemistry and reactive ion chemistry batteries with flammable liquid electrolytes are highly dependent on numerous variables, including battery chemistry, energy capacity, state of charge, electrolyte composition, enclosure volume, room geometry, leakage characteristics, and ventilation effectiveness. As a result, a fixed emergency ventilation rate expressed as a percentage of a “standard” ventilation rate may not adequately address the hazard under all conditions.

The prescriptive emergency ventilation rate of 150 percent does not account for scenarios in which the baseline ventilation rate is relatively low, the potential gas release rate is high, or room characteristics limit effective dilution or removal of flammable vapors. In such cases, compliance with a percentage-based requirement could provide a false sense of safety while failing to prevent the accumulation of flammable concentrations.

NFPA 69 requires a performance-based engineering analysis that evaluates all relevant parameters, including gas generation rates, ventilation effectiveness, ignition prevention objectives, and enclosure characteristics, to ensure that flammable concentrations are prevented or controlled as intended. Requiring an engineering analysis in accordance with NFPA 69 ensures that explosion prevention ventilation systems are appropriately designed for the specific hazards present, rather than relying on a one-size-fits-all prescriptive multiplier.

This modification improves consistency with established explosion prevention principles, results in more reliable and defensible designs, and ensures that ventilation systems provide an appropriate level of protection for the wide range of battery types, sizes, and installation conditions addressed by this code.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 502-NFPA 800-2026 [Section No. A.5.6.3.2]</u>	Revised annex material for the proposed revision 5.6.3.2.
<u>Public Input No. 502-NFPA 800-2026 [Section No. A.5.6.3.2]</u>	

Submitter Information Verification

Submitter Full Name: Jon Reymann

Organization: Coffman Engineers

Street Address:

City:

State:

Zip:

Submission Date: Thu Jan 29 15:19:42 EST 2026

Committee: BAT-AAA



Public Input No. 42-NFPA 800-2026 [Section No. 5.6.4.1]

5.6.4.1*

~~Combustible and carbon monoxide gas~~ Combustible gas detection shall be provided in all manufacturing and storage areas where explosion hazards associated with thermal runaway from reactive metal chemistry batteries or reactive ion chemistry batteries with flammable liquid electrolyte have been identified in accordance with 5.6.1. Additional detection (for example, carbon monoxide, smoke, or other fire effluent detection) shall be provided where indicated by the HMA or engineering analysis.

Statement of Problem and Substantiation for Public Input

CO is not a universal indicator for all battery off-gas scenarios and can create false positives or misapplication. Making CO conditional on the hazard basis improves design intent and enforceability.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

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Submittal Date: Mon Jan 05 15:30:16 EST 2026

Committee: BAT-AAA



Public Input No. 426-NFPA 800-2026 [Section No. 5.6.4.1]

5.6.4.1*

~~Combustible and carbon monoxide gas~~

Smoke detection devices shall be provided in all manufacturing and storage areas where explosion hazards associated with thermal runaway from reactive metal chemistry batteries . Combustible gas detection devices should be installed in plants with electrolyte volatilization areas or reactive ion chemistry batteries with flammable liquid electrolyte have been identified in accordance with 5.6.1

:

Statement of Problem and Substantiation for Public Input

The tested CO detection device only works when incomplete combustion, and in multiple battery cell failure experiments, the early-mid-fire failed to alarm in time.

Submitter Information Verification

Submitter Full Name: Wenmo Liang

Organization: CATL

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City:

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Submittal Date: Thu Jan 29 09:19:08 EST 2026

Committee: BAT-AAA



Public Input No. 425-NFPA 800-2026 [Section No. 5.6.4.2 [Excluding any Sub-Sections]]

For wet coating operations and drying operations with cells/batteries using carbonate electrolytes, combustible gas detection shall be used where indicated by the HMA.

For reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries, detection systems for electrolyte components (e.g., dimethyl carbonate, diethyl carbonate) shall be used in filling and formation/activation areas if indicated by the HMA (see 4.3).

Statement of Problem and Substantiation for Public Input

HF detector may not detect, delay the fire alarm time, it is more appropriate to set smoke in the chemical forming equipment

Submitter Information Verification

Submitter Full Name: Wenmo Liang

Organization: CATL

Street Address:

City:

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Submittal Date: Thu Jan 29 09:17:31 EST 2026

Committee: BAT-AAA



Public Input No. 156-NFPA 800-2026 [Section No. 5.6.4.2.1]

5.6.4.2.1

For wet coating operations and drying operations that use NMP solvents, specialized NMP detectors shall be used where indicated by the HMA or where required by NFPA 30 .

Statement of Problem and Substantiation for Public Input

This statement without reference to NFPA 30, short circuits designed requirements listed in NFPA 30 17.11.2

Submitter Information Verification

Submitter Full Name: Antonio Ochoa

Organization: General Motors

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State:

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Submittal Date: Wed Jan 14 09:58:45 EST 2026

Committee: BAT-AAA



Public Input No. 427-NFPA 800-2026 [Section No. 5.6.4.3]

5.6.4.3*

For reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries, hydrogen fluoride (HF) detection shall be used at the end of the centralized extraction air treatment pipeline in filling and formation/activation areas if indicated by the HMA (see 4 . 3).

Statement of Problem and Substantiation for Public Input

Since electrolytes only react to produce HF when absorbing water, the current process is an ultra-low humidity drying room. During the normal process, HF is hardly detected in the environment. Liquid injection or forming negative pressure pipeline systems can set up HF detection and treatment devices.

Submitter Information Verification

Submitter Full Name: Wenmo Liang

Organization: CATL

Street Address:

City:

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Zip:

Submittal Date: Thu Jan 29 09:20:17 EST 2026

Committee: BAT-AAA



Public Input No. 589-NFPA 800-2026 [Section No. 5.6.4.3]

5.6.4.3*

For reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries, hydrogen fluoride (HF) detection shall be used in filling and formation/activation areas if indicated by the HMA.

Statement of Problem and Substantiation for Public Input

What is the justification for HF specific detection? Is there research data to support this requirement?

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

Street Address:

City:

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Submittal Date: Thu Jan 29 19:09:01 EST 2026

Committee: BAT-AAA



Public Input No. 157-NFPA 800-2026 [Section No. 5.6.4.4]

5.6.4.4*

Combustible gas detectors shall be designed to alarm at a threshold of 25 percent of the LFL or less, unless allowed by NFPA 86 or NFPA 91.

Statement of Problem and Substantiation for Public Input

This requirement puts undue strain on manufacturer's as NFPA 86 allows for LFL levels up to 50% LFL for Class A solvent ovens provided or mitigations are in place and NFPA 91 allows for up to 60% LFL for the conveyance of vapors, gases, mists, and particulate solids.

Submitter Information Verification

Submitter Full Name: Antonio Ochoa

Organization: General Motors

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Submittal Date: Wed Jan 14 10:04:39 EST 2026

Committee: BAT-AAA



Public Input No. 386-NFPA 800-2026 [New Section after 5.6.4.5]

5.6.4.5.1 Carbon Monoxide Detectors

5.6.4.5.1.1

Carbon monoxide detectors shall be listed and labeled in accordance with applicable standards, such as UL 2075, Gas and Vapor Detectors and Sensors, or have approval per FM Approvals 6320, Combustible Gas Detectors.

5.6.4.5.1.2

Carbon monoxide detectors shall be set to respond to the sensitivity limits specified in UL 2034, Single and Multiple Station Carbon Monoxide Alarms.

Statement of Problem and Substantiation for Public Input

The requirement for carbon monoxide detectors shall be aligned with NPFA 1, Fire Code 13.7.2.30.2

Submitter Information Verification

Submitter Full Name: Yi Ji

Organization: UL Standards & Engagement

Affiliation: UL Standards & Engagement

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Submission Date: Wed Jan 28 14:10:41 EST 2026

Committee: BAT-AAA



Public Input No. 43-NFPA 800-2026 [Section No. 5.6.4.5]

5.6.4.5*

Gas detection systems shall be designed, installed, tested, and maintained in accordance with *NFPA 72 72* and the manufacturer's published installation, calibration, and maintenance instructions .

Statement of Problem and Substantiation for Public Input

NFPA 72 provides system-level requirements, but detector siting, cross-sensitivities, calibration intervals, and environmental limitations are manufacturer-specific. Explicitly requiring manufacturer instructions reduces misapplication and improves reliability.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

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Submittal Date: Mon Jan 05 15:33:23 EST 2026

Committee: BAT-AAA



Public Input No. 196-NFPA 800-2026 [Section No. 5.7.1]

5.7.1 Emergency ~~Action~~ Response Plan.

5.7.1.1*

Facilities shall implement an emergency response plan (ERP) in accordance with NFPA 1660 or and equivalent standard per the AHJ.

5.7.1.1.1*

OEMs assembling equipment that contains a battery pack rated at 1 kWh or greater shall implement an ERP that includes emergency response guidance from the battery module or pack manufacturer.

5.7.1.1.2*

See Chapter 4 for further guidance on emergency response plans.

Statement of Problem and Substantiation for Public Input

The original heading, 'emergency action plan,' was inconsistent with the term, 'emergency response plan,' used in the body of the section.

Submitter Information Verification

Submitter Full Name: James McDowall

Organization: McDowall Advisors LLC

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Submission Date: Mon Jan 19 13:38:29 EST 2026

Committee: BAT-AAA



Public Input No. 212-NFPA 800-2026 [Section No. 5.7.1.1 [Excluding any Sub-Sections]]

Facilities shall implement an emergency response plan (ERP) in accordance with NFPA 1660 or ~~and~~ equivalent standard per the AHJ.

Statement of Problem and Substantiation for Public Input

Per the MOS you can use and/or.

Submitter Information Verification

Submitter Full Name: Steven Sawyer

Organization: Self-Employed

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City:

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Zip:

Submittal Date: Tue Jan 20 08:51:17 EST 2026

Committee: BAT-AAA



Public Input No. 590-NFPA 800-2026 [Section No. 5.7.1.1 [Excluding any Sub-Sections]]

Facilities shall implement an emergency response plan (ERP) in accordance with NFPA 1660 or ~~and equivalent~~ an equivalent standard per the AHJ.

Statement of Problem and Substantiation for Public Input

Need consistent terminology for EAP or ERP and consistency with NFPA 1660. Also, "and" should be "an".

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 19:14:11 EST 2026

Committee: BAT-AAA



Public Input No. 76-NFPA 800-2026 [Section No. 5.7.1.1 [Excluding any Sub-Sections]]

Facilities shall implement an emergency response plan (ERP) in accordance with NFPA 1660 or ~~and equivalent~~ an equivalent standard ~~per~~ acceptable to the AHJ.

Statement of Problem and Substantiation for Public Input

Corrects a grammatical error and adds an enforceable equivalency acceptance basis.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 05 17:15:09 EST 2026

Committee: BAT-AAA



Public Input No. 77-NFPA 800-2026 [Section No. 5.7.1.1.1]

5.7.1.1.1*

OEMs assembling equipment that contains a battery pack rated at 1 kWh or greater ~~shall~~ or where identified by the HMA as presenting a significant fire, deflagration, or explosion hazard, shall implement an ERP that includes emergency response guidance from the battery module or pack manufacturer.

Statement of Problem and Substantiation for Public Input

A fixed 1 kWh threshold may be viewed as arbitrary without a stated technical basis and may not align with the hazard profile of all equipment types and chemistries. Adding an HMA-based trigger preserves the threshold as a common screening value while ensuring higher-hazard applications below 1 kWh are not inadvertently excluded.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

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Submittal Date: Mon Jan 05 17:16:08 EST 2026

Committee: BAT-AAA



Public Input No. 197-NFPA 800-2026 [Section No. 5.9.2]

5.9.2

Safety training records shall be documented for at least three years or for as long as the facility has been in operation, whichever is shorter .

Statement of Problem and Substantiation for Public Input

The revised text makes allowance for facilities that may have been in operation for less than three years. After three years, the 'at least three years' requirement is valid.

Submitter Information Verification

Submitter Full Name: James McDowall

Organization: McDowall Advisors LLC

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City:

State:

Zip:

Submittal Date: Mon Jan 19 13:42:49 EST 2026

Committee: BAT-AAA



Chapter 6 Storage of Batteries and Battery Products

6.1 * – Scope:

The requirements in this chapter shall apply to areas associated with the collection or storage of batteries whether separate from or integrated into equipment.

6.1.1 –

The requirements of this section shall also apply to cells, batteries, BPE, and electric vehicles requiring storage as a part of public or private sector activities related to research, testing, and investigations for forensic examination or other scientific analysis.

6.1.2 –

Where the provisions of NFPA 855 conflict with the requirements of this code for the storage of batteries, the provisions of this code shall apply.

6.1.3 –

This chapter shall not apply to the following:

- (1) Equipment covered by the requirements of ~~GH XX Storage of Vehicles Containing Batteries Electric Vehicle~~
- (2) Areas where new or refurbished batteries are being installed for use in the devices, equipment, or vehicles they are designed to power
- (3) Areas where new or refurbished individual batteries rated at no more than 1000 Wh (3.6 MJ) and reactive metal batteries containing no more than 0.05 lb (25 g) of reactive metal are in their original retail packaging, except as provided in 6.1.4 or when in a storage classification
- (4) Areas where batteries are staged in the manufacturing area or along assembly lines during the manufacturing process, when in accordance with Chapter 5
- (5) Areas where batteries are in use and are staged for recharging and swap out
- (6) Areas used for incidental storage

6.1.4 –

This chapter shall apply to individual reactive metal or reactive ion batteries less than 1 kWh when aggregated in quantities exceeding 20 kWh and not separated horizontally from other combustibles by at least 3 ft of air or a fire barrier.

6.1.5 –

Aqueous electrolyte batteries shall only be required to comply with 6.2.1 and 6.2.2 :

6.1.6 * –

Batteries stored in a facility operated in accordance with written and approved procedures to maintain the battery state of charge at less than or equal to 30 percent shall only be required to comply with 6.2.1 and 6.2.3 :

6.2 – General:

6.2.1 – General Requirements:

6.2.1.1 – Battery Protection:

Batteries being stored or collected shall have their terminals protected either through battery design methods or a protective packaging method to prevent short-circuiting of batteries.

6.2.1.2 – Hazardous Locations:

Batteries shall not be stored in hazardous (classified) locations unless specifically listed, labeled, or otherwise identified for use within the hazardous (classified) location in accordance with ~~NFPA 70~~ :

6.2.1.3 * – Separation from High-Hazard Contents:

Batteries shall not be stored in areas containing other high hazard contents, with the exception of high hazard contents level 4, unless separated by one of the following:

- (1) A noncombustible partition, extending vertically a minimum of 1.5 ft above the top of the highest container, and extending horizontally a minimum of 1.5 ft and having a fire resistance rating of at least 1-hour
- (2) A minimum horizontal separation distance of 10 ft (3 m) maintained free of combustibles

6.2.1.3.1 * –

Alternative methods of protection or reduced separation distances shall be permitted where specifically justified by the hazard mitigation analysis (HMA) conducted in accordance with 6.2.2 and where approved by the AHJ.

6.2.1.4 * – Containers:

Containers used for the storage or collection of batteries shall comply with all of the following:

- (1) Containers shall be capable of relieving gases generated during thermal runaway to prevent overpressurization.
- (2) Containers shall be suitable for the anticipated weather and temperature conditions encountered during storage or collection.
- (3) Containers shall be constructed in accordance with US DOT requirements for batteries, or of a type approved by the AHJ.
- (4) Containers shall be free of damage that compromises their integrity.

6.2.1.4.1 * –

Batteries shall not be stored in packaging or containers where damage has compromised the integrity of the packaging or container.

6.2.1.5 * – Safety Data Sheets:

Safety data sheets (SDS) for all stored batteries shall be maintained where required by applicable regulations.

6.2.1.6 * – Classification as Storage Occupancies:

Battery storage areas shall have an occupancy classification as storage in accordance with NFPA 101.

6.2.1.7 – High Pile Storage:

Battery storage areas stored in high-piled storage shall comply with NFPA 1 and *NFPA 5000*, as applicable.

6.2.2 – Hazard Analysis:

6.2.2.1 * – Hazard Mitigation Analysis (HMA):

A hazard mitigation analysis (HMA), as required by Section 4.3, shall be prepared to evaluate the hazards associated with the battery storage area(s), facility, or operation.

6.2.2.1.1 –

Where credible deflagration hazards are identified, protective measures shall be evaluated and implemented in accordance with NFPA 68 and NFPA 69, as applicable.

6.2.2.1.2 –

Alternate means of protection shall be permitted where justified by the HMA and approved by the AHJ.

6.2.3 * – Fire Protection:

6.2.3.1 – Indoor Areas:

6.2.3.1.1 * – Suppression:

Each area where batteries are stored indoors shall be provided with an approved automatic fire suppression system designed in accordance with the findings of the HMA required by 6.2.2 :

6.2.3.1.2 – Fire Alarm and Detection:

Where required by the HMA, battery storage areas shall be provided with an approved fire alarm and fire detection system.

6.2.3.1.2.1 –

The fire alarm and fire detection system required by 6.2.3.1.2 shall be designed in accordance with the findings of HMA.

(A) –

The fire alarm and fire detection system shall be installed in accordance with *NFPA 72* :

6.2.3.1.2.2 –

Occupant notification shall be provided and installed in accordance with *NFPA 72* :

6.2.3.2 – Outdoor Storage Areas:

6.2.3.2.1 –

Areas where batteries are stored outdoors shall have a reliable source of water for fire protection. (See 6.2.3.2.2.)

6.2.3.2.2 –

For outdoor areas where no permanent adequate and reliable water supply exists for firefighting purposes, the requirements of *NFPA 1142* shall apply.

6.2.4 – Collection of Batteries:

Indoor areas, in any occupancy, where used or damaged batteries are collected or stored after collection from employees or the public shall be exempt from the provisions of this chapter, provided that they comply with 6.2.4.1 through 6.2.4.3, as applicable.

6.2.4.1 * – Collection of Batteries:

Collection of used or damaged batteries shall comply with the requirements of 6.2.4.1.1 through 6.2.4.1.5:

6.2.4.1.1 –

Individual collection containers shall not exceed 7.5 ft³ (0.21 m³) in capacity.

6.2.4.1.2 –

The aggregate capacity of all containers at a single collection location shall not exceed 15 ft³ (0.42 m³).

6.2.4.1.3 –

Containers actively being used for the collection of batteries shall comply with all of the following:

- (1) Containers shall be provided with a minimum of 3 ft (0.9 m) of open space from other battery collection containers and combustible materials.
- (2) Containers shall be located a minimum of 5 ft (1.5 m) from exits serving the room, space, or building in which the container is located.
- (3) Containers shall comply with 6.2.1.4.
- (4) Containers shall be placed only on the ground floor and on a stable surface.

6.2.4.1.3.1 –

A means of detection and notification shall be provided where collection containers are located, except where in accordance with 6.2.4.1.3.1(A) :

(A) –

Where collection containers are under continuous attendance, a means of detection and notification shall not be required.

6.2.4.1.4 –

Where combustible materials are located within the space between collection containers, the containers shall be spaced a minimum of 10 ft (3 m) apart.

6.2.5 – Indoor Storage:

6.2.5.1 – General:

Batteries stored indoors shall be stored in accordance with one or more of the methods provided in 6.2.5.3.1 through 6.2.5.3.3 :

6.2.5.2 – Fire Protection and Notification:

Batteries stored indoors shall comply with 6.2.3.1 :

6.2.5.3 – Storage Methods:

6.2.5.3.1 – Rooms or Spaces:

Batteries stored in rooms or spaces shall be separated from the remainder of the building areas by fire barriers with a 2-hour fire resistance rating and with horizontal assemblies with a 2-hour fire resistance rating constructed in accordance with the local building code, except where in accordance with 6.2.5.3.1.1 :

6.2.5.3.1.1 –

The fire resistance rating of barriers shall be permitted to be reduced where approved by the AHJ and in accordance with the HMA:

6.2.5.3.2 – Prefabricated Portable Structure:

Prefabricated portable buildings or structures that store batteries shall be listed or approved with a 2-hour fire resistance rating, except where in compliance with 6.2.5.3.1.1 :

6.2.5.3.2.1 –

Where the HMA demonstrates that automatic suppression is not necessary, compliance with 6.2.3.1 shall not be required when approved by the AHJ:

6.2.5.3.3 – Containers:

Batteries stored in containers complying with 6.2.1.4 shall be permitted to be stored in areas, providing they comply with the following:

- (1) Individual storage piles do not exceed 200 ft² (18.6 m²) in area
- (2) Storage is located a minimum of 10 ft (3 m) from other battery storage areas

6.2.6 – Outdoor Storage Locations:

6.2.6.1 – Pile Requirements:

Outdoor storage locations for batteries shall comply with the following:

- (1) Individual piles shall not exceed 1000 ft² (93 m²) in area.
- (2) Individual piles shall be separated from other piles by 10 ft (3 m).
- (3) Piles located outdoors shall be separated by a minimum of 20 ft (6.1 m) from the following exposures:
 - (4) Public ways
 - (5) Buildings not considered expendable in an exposure fire
 - (6) Combustible materials
 - (7) Hazardous materials
 - (8) Other exposure hazards
- (9) Piles located outdoors shall be separated by a minimum of 50 ft (15.2 m) from lot lines.

6.2.6.1.1 –

Clearances shall be permitted to be reduced to 3 ft (0.9 m) where a 3-hour fire resistance fire barrier suitable for exterior use and extending 5 ft (1.5 m) above and 5 ft (1.5 m) beyond the physical boundary of the pile is provided to protect the exposure.

6.2.6.2 – Weather Protection:

6.2.6.2.1 –

Where weather protection is provided for sheltering outdoor battery storage areas, such areas shall be considered outdoor storage areas if all of the following conditions are met:

- (1) Supports and walls shall not obstruct more than one side or more than 25 percent of the perimeter of the storage area.
- (2) The distance from the structure and the structural supports to buildings, lot lines, public ways, or means of egress to a public way shall be not less than the distance required by 6.6.1 for outdoor storage of batteries without weather protection.
- (3) The structure shall be of approved noncombustible construction and not exceed 3,600 ft² (334.5 m²) in area.

6.2.6.2.2 –

Where the weather protection does not meet the requirements of 6.2.6.2.1, it shall be treated as indoor storage.

6.2.6.3 – Outdoor Fire Alarm System:

Outdoor storage areas with an aggregate area greater than 400 ft² (37.1 m²) shall be provided with a fire alarm system complying with 6.2.3.1.2 and 6.2.3.1.3.

6.3 – Storage Classification:

6.3.1 – General:

6.3.1.1 – Classification Requirement:

All batteries shall be classified in accordance with 6.3.2 and 6.3.4.

6.3.1.1.1 –

Batteries classified as low risk shall be stored in accordance with 6.3.6.

6.3.1.1.2 –

Batteries classified as high risk shall be stored in accordance with 6.3.7.

6.3.2 – Low-Risk Battery Classification:

New batteries shall be classified as low risk:

6.3.2.1 –

Aqueous electrolyte batteries shall be classified as low risk:

6.3.2.2* –

Used batteries that have undergone screening or evaluation for repurposing and are determined not to be at risk of spontaneous thermal runaway shall be classified as low risk.

6.3.2.3 –

Batteries with a state of charge not exceeding 30 percent in accordance with 6.1.4.5 shall be classified as low risk.

6.3.3 – High-Risk Battery Classification:

6.3.3.1* –

Batteries with known or suspected defects or damage shall be classified as high risk.

6.3.3.2 –

Batteries designated for recycling, disposal, or waste handling shall be classified as high risk.

6.3.3.3 –

Used batteries shall be classified as high risk when any of the following conditions are met:

- (1)* Batteries have been collected from the public or employees
- (2)* Batteries have not undergone screening or evaluation for repurposing
- (3) Batteries have undergone screening or evaluation for repurposing and are determined to be at risk of spontaneous thermal runaway

6.3.4 – Segregation:

Low-risk and high-risk storage areas shall be separated from one another by a minimum of 20 ft (6 m) or in accordance with 6.3.5.1 :

~~6.3.4.1 –~~

~~Low-risk and high-risk storage areas shall be permitted to be separated from one another by fire barriers with a 2-hour fire resistance rating and with horizontal assemblies with a 2-hour fire resistance rating constructed in accordance with the local building code.~~

~~6.3.5 – Storage of Low-Risk Batteries:~~

~~6.3.5.1 – Application:~~

~~The storage of low-risk batteries shall comply with Chapter 6 , except for 6.3.7:~~

~~6.3.6 – Storage of High-Risk Batteries:~~

~~6.3.6.1 – Application:~~

~~The storage of high-risk batteries shall comply with Chapter 6 , except for 6.3.6 :~~

~~6.3.6.2 * – General Requirements:~~

~~The storage of high-risk batteries shall comply with all of the following:~~

- ~~(1) All batteries, regardless of classification, that are stored in high-risk areas shall be classified as high-risk batteries:~~
- ~~(2) Containers and areas used for the storage of high-risk batteries shall be clearly labeled to identify the batteries as being at increased risk:~~

~~6.3.6.3 * – Indoor Storage:~~

~~Indoor storage locations for high-risk batteries shall comply with all of the following:~~

- ~~(1) Individual piles shall not exceed 100 ft² (9.3 m²) in area:~~
- ~~(2) Each pile shall be separated from other piles by a minimum of 20 ft (6.1 m):~~
- ~~(3) Piles shall be separated by a minimum of 20 ft (6.1 m) from the following exposures:~~
 - ~~(4) Combustible materials~~
 - ~~(5) Hazardous materials~~
 - ~~(6) Other exposure hazards~~
 - ~~(7) Lot lines~~
- ~~(8) High-risk batteries shall not be stored above 5 ft (1.5 m) unless taller storage configurations are supported by the HMA:~~
- ~~(9) Where racking is provided for the storage of high-risk batteries, the racking shall be equipped with in-rack suppression and designed in accordance with the HMA:~~
- ~~(10) Solid pile storage shall not be permitted:~~
- ~~(11) Multi-row racking shall not be permitted:~~
- ~~(12) Automated storage and retrieval system (ASRS) racking shall not be permitted:~~

~~6.3.6.4 * – Hazardous or Universal Waste:~~

~~Batteries classified as hazardous or universal waste shall also comply with applicable local, state, and federal waste management regulations:~~

~~6.4 – Construction and Ventilation Requirements. (Reserved)~~

~~6.5 – Storage of Vehicles Containing Batteries. (Reserved)~~

~~6.6 * – Emergency Response and Preparedness:~~

~~Emergency response planning, fire department coordination, and firefighting considerations shall comply with Section 4.8 :~~

~~6.7 – Inspection, Testing, and Maintenance. (Reserved)~~

~~6.8 – Compliance and Record-Keeping. (Reserved)~~

6.9 – Storage of Vehicles Containing Batteries.

6.9.1 * – Scope.

The requirements of Chapter 7 shall apply to the storage of vehicles powered by electric drive or hybrid systems.

6.9.1.1 –

The requirements of this section shall not apply to the following:

- (1) Residential dwellings
- (2) Aircraft
- (3)* Autonomous mobile robots (AMR) and piloted robots
- (4) Parking garages used by the general public
- (5) Charging of vehicles
- (6) Temporary display of vehicles no longer than 30 days
- (7) Outdoor fleet yards
- (8) Hydrogen fuel cells
- (9) New powered mobility devices (PMDs) in retail packaging

6.9.2 – General Requirements.

6.9.2.1 – Signage.

Storage areas for vehicles with batteries shall display posted signage indicating all of the following:

- (1) "Battery-Powered Vehicles in Storage"
- (2) Emergency contact information
- (3) SOG limits and storage requirements
- (4) Presence of known damaged or recalled vehicles
- (5) Restricted access to authorized personnel only

6.9.2.2 – Records.

Facilities shall maintain storage records documenting all of the following:

- (1) Vehicle make, model, and battery type
- (2) SOG at time of storage
- (3)* Status

6.9.3 – EVs, PHEVs, and HEVs.

6.9.3.1 – Indoor Vehicle Storage.

6.9.3.1.1 –

Each area where vehicles are stored shall be provided with an approved fire protection system designed with the findings of the HMA and installed in accordance with NFPA 13.

6.9.3.1.2 –

Electric vehicles stored in rooms or spaces shall be separated from the remainder of the building areas as required by the HMA in accordance with either of the following:

- (1) Clearance of 10 ft (3 m) from combustibles
- (2) Fire barriers with a 2-hour fire resistance rating and with horizontal assemblies with a 2-hour fire resistance rating constructed in accordance with the local building code unless otherwise specified by the HMA

6.9.3.1.3 –

Storage shall not be placed in or obstruct any required means of egress.

6.9.3.1.4 –

Storage shall allow access for firefighting operations in accordance with local fire and building codes.

6.9.3.2 – Outdoor Vehicle Storage:

6.9.3.2.1 –

Storage shall allow access for firefighting operations in accordance with local fire and building codes.

6.9.3.2.2 –

Outdoor vehicle storage lots or yards shall be provided with all of the following:

- (1) Designated emergency staging areas for fire department operations
- (2) Fire hydrant coverage in accordance with NFPA 1 and locally applicable codes
- (3)* Storage yards provided with security and routine monitoring:
- (4) Storage yards that are kept free of unmaintained vegetation, debris, and any other material that is not necessary to the proper operation of the facility
- (5) Signage for storage areas containing electric vehicles that indicates the following:
 - (6) The presence of energized batteries and their location on-site
 - (7) Contact information for authorized personnel or site owners

6.9.3.3 – Storage of Damaged or Recalled Batteries in Vehicles:

6.9.3.3.1 –

Damaged, defective, or recalled batteries contained in vehicles shall be stored in designated isolated areas that provide all of the following:

- (1) Minimum 50 ft (15.2 m) separation from other vehicles and structures or a wall with a 2-hour fire resistance ratings
- (2)* Fire-resistant ground pads that are free of combustibles

6.9.3.3.2 –

Storage areas shall be equipped with both of the following:

- (1) Continuous thermal imaging or equivalent monitoring in a constantly attended location
- (2) Rapid-access fire suppression equipment acceptable to the AHJ

6.9.3.3.3 –

Weather protection for areas that store damaged or recalled vehicles is allowed provided all of the following conditions are met:

- (1) Protection is designed to maintain structural integrity throughout the duration of thermal events.
- (2) Protection is made of non-combustible material
- (3) Protection does not impede firefighting operations
- (4) Protection does not allow the accumulation of flammable vapors or gases in the storage area

6.9.4 – Industrial and Recreational Vehicles:

6.9.4.1 – Indoor Vehicle Storage:

6.9.4.1.1 –

Each area where vehicles are stored shall be provided with an approved fire protection system designed with the findings of the HMA and installed in accordance with NFPA 13.

6.9.4.1.2 –

Vehicles stored in rooms or spaces shall be separated from the remainder of the building areas as required by the HMA in accordance with either of the following:

- (1) Clearance of 10 ft (3 m) from combustibles
- (2) Fire barriers with a 2-hour fire resistance rating and with horizontal assemblies with a 2-hour fire resistance rating constructed in accordance with the local building code

6.9.4.1.3 –

Storage shall not be placed in or obstruct any required means of egress.

6.9.4.1.4 –

Storage shall allow access for firefighting operations in accordance with local fire and building codes.

6.9.4.2 – Outdoor Vehicle Storage.

6.9.4.2.1 –

Storage shall allow access for firefighting operations in accordance with local fire and building codes.

6.9.4.2.2 –

Outdoor vehicle storage lots or yards shall be provided with all of the following:

- (1) Designated emergency staging areas for fire department operations
- (2) Fire hydrant coverage in accordance with NFPA 1 and locally applicable codes
- (3)* Storage yards provided with security and routine monitoring.
- (4) Storage yards kept free of unmaintained vegetation, debris, and any other material that is not necessary to the proper operation of the facility

6.9.4.3 – Storage of Damaged or Recalled Vehicles.

6.9.4.3.1 –

Damaged, defective, or recalled vehicles containing batteries shall be stored in designated isolation areas that provide all of the following:

- (1) Minimum 50 ft (15.2 m) separation from other vehicles and structures or a wall with a 2-hour fire resistance rating
- (2)* Fire-resistant ground pads that are free of combustibles

6.9.4.3.2 –

Storage areas shall be equipped with all of the following:

- (1) Continuous thermal imaging or equivalent monitoring in a constantly attended location
- (2) Rapid-access fire suppression equipment acceptable to the AHJ

6.9.4.3.3 –

Weather protection for areas that store damaged or recalled vehicles is allowed provided all of the following conditions are met:

- (1) Protection is designed to maintain structural integrity throughout the duration of thermal events
- (2) Protection is made of non-combustible material
- (3) Protection does not impede firefighting operations
- (4) Protection does not allow the accumulation of flammable vapors or gases in the storage area

6.9.5 – Battery-Powered Mobility Devices.

6.9.5.1 – Indoor PMD Storage.

The requirements of this section shall apply if the total aggregate quantity of energy stored is greater than 20 kWh.

6.9.5.1.1 –

Each area where PMDs are stored shall be provided with an approved fire protection system designed with the findings of the HMA and installed in accordance with NFPA 13.

6.9.5.1.2 –

PMDs stored in rooms or spaces shall be separated from the remainder of the building areas as required by the HMA in accordance with either of the following:

- (1) Clearance of 3 ft (0.9 m) combustibles
- (2) Fire barriers with a 2-hour fire resistance rating and with horizontal assemblies with a 2-hour fire resistance rating constructed in accordance with the local building code unless otherwise specified by the HMA

6.9.5.1.3 –

Storage shall not be placed in or obstruct any required means of egress.

6.9.5.1.4 –

Storage shall allow access for firefighting operations in accordance with local fire and building codes.

6.9.5.2 – Outdoor PMD Storage:

6.9.5.2.1 –

Storage shall allow access for firefighting operations in accordance with local fire and building codes.

6.9.5.2.2 –

Outdoor PMD storage lots or yards shall be provided with all of the following:

- (1) Fire hydrant coverage in accordance with NFPA 1 and locally applicable codes
- (2) Storage yards kept free of unmaintained vegetation, debris, and any other material that is not necessary to the proper operation of the facility
- (3)* Storage yards provided with security and routine monitoring

6.9.5.2.3 –

Storage areas shall be separated by a minimum of 20 ft (6.1 m) from the following exposures:

- (1) Public ways
- (2) Buildings not considered expendable in an exposure fire
- (3) Combustible materials
- (4) Hazardous materials
- (5) Other exposure hazards

6.9.5.3 – Seasonal Storage:

6.9.5.3.1 –

Batteries inside PMDs shall be at or less than 30 percent state of charge for seasonal storage or in accordance with the manufacturer's instructions.

6.9.5.3.2 –

Each area where PMDs are stored shall be provided with an approved fire protection system designed with the findings of the HMA and installed in accordance with NFPA 13.

6.9.5.3.3 –

Storage shall not be placed in or obstruct any required means of egress.

6.9.5.3.4 –

Storage shall allow access for firefighting operations in accordance with local fire and building codes.

6.9.5.4 – Storage of Damaged or Recalled PMDs:

6.9.5.4.1 –

~~Damaged, defective, or recalled PMDs containing batteries shall be stored in designated isolation areas that provide all of the following:~~

- ~~(1) Minimum 10 ft (3 m) separation from other PMDs and structures or a wall with a 2-hour fire resistance rating~~
- ~~(2)* Fire-resistant ground pads that are free of combustibles~~

6.9.5.4.2 –

~~Storage areas shall be equipped with all of the following:~~

- ~~(1) Continuous thermal imaging or equivalent monitoring in a constantly attended location~~
- ~~(2) Rapid-access fire suppression equipment acceptable to the AHJ~~

6.9.5.4.3 –

~~Weather protection for areas that store damaged or recalled PMDs is allowed provided all of the following conditions are met:~~

- ~~(1) Protection is designed to maintain structural integrity throughout the duration of thermal events.~~
- ~~(2) Protection is made of non-combustible material~~
- ~~(3) Protection does not impede firefighting operations~~
- ~~(4) Protection does not allow the accumulation of flammable vapors or gases in the storage area~~

Statement of Problem and Substantiation for Public Input

The requirements in Chapter 6 are not appropriate for inclusion within a provisionally developed standard and should be reserved for consideration during the subsequent development cycle. The technical committee and task group have failed to demonstrate "a well-established need for the prompt dissemination of information that addresses an emergency situation or other special circumstance." For a provisional standard to warrant inclusion, there must be a compelling and urgent need for rapid dissemination of information to address genuine emergencies or exceptional circumstances—criteria that Chapter 6 unequivocally does not meet. Moreover, NFPA rules and regulations requires that all discussions, debates, and deliberations be firmly grounded in loss history, technical and/or scientific merit. The committee has failed to identify specific articulated hazards not addressed by existing requirements in prevailing NFPA, ICC, and FM codes.

The committee has failed to demonstrate event history or hazards associated with the storage of listed batteries and battery containing products that supports the hastily development and prompt dissemination of requirements to address purported hazards not captured within existing prevailing fire and building codes. Existing layers of safety cannot be ignored. Existing product safety standards and component level safety standards provide robust evaluation pathways to evaluate the safety, reliability, and functionality of listed equipment in normal and abnormal operating conditions. Existing prevailing fire and building codes provide requirements for the storage of batteries and battery containing equipment.

Storage of batteries and battery containing equipment has benefited from 20+ years of research including NFPA's own research foundation which conducted a hazard and use assessment of lithium-ion batteries with a focus on warehouse storage in 2011. Existing fire and building codes address storage hazards based on the extensive research and testing conducted by organizations such as NFPA's Research Foundation. To comply with predominant shipping and transportation requirements, batteries and battery containing equipment are stored at ~30% state of charge reducing the propensity and magnitude of any purported thermal events that may occur. Where such equipment is being stored, the committee must articulate what hazards and event history demonstrate the necessity to include the proposed requirements within a provisional standard.

Chapter 6 must be reserved for consideration in subsequent standard development activities, no basis exists to support inclusion within the provisionally developed standard.

Submitter Information Verification

Submitter Full Name: Abid Anwar

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Submittal Date: Thu Jan 29 14:45:45 EST 2026

Committee: BAT-AAA



Public Input No. 365-NFPA 800-2026 [Section No. 6.1.2]

6.1.2 –

~~Where the provisions of NFPA 855 conflict with the requirements of this code for the storage of batteries, the provisions of this code shall apply.~~

Statement of Problem and Substantiation for Public Input

This section is a direct conflict with Section 1.2.2. If NFPA 855 ESSs are excluded, then why would NFPA 800 requirements prevail?

Submitter Information Verification

Submitter Full Name: Joseph Sellers

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Submittal Date: Wed Jan 28 10:34:17 EST 2026

Committee: BAT-AAA



Public Input No. 91-NFPA 800-2026 [Section No. 6.1.2]

6.1.2

Where the provisions of NFPA 855 conflict with the requirements of this code for the storage of batteries not installed as an energy storage system , the provisions of this code shall apply.

Statement of Problem and Substantiation for Public Input

A blanket override of NFPA 855 can create unintended conflicts for stationary ESS installations that are otherwise properly regulated under 855. Limiting the statement to the intended scope (storage, not installed ESS) improves correlation and reduces jurisdictional conflict.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

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Submittal Date: Mon Jan 05 18:17:21 EST 2026

Committee: BAT-AAA



Public Input No. 245-NFPA 800-2026 [Section No. 6.1.3]

6.1.3

This chapter shall not apply to the following:

- (1) ~~Equipment covered by the requirements of *CH XX Storage of Vehicles Containing Batteries Electric Vehicle*~~
- (2)
- (3) Areas where new or refurbished batteries are being installed for use in the devices, equipment, or vehicles they are designed to power
- (4) Areas where new or refurbished individual batteries rated at no more than 1000 Wh (3.6 MJ) and reactive metal batteries containing no more than 0.05 lb (25 g) of reactive metal are in their original retail packaging, except as provided in 6.1.4 or when in a storage classification
- (5) Areas where batteries are staged in the manufacturing area or along assembly lines during the manufacturing process, when in accordance with Chapter 5
- (6) Areas where batteries are in use and are staged for recharging and swap out
- (7) Areas used for incidental storage

Statement of Problem and Substantiation for Public Input

No such Chapter XX is provided in the document. Delete sentence (1).

Submitter Information Verification

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Submittal Date: Mon Jan 26 12:53:16 EST 2026

Committee: BAT-AAA



Public Input No. 428-NFPA 800-2026 [Section No. 6.1.3]

6.1.3

This chapter shall not apply to the following:

- (1) Equipment covered by the requirements of *CH XX Storage of Vehicles Containing Batteries Electric Vehicle*
- (2) Areas where new or refurbished batteries are being installed for use in the devices, equipment, or vehicles they are designed to power
- (3) Areas where new or refurbished individual batteries rated at no more than 1000 Wh (3.6 MJ) and reactive metal batteries containing no more than 0.05 lb (25 g) of reactive metal are in their original retail packaging, except as provided in 6.1.4 or when in a storage classification
- (4) Areas where batteries are staged in the manufacturing area or along ~~assembly lines~~ a ssembly or rework li nes during the manufacturing process, when in accordance with Chapter 5
- (5) Areas where batteries are in use and are staged for recharging and swap out
- (6) Areas used for incidental storage

Statement of Problem and Substantiation for Public Input

Rework cable battery product storage also applies to Chapter 6 requirements

Submitter Information Verification

Submitter Full Name: Wenmo Liang

Organization: CATL

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City:

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Submittal Date: Thu Jan 29 09:22:11 EST 2026

Committee: BAT-AAA



Public Input No. 79-NFPA 800-2026 [Section No. 6.1.3]

6.1.3

This chapter shall not apply to the following:

- (1) ~~Equipment covered by the requirements of CH XX Storage of Vehicles Containing Batteries Electric Vehicle~~ Vehicles containing batteries and vehicle storage areas, which shall comply with Section 6.9
- (2) Areas where new or refurbished batteries are being installed for use in the devices, equipment, or vehicles they are designed to power
- (3) Areas where new or refurbished individual batteries rated at no more than 1000 Wh (3.6 MJ) and reactive metal batteries containing no more than 0.05 lb (25 g) of reactive metal are in their original retail packaging, except as provided in 6.1.4 or when in a storage classification
- (4) Areas where batteries are staged in the manufacturing area or along assembly lines during the manufacturing process, when in accordance with Chapter 5
- (5) Areas where batteries are in use and are staged for recharging and swap out
- (6) Areas used for incidental storage

Statement of Problem and Substantiation for Public Input

The current text references "CH XX," which does not exist, making the scope exclusion unenforceable. Chapter 6 includes a dedicated vehicle storage section (6.9). The scope statement should clearly direct vehicle storage to 6.9 to avoid the general battery storage requirements in 6.2 through 6.3 being applied concurrently, which could create conflicts and duplicative requirements. As currently drafted, the intended application is unclear.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 103-NFPA 800-2026 [Section No. 6.5]	

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

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Submittal Date: Mon Jan 05 17:30:12 EST 2026

Committee: BAT-AAA



Public Input No. 417-NFPA 800-2026 [Section No. 6.1.5]

6.1.5

Aqueous electrolyte batteries shall ~~only~~ not be required to comply with ~~Chapter 6.2.1 and 6.2.2~~ :
Aqueous batteries used in vehicles are very low risk and are in a uncharged stated so they pose no safety or fire hazard.

Statement of Problem and Substantiation for Public Input

Aqueous batteries used in vehicles are very low risk and are in an uncharged state so they pose no safety or fire hazard. There are also no requirements for aqueous batteries in NFPA855 which was changed to cover only lithium.

Submitter Information Verification

Submitter Full Name: Gary Balash

Organization: East Penn Manufacturing Company

Affiliation: East Penn Manufacturing Company

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City:

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Submittal Date: Thu Jan 29 08:49:51 EST 2026

Committee: BAT-AAA



Public Input No. 92-NFPA 800-2026 [Section No. 6.1.5]

6.1.5

Aqueous electrolyte batteries shall ~~only be required~~ permitted to comply only with 6.2.1 and 6.2.2, where the HMA demonstrates that compliance with 6.2.3 is not necessary and where approved by the AHJ.

Statement of Problem and Substantiation for Public Input

As written, 6.1.5 requires aqueous electrolyte batteries to comply only with 6.2.1 and 6.2.2, which excludes the Chapter 6 fire protection provisions in 6.2.3 for indoor and outdoor storage. While aqueous electrolyte batteries are generally lower risk than reactive metal or reactive ion chemistries, exempting them categorically from fire protection requirements can be difficult to justify and may be applied inconsistently for larger quantities, mixed storage arrangements, or where other hazards are present. Revising 6.1.5 to permit omission of 6.2.3 only when supported by an HMA and approved by the AHJ maintains a baseline expectation of fire protection, provides an objective approval pathway, and preserves flexibility for lower-hazard aqueous battery storage conditions.

Submitter Information Verification

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Submittal Date: Mon Jan 05 18:25:24 EST 2026

Committee: BAT-AAA



Public Input No. 296-NFPA 800-2026 [Section No. 6.1.6]

6.1.6*

Batteries stored in a facility operated in accordance with written and approved procedures to maintain the battery state of charge at less than or equal to 30 percent shall only be required to comply with 6.2.1- ~~and~~ through 6.2.3.

Statement of Problem and Substantiation for Public Input

The HMA should still be done, even for cells less than 30% - so include 6.2.2

Submitter Information Verification

Submitter Full Name: Michael Leffert

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Submittal Date: Mon Jan 26 17:27:11 EST 2026

Committee: BAT-AAA



Public Input No. 430-NFPA 800-2026 [Section No. 6.1.6]

6.1.6*

Batteries stored in a facility operated in accordance with written and approved procedures to maintain the battery state of charge at less than or equal to ~~30 percent~~ 70 percent, shall only be required to comply with 6.2.1 and 6.2.3.

Statement of Problem and Substantiation for Public Input

According to industry standards, newly delivered batteries are typically recommended to be stored at an SOC of around 50% in default state. This practice will prevent customer satisfaction from being affected by low battery power levels, and facilitates balanced battery management and maintenance protocols.

A low SOC storage level may result in the following operational consequences:

Frequent charging cycles may increase the frequency of live electrical operations, which lead to increasing operational risk probability

The frequent operation may lead to accelerating wear and tear on battery connectors, potentially compromising product integrity and aesthetic condition.

Submitter Information Verification

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Submittal Date: Thu Jan 29 09:30:44 EST 2026

Committee: BAT-AAA



Public Input No. 517-NFPA 800-2026 [Section No. 6.1.6]

6.1.6*

Batteries stored in a facility operated in accordance with written and approved procedures to maintain the battery state of charge at less than or equal to 30 percent, and lead-acid, shall only be required to comply with 6.2.1 and 6.2.3.

Statement of Problem and Substantiation for Public Input

lead-acid batteries should not follow this 30% SOC rule. these batteries are recommended to be charge fully by mfg's, and there the risk is not the same.

Submitter Information Verification

Submitter Full Name: Luke Webber

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Submittal Date: Thu Jan 29 16:44:21 EST 2026

Committee: BAT-AAA



Public Input No. 93-NFPA 800-2026 [Section No. 6.1.6]

6.1.6*

Batteries stored in a facility operated in accordance with written and approved procedures to maintain the battery state of charge at less than or equal to 30 percent shall only be required to comply with 6.2.1- ~~and~~ through 6.2.3, and shall be classified in accordance with 6 . 3.

Statement of Problem and Substantiation for Public Input

SOC is used later as a classification driver. This section should not inadvertently bypass the classification framework; it should align with it.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

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City:

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Submittal Date: Mon Jan 05 18:28:12 EST 2026

Committee: BAT-AAA



Public Input No. 470-NFPA 800-2026 [Section No. 6.2.1.2]

6.2.1.2 Hazardous Locations.

~~Batteries shall not be stored in hazardous (classified) locations unless specifically listed, labeled, or otherwise identified for use within the hazardous (classified) location in accordance with NFPA 70 - Deleted~~

Statement of Problem and Substantiation for Public Input

This seems counter intuitive as both NFPA 70 and NFPA 101 would define any place where batteries are stored as hazardous locations: According to NFPA 70, a hazardous location is defined as an area where the possibility of fire or explosion hazards may exist due to the presence of flammable, combustible, or ignitable gases, vapors, liquids, dusts, or fibers. These locations are classified based on the type of hazardous materials present and the likelihood of their presence, which is crucial for ensuring safe electrical installations and equipment use. According to NFPA 101, a hazardous location is defined as an area of a structure or building that poses a degree of hazard greater than that normal to the general occupancy of the building. This means that hazardous areas are not uniform across all buildings; they are relative to the specific occupancy and the nature of the materials present. Examples of hazardous areas include storage of combustibles or flammables, toxic materials, or areas where heat-producing appliances are used.

Submitter Information Verification

Submitter Full Name: Shay Rankhorn

Organization: Facility Diagnostics, LLC

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City:

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Zip:

Submission Date: Thu Jan 29 13:11:50 EST 2026

Committee: BAT-AAA



Public Input No. 135-NFPA 800-2026 [Section No. 6.2.1.3 [Excluding any Sub-Sections]]

Batteries shall not be stored in areas containing other high hazard contents, with the exception of high hazard contents level 4, unless separated by one of the following:

- (1) A noncombustible partition, extending vertically a minimum of 1.5 ft above the top of the highest container, and extending horizontally a minimum of 1.5 ft and having a fire resistance rating of at least 1-hour
- (2) A minimum horizontal separation distance of 10 ft (3 m) maintained free of combustibles

Why at least 1 hour, when NFPA 855 has similar operational requirements for 2 hours?

Statement of Problem and Substantiation for Public Input

Comment

Submitter Information Verification

Submitter Full Name: Jackie Huynh

Organization: Pacific Northwest National Lab

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Submittal Date: Wed Jan 07 18:05:43 EST 2026

Committee: BAT-AAA



Public Input No. 591-NFPA 800-2026 [Section No. 6.2.1.3 [Excluding any Sub-Sections]]

Batteries shall not be stored in areas containing other high hazard contents, with the exception of high hazard contents level 4 per NFPA 400 , unless separated by one of the following:

- (1) A noncombustible partition, extending vertically a minimum of 1.5 ft above the top of the highest container, and extending horizontally a minimum of 1.5 ft and having a fire resistance rating of at least 1-hour
- (2) A minimum horizontal separation distance of 10 ft (3 m) maintained free of combustibles

Statement of Problem and Substantiation for Public Input

Adds a reference to the classification system used.

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

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City:

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Submittal Date: Thu Jan 29 19:15:54 EST 2026

Committee: BAT-AAA



Public Input No. 429-NFPA 800-2026 [New Section after 6.2.1.4]

TITLE OF NEW CONTENT

Type your content here ...

Recommend adding clauses regarding lightning protection and water accumulation prevention measures for container storage.

Statement of Problem and Substantiation for Public Input

When using containers for outdoor storage, attention must be paid to lightning protection and thermal runaway accidents caused by inadequate ground drainage.

Submitter Information Verification

Submitter Full Name: Wenmo Liang

Organization: CATL

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City:

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Submittal Date: Thu Jan 29 09:23:25 EST 2026

Committee: BAT-AAA



Public Input No. 441-NFPA 800-2026 [Section No. 6.2.1.4]

6.2.1.4* Containers.

Containers used for the storage or collection of batteries shall comply with all of the following:

- (1) Containers shall be capable of relieving gases generated during thermal runaway to prevent overpressurization.
- (2) Containers shall be suitable for the anticipated weather and temperature conditions encountered during storage or collection.
- (3) Containers shall be constructed in accordance with US DOT requirements for batteries, or of a type approved by the AHJ.
- (4) Containers shall be free of damage that compromises their integrity.

6.2.1.4.1*

Batteries shall not be stored in packaging or containers where damage has compromised the integrity of the packaging or container.

Add the UN number to the list of packaging identifiers.

Statement of Problem and Substantiation for Public Input

Proper ID adds in preparedness, planning, and response operations.

Submitter Information Verification

Submitter Full Name: Michael Marino

Organization: Recycled Materials Association (ReMA)

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City:

State:

Zip:

Submittal Date: Thu Jan 29 10:24:28 EST 2026

Committee: BAT-AAA



Public Input No. 94-NFPA 800-2026 [Section No. 6.2.1.4 [Excluding any Sub-Sections]]

Containers used for the storage or collection of batteries shall comply with all of the following:

- (1) Containers shall be capable of relieving gases generated during thermal runaway to prevent overpressurization.
- (2) Containers shall be suitable for the anticipated weather and temperature conditions encountered during storage or collection.
- (3) Containers shall be constructed in accordance with US DOT requirements for batteries, or listed or labeled for the intended use or shall be of a type approved by the AHJ. Where DOT-approved packaging is used, it shall be permitted where suitable for the storage conditions and hazard, as determined by the HMA.
- (4) Containers shall be free of damage that compromises their integrity.

Statement of Problem and Substantiation for Public Input

DOT packaging requirements are developed for transportation conditions and do not necessarily address long-term storage hazards (gas relief, weathering, degradation). Clarifying intent avoids misapplication while still allowing DOT packaging where appropriate.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

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Submittal Date: Mon Jan 05 18:33:15 EST 2026

Committee: BAT-AAA



Public Input No. 389-NFPA 800-2026 [New Section after 6.2.1.4.1]

6.2.1.4.2

Where jurisdictions require containers for the storage or collection of lithium batteries to be listed for the purpose, such containers shall be required to comply with UL 1487, Battery Containment Enclosures.

Statement of Problem and Substantiation for Public Input

Reason: Move A.6.2.1.4 to 6.2.1.4.2. If the enclosure is required by the AHJ, UL 1487 shall be applied for battery containment enclosures, as it addresses safety performance through both construction and testing requirements.

Submitter Information Verification

Submitter Full Name: Yi Ji

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Affiliation: UL Standards & Engagement

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Submittal Date: Wed Jan 28 14:14:46 EST 2026

Committee: BAT-AAA



Public Input No. 483-NFPA 800-2026 [New Section after 6.2.1.4.1]

6.2.1.4.2*

The HMA shall evaluate the deflagration hazard posed by the venting of gases generated during thermal runaway from containers into building spaces. If a hazard is determined to exist, explosion protection shall be provided per the requirements of Chapter 4.

Statement of Problem and Substantiation for Public Input

The use of containers for battery storage does not eliminate the deflagration hazard. Containers are typically not designed as pressure vessels and are intended to vent gases. Even when containers undergo deflagration testing, as required by the current edition of UL 1487, the potential hazard posed from gases released into building spaces must be evaluated. The proposed language provides additional clarification that the HMA shall address the potential deflagration hazard resulting from gas released into the room or space housing the container.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 484-NFPA 800-2026 [New Section after A.6.2.1.4.1]</u>	New annex material is also proposed to be added to provide context for new Section 6.2.1.4.2
<u>Public Input No. 484-NFPA 800-2026 [New Section after A.6.2.1.4.1]</u>	

Submitter Information Verification

Submitter Full Name: Andrew Taggart

Organization: Coffman Engineers

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 14:46:54 EST 2026

Committee: BAT-AAA



Public Input No. 519-NFPA 800-2026 [Section No. 6.2.1.4.1]

6.2.1.4.1*

Batteries shall not be stored in packaging or containers where damage has compromised the integrity of the packaging or container.

Statement of Problem and Substantiation for Public Input

it seems that we should only limit this to a situation where a hazard exists

Submitter Information Verification

Submitter Full Name: Luke Webber

Organization: Mitsubishi Logisnext Americas

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Submittal Date: Thu Jan 29 16:46:23 EST 2026

Committee: BAT-AAA



Public Input No. 95-NFPA 800-2026 [Section No. 6.2.1.6]

6.2.1.6* Classification as Storage Occupancies.

Battery storage areas shall have an occupancy classification as storage in accordance with NFPA 101 or the adopted building code .

Statement of Problem and Substantiation for Public Input

Many jurisdictions classify occupancy under the adopted building code rather than NFPA 101. Adding the adopted building code improves applicability without changing technical intent.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

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City:

State:

Zip:

Submittal Date: Mon Jan 05 18:35:12 EST 2026

Committee: BAT-AAA



Public Input No. 96-NFPA 800-2026 [Section No. 6.2.2.1.2]

6.2.2.1.2

Alternate means of protection shall be permitted where justified by the HMA and ~~approved by the~~ acceptable to the AHJ.

Statement of Problem and Substantiation for Public Input

“Approved by the AHJ” is fine, but “acceptable to the AHJ” is more consistent with NFPA defined terms, and makes the approval pathway clearer for non-prescriptive solutions.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

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Submittal Date: Mon Jan 05 18:36:25 EST 2026

Committee: BAT-AAA



Public Input No. 522-NFPA 800-2026 [Section No. 6.2.3.1]

6.2.3.1 Indoor Storage Areas.

6.2.3.1.1* Suppression.

Each area where batteries are stored indoors shall be provided with an approved automatic fire suppression system designed in accordance with the findings of the HMA required by 6.2.2.

6.2.3.1.2 Fire Alarm and Detection.

Where required by the HMA, battery storage areas shall be provided with an approved fire alarm and fire detection system.

6.2.3.1.2.1

The fire alarm and fire detection system required by 6.2.3.1.2 shall be designed in accordance with the findings of HMA.

(A)

The fire alarm and fire detection system shall be installed in accordance with *NFPA 72*.

6.2.3.1.2.2

Occupant notification shall be provided and installed in accordance with *NFPA 72*.

Statement of Problem and Substantiation for Public Input

Retitle 6.2.3.1 Indoor Areas to "Indoor Storage Areas", consistent with section 6.2.3.2 Outdoor Storage Areas.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 16:49:11 EST 2026

Committee: BAT-AAA



Public Input No. 442-NFPA 800-2026 [Section No. 6.2.3.1.1]

6.2.3.1.1* Suppression.

Each area where batteries are stored indoors shall be provided with an approved automatic fire suppression system designed in accordance with the findings of the HMA required by 6.2.2.

There is no indication of the quantity of batteries being stored, and whether pre-existing storage areas must be retrofitted or removed from the facility. There needs to be an exemption for indoor storage with distance provisions similar to 6.2.4.1.3.

Statement of Problem and Substantiation for Public Input

There is no indication of the quantity of batteries being stored, and whether pre-existing storage areas must be retrofitted or removed from the facility. There needs to be an exemption for indoor storage with distance provisions similar to 6.2.4.1.3.

Submitter Information Verification

Submitter Full Name: Michael Marino

Organization: Recycled Materials Association (ReMA)

Street Address:

City:

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Zip:

Submittal Date: Thu Jan 29 10:26:55 EST 2026

Committee: BAT-AAA



Public Input No. 106-NFPA 800-2026 [Sections 6.2.3.1.1, 6.2.3.1.2]

Sections 6.2.3.1.1, 6.2.3.1.2

6.2.3.1.1* Suppression.

Each area where batteries are stored indoors shall be provided with an approved automatic fire suppression system designed in accordance with the findings of the HMA required by 6.2.2.

6.2.3.1.2 Fire Alarm and Detection.

Where required by the HMA, battery storage areas shall be provided with an approved fire alarm and fire detection system.

6.2.3.1.2.1

The fire alarm and fire detection system required by 6.2.3.1.2 shall be designed in accordance with the findings of HMA.

(A)

The fire alarm and fire detection system shall be installed in accordance with *NFPA 72*.

6.2.3.1.2.2

Occupant notification shall be provided and installed in accordance with *NFPA 72*.

Statement of Problem and Substantiation for Public Input

No change proposed. Fire suppression and detection/notification for indoor battery storage are primarily “per HMA,” which can lead to inconsistent outcomes for common storage arrangements. Consider adding minimum prescriptive baseline criteria with the HMA permitted to increase protection. See Public Input No. 36.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 36-NFPA 800-2026 [Section No. 5.2.3]	

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 05 19:01:38 EST 2026

Committee: BAT-AAA



Public Input No. 97-NFPA 800-2026 [Section No. 6.2.3.1.2]

6.2.3.1.2 Fire Alarm and Detection.

Where required by the HMA, battery storage areas shall be provided with an approved fire alarm and fire detection system -

~~6.2.3.1.2.1 -~~

~~The fire alarm and fire detection system required by 6.2.3.1.2 shall be designed in accordance with the installed in accordance with NFPA 72 and designed in accordance with the findings of HMA.~~

~~(A) -~~

~~The fire alarm and fire detection system shall be installed in accordance with NFPA 72 -~~

~~6.2.3.1.2.2 -~~

~~Occupant notification shall be provided and installed in accordance with NFPA 72 -~~

Statement of Problem and Substantiation for Public Input

Current text is repetitive, and the lettered formatting implies a missing structure. Consolidation improves clarity and reduces misinterpretation.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

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Submittal Date: Mon Jan 05 18:38:34 EST 2026

Committee: BAT-AAA



Public Input No. 226-NFPA 800-2026 [Section No. 6.2.4 [Excluding any Sub-Sections]]

Indoor areas, in any occupancy, where used or damaged batteries are collected or stored after collection from employees or the public shall be exempt from the provisions of this chapter, provided that they comply with 6.2.4.1 through 6.2.4.3, as applicable.

Statement of Problem and Substantiation for Public Input

Section references are incorrect. Unable to provide proposed resolution as I am unaware of the committee intent.

Submitter Information Verification

Submitter Full Name: Andrew Tinsley

Organization: Consolidated Nuclear Security

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City:

State:

Zip:

Submittal Date: Wed Jan 21 08:45:23 EST 2026

Committee: BAT-AAA



Public Input No. 523-NFPA 800-2026 [Section No. 6.2.4.1]

6.2.4.1* ~~Collection of Batteries~~ for Use or Damaged Batteries .

Collection of used or damaged batteries shall comply with the requirements of 6.2.4.1.1 through 6.2.4.1.5.

6.2.4.1.1

Individual collection containers shall not exceed 7.5 ft³ (0.21 m³) in capacity.

6.2.4.1.2

The aggregate capacity of all containers at a single collection location shall not exceed 15 ft³ (0.42 m³).

6.2.4.1.3

Containers actively being used for the collection of batteries shall comply with all of the following:

- (1) Containers shall be provided with a minimum of 3 ft (0.9 m) of open space from other battery collection containers and combustible materials.
- (2) Containers shall be located a minimum of 5 ft (1.5 m) from exits serving the room, space, or building in which the container is located.
- (3) Containers shall comply with 6.2.1.4.
- (4) Containers shall be placed only on the ground floor and on a stable surface.

6.2.4.1.3.1

A means of detection and notification shall be provided where collection containers are located, except where in accordance with 6.2.4.1.3.1(A).

(A)

Where collection containers are under continuous attendance, a means of detection and notification shall not be required.

6.2.4.1.4

Where combustible materials are located within the space between collection containers, the containers shall be spaced a minimum of 10 ft (3 m) apart.

Statement of Problem and Substantiation for Public Input

Change title to include containers for batteries, which better describes the content that follows in 6.2.4.1.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

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City:

State:

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Submittal Date: Thu Jan 29 16:52:17 EST 2026

Committee: BAT-AAA



Public Input No. 80-NFPA 800-2026 [Section No. 6.2.4.1 [Excluding any Sub-Sections]]

Collection of used or damaged batteries shall comply with the requirements of 6.2.4.1.1 through 6.2.4.1.54.

Statement of Problem and Substantiation for Public Input

6.2.4.1 currently references 6.2.4.1.5, but no 6.2.4.1.5 is provided. This is a straightforward editorial correction to restore internal consistency.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

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City:

State:

Zip:

Submittal Date: Mon Jan 05 17:33:58 EST 2026

Committee: BAT-AAA



Public Input No. 443-NFPA 800-2026 [Section No. 6.2.4.1.1]

6.2.4.1.1

Individual collection containers shall not exceed 7.5 ft³ (0.21 m³) in capacity.

This size requirement would eliminate the use of Gaylord boxes, which are a common storage container in the recycling industry. Recommend raising to 100 ft³.

Statement of Problem and Substantiation for Public Input

The statement, as written, is not aligned with current industry practices and should be revised to reflect standardized day-to-day operations, balanced with other prescribed risk and hazard mitigation measures.

Submitter Information Verification

Submitter Full Name: Michael Marino

Organization: Recycled Materials Association (ReMA)

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 10:28:23 EST 2026

Committee: BAT-AAA



Public Input No. 444-NFPA 800-2026 [Section No. 6.2.4.1.2]

6.2.4.1.2

The aggregate capacity of all containers at a single collection location shall not exceed 15 ft³ (0.42 m³).

This size requirement would eliminate the use of Gaylord boxes, which are a common storage container in the recycling industry, as well as overseas containers. As written, this would create significant constraints for recyclers.

Statement of Problem and Substantiation for Public Input

See previous comment justification.

This size requirement would eliminate the use of Gaylord boxes, which are a common storage container in the recycling industry, as well as overseas containers. As written, this would create significant constraints for recyclers.

Submitter Information Verification

Submitter Full Name: Michael Marino

Organization: Recycled Materials Association (ReMA)

Street Address:

City:

State:

Zip:

Submission Date: Thu Jan 29 10:30:44 EST 2026

Committee: BAT-AAA



Public Input No. 395-NFPA 800-2026 [Section No. 6.2.4.1.3.1(A)]

(A)

Where collection containers are under continuous attendance, a means of detection and notification shall not be required.

Statement of Problem and Substantiation for Public Input

How is continuous occupancy defined? Need to clarify

Submitter Information Verification

Submitter Full Name: Lisa Parks

Organization: GM

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City:

State:

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Submittal Date: Wed Jan 28 15:18:24 EST 2026

Committee: BAT-AAA



Public Input No. 527-NFPA 800-2026 [Section No. 6.2.5]

6.2.5 Indoor Storage :

6.2.5.1 – General:

~~Batteries stored indoors shall be stored in accordance with one or more of the methods provided in 6.2.5.3.1 through 6.2.5.3.3 :~~

~~6.2.5.2 – Fire Protection and Notification:~~

~~Batteries stored indoors shall comply with 6.2.3.1 :~~

6.2.5.3 – Storage Methods.

6.2.5.3.1 Rooms or Spaces.

Batteries stored in rooms or spaces shall be separated from the remainder of the building areas by fire barriers with a 2-hour fire resistance rating and with horizontal assemblies with a 2-hour fire resistance rating constructed in accordance with the local building code, except where in accordance with 6.2.5.3.1.1.

6.2.5.3.1.1

The fire resistance rating of barriers shall be permitted to be reduced where approved by the AHJ and in accordance with the HMA.

6.2.5.3.2 Prefabricated Portable Structure.

Prefabricated portable buildings or structures that store batteries shall be listed or approved with a 2-hour fire resistance rating, except where in compliance with 6.2.5.3.1.1.

~~6.2:~~

~~6.2.5.3.2.1 –~~

~~Where the HMA demonstrates that automatic suppression is not necessary, compliance with~~

~~3~~

~~1 shall not be required when approved by the AHJ.~~

6.2.5.3.3 Containers.

Batteries stored in containers complying with 6.2.1.4 shall be permitted to be stored in areas, providing they comply with the following:

- (1) Individual storage piles do not exceed 200 ft² (18.6 m²) in area
- (2) Storage is located a minimum of 10 ft (3 m) from other battery storage areas

Statement of Problem and Substantiation for Public Input

Removing repetitive text that is not needed. The reference to fire protection per 6.2.3.1 and suppression exemption based on the HMA findings were stated earlier. They don't need to be repeated.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 532-NFPA 800-2026 [Section No. 6.2.6]</u>	

Submitter Information Verification

Submitter Full Name: Richard Kluge
Organization: NEBScore Inc.
Affiliation: ATIS
Street Address:
City:

State:

Zip:

Submittal Date: Thu Jan 29 16:57:00 EST 2026

Committee: BAT-AAA



Public Input No. 592-NFPA 800-2026 [Section No. 6.2.5.3.1 [Excluding any Sub-Sections]]

Batteries stored in rooms or spaces shall be separated from the remainder of the building areas by fire barriers with a 2-hour fire resistance rating and with horizontal assemblies with a 2-hour fire resistance rating constructed in accordance with the local building code, except where in accordance with 6.2.5.3.1.1.

Statement of Problem and Substantiation for Public Input

What is the justification for 2 hour fire resistance rating versus 1 hour? Can this be reduced to 1 hour where buildings are protected throughout by automatic sprinkler systems? (consistent with NFPA 101 Separated Occupancies)

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

Street Address:

City:

State:

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Submittal Date: Thu Jan 29 19:17:06 EST 2026

Committee: BAT-AAA



Public Input No. 108-NFPA 800-2026 [Sections 6.2.5.3.1, 6.2.5.3.2]

Sections 6.2.5.3.1, 6.2.5.3.2

6.2.5.3.1 Rooms or Spaces.

Batteries stored in rooms or spaces shall be separated from the remainder of the building areas by fire barriers with a 2-hour fire resistance rating and with horizontal assemblies with a 2-hour fire resistance rating constructed in accordance with the local building code, except where in accordance with 6.2.5.3.1.1.

6.2.5.3.1.1

The fire resistance rating of barriers shall be permitted to be reduced where approved by the AHJ and in accordance with the HMA.

6.2.5.3.2 Prefabricated Portable Structure.

Prefabricated portable buildings or structures that store batteries shall be listed or approved with a 2-hour fire resistance rating, except where in compliance with 6.2.5.3.1.1.

6.2.5.3.2.1

Where the HMA demonstrates that automatic suppression is not necessary, compliance with 6.2.3.1 shall not be required when approved by the AHJ.

Statement of Problem and Substantiation for Public Input

No change proposed. The draft establishes a 2-hour separation concept but allows reductions or omission of suppression based on HMA and AHJ approval. The committee should ensure consistent minimum requirements and clear triggers so the chapter reads as enforceable code provisions rather than primarily HMA-driven. See Public Input No. 36.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 36-NFPA 800-2026 [Section No. 5.2.3]	

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

Street Address:

City:

State:

Zip:

Submission Date: Mon Jan 05 19:03:01 EST 2026

Committee: BAT-AAA



Public Input No. 410-NFPA 800-2026 [Section No. 6.2.5.3.1.1]

6.2.5.3.1.1

The fire resistance rating of barriers shall be permitted to be reduced or omitted where approved by the AHJ and in accordance with the HMA.

Statement of Problem and Substantiation for Public Input

For technologies that do not present a fire hazard and do not store enough energy to have a thermal runaway, no fire wall should be required. This exemption should be provided if test data and the HMA shows this to be the case.

Submitter Information Verification

Submitter Full Name: Steve Edley

Organization: Atlas Power Technologies

Affiliation: Atlas Power Technologies

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City:

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Zip:

Submittal Date: Wed Jan 28 17:31:29 EST 2026

Committee: BAT-AAA



Public Input No. 98-NFPA 800-2026 [Section No. 6.2.5.3.2.1]

6.2.5.3.2.1

Where the HMA demonstrates that automatic suppression is not necessary, compliance with 6.2.3.1 shall ~~not be required when~~ be permitted to be modified as approved by the AHJ.

Statement of Problem and Substantiation for Public Input

6.2.3.1.1 states each indoor storage area shall have automatic suppression, but 6.2.5.3.2.1 creates an exemption. The code needs to clearly state whether suppression is mandatory or conditionally exempted; inconsistent requirements are not enforceable.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

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City:

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Zip:

Submittal Date: Mon Jan 05 18:40:54 EST 2026

Committee: BAT-AAA



Public Input No. 99-NFPA 800-2026 [Section No. 6.2.5.3.3]

6.2.5.3.3 Containers.

Batteries stored in containers complying with 6.2.1.4 shall be permitted to be stored in areas, providing they comply with the following:

- (1) Individual storage piles do not exceed 200 ft² (18.6 m²) in area
- (2) Storage is located a minimum of 10 ft (3 m) from other battery storage areas
- (3) Storage pile height shall not exceed 6 ft (1.8 m) unless a greater height is justified by the HMA and approved by the AHJ.

Statement of Problem and Substantiation for Public Input

A prescriptive maximum pile height provides a clear, enforceable baseline for typical storage piles and supports consistent fire department access and hazard management. Allowing increased height when justified by the HMA and approved by the AHJ preserves flexibility for site-specific arrangements and protection features while maintaining a minimum prescriptive height.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

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Submittal Date: Mon Jan 05 18:42:57 EST 2026

Committee: BAT-AAA



6.2.6 Outdoor Storage ~~Locations~~ Methods .

6.2.6.1 Pile Requirements.

Outdoor storage locations for batteries shall comply with the following:

- (1) Individual piles shall not exceed 1000 ft² (93 m²) in area.
- (2) Individual piles shall be separated from other piles by 10 ft (3 m).
- (3) Piles located outdoors shall be separated by a minimum of 20 ft (6.1 m) from the following exposures:
 - (4) Public ways
 - (5) Buildings not considered expendable in an exposure fire
 - (6) Combustible materials
 - (7) Hazardous materials
 - (8) Other exposure hazards
- (9) Piles located outdoors shall be separated by a minimum of 50 ft (15.2 m) from lot lines.

6.2.6.1.1

Clearances shall be permitted to be reduced to 3 ft (0.9 m) where a 3-hour fire resistance fire barrier suitable for exterior use and extending 5 ft (1.5 m) above and 5 ft (1.5 m) beyond the physical boundary of the pile is provided to protect the exposure.

6.2.6.2 Weather Protection.

6.2.6.2.1

Where weather protection is provided for sheltering outdoor battery storage areas, such areas shall be considered outdoor storage areas if all of the following conditions are met:

- (1) Supports and walls shall not obstruct more than one side or more than 25 percent of the perimeter of the storage area.
- (2) The distance from the structure and the structural supports to buildings, lot lines, public ways, or means of egress to a public way shall be not less than the distance required by 6.6.1 for outdoor storage of batteries without weather protection.
- (3) The structure shall be of approved noncombustible construction and not exceed 3,600 ft² (334.5 m²) in area.

6.2.6.2.2

Where the weather protection does not meet the requirements of 6.2.6.2.1, it shall be treated as indoor storage.

6.2.6.3 Outdoor Fire Alarm System.

Outdoor storage areas with an aggregate area greater than 400 ft² (37.1 m²) shall be provided with a fire alarm system complying with 6.2.3.1.2 and 6.2.3.1.3.

Statement of Problem and Substantiation for Public Input

Revise title from "Outdoor Storage Locations" to "Outdoor Storage Methods" consistent with title change in PI 517. No technical changes.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 527-NFPA 800-2026 [Section No. 6.2.5]	Similar title change

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

Street Address:

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Zip:

Submission Date: Thu Jan 29 17:02:38 EST 2026

Committee: BAT-AAA



Public Input No. 396-NFPA 800-2026 [Section No. 6.2.6.1 [Excluding any Sub-Sections]]

Outdoor storage locations for batteries shall comply with the HMA and the following:

- (1) Individual piles shall not exceed 1000 ft² (93 m²) in area.
- (2) Individual piles shall be separated from other piles by 10 ft (3 m).
- (3) Piles located outdoors shall be separated by a minimum of 20 ft (6.1 m) from the following exposures:
 - (4) Public ways
 - (5) Buildings not considered expendable in an exposure fire
 - (6) Combustible materials
 - (7) Hazardous materials
 - (8) Other exposure hazards
- (9) Piles located outdoors shall be separated by a minimum of 50 ft (15.2 m) from lot lines.

Statement of Problem and Substantiation for Public Input

HMA will outline additional hazards and required distance and separation needs at specific locations outdoors and identify risks specific to good batteries, scrap batteries and damaged batteries

Submitter Information Verification

Submitter Full Name: Lisa Parks

Organization: GM

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jan 28 15:21:20 EST 2026

Committee: BAT-AAA



Public Input No. 533-NFPA 800-2026 [Section No. 6.2.6.1 [Excluding any Sub-Sections]]

Outdoor storage locations for batteries shall comply with the following:

- (1) Individual piles shall not exceed 1000 ft² (93 m²) in area.
- (2) Individual piles shall be separated from other piles by 10 ft (3 m).
- (3) Piles located outdoors shall be separated by a minimum of 20 ft (6.1 m) from the following exposures:
 - (4) Public ways
 - (5) Buildings

~~not considered expendable in an exposure fire~~
 - (a)
 - (b) Combustible materials
 - (c) Hazardous materials
 - (d) Other exposure hazards
- (6) Piles located outdoors shall be separated by a minimum of 50 ft (15.2 m) from lot lines.

Statement of Problem and Substantiation for Public Input

Buildings can house people and as long as people can be inside the building, it cannot be considered expendable. The piles should be away from all buildings unless the building is secured and people are prevented from entry while a battery storage pile is in close proximity. A better and safer path is to provide a separation distance that is applied to all buildings.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 17:06:12 EST 2026

Committee: BAT-AAA



Public Input No. 81-NFPA 800-2026 [Section No. 6.2.6.2.1]

6.2.6.2.1

Where weather protection is provided for sheltering outdoor battery storage areas, such areas shall be considered outdoor storage areas if all of the following conditions are met:

- (1) Supports and walls shall not obstruct more than one side or more than 25 percent of the perimeter of the storage area.
- (2) The distance from the structure and the structural supports to buildings, lot lines, public ways, or means of egress to a public way shall be not less than the distance required by 6.2.6.1 for outdoor storage of batteries without weather protection.
- (3) The structure shall be of approved noncombustible construction and not exceed 3,600 ft² (334.5 m²) in area.

Statement of Problem and Substantiation for Public Input

6.6.1 does not exist. The intent is clearly to reference the outdoor pile separation distances in 6.2.6.1.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 05 17:34:56 EST 2026

Committee: BAT-AAA



Public Input No. 445-NFPA 800-2026 [Section No. 6.2.6.3]

6.2.6.3 Outdoor Fire Alarm System.

Outdoor storage areas with an aggregate area greater than 400 ft² (37.1 m²) shall be provided with a fire alarm system complying with 6.2.3.1.2 and 6.2.3.1.3.

This section prescribes outdoor storage areas of 400 ft² or greater that require fire alarm systems. Rather than prescribing the total storage area, the section should specify the total storage area for the batteries present. If other mitigating measures are present, such as separation from other combustible materials, fire alarm requirements should be waived for outdoor areas. For example, what if a Material Recovery Facility (MRF) only places batteries in the storage area as they are received and found in the stream, in low quantities, collecting them until a sufficient mass of batteries is present, then transporting them to an appropriate battery recycling facility? The protection requirements should be driven by the maximum load allowed in the space, not by the storage space's sheer size.

Statement of Problem and Substantiation for Public Input

The total allowable battery quantity should be prescribed based on the hazard, not the space size.

Submitter Information Verification

Submitter Full Name: Michael Marino

Organization: Recycled Materials Association (ReMA)

Street Address:

City:

State:

Zip:

Submission Date: Thu Jan 29 10:32:02 EST 2026

Committee: BAT-AAA



Public Input No. 534-NFPA 800-2026 [Section No. 6.2.6.3]

6.2.6.3 Outdoor Fire Alarm System.

Outdoor storage areas with an aggregate area greater than 400 ft² (37.1 m²) shall be provided with a fire alarm system complying with 6.2.3.1.2- ~~and 6.2.3.1.3.~~

Statement of Problem and Substantiation for Public Input

No such section as 6.2.3.1.3.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 17:15:08 EST 2026

Committee: BAT-AAA



Public Input No. 593-NFPA 800-2026 [Section No. 6.2.6.3]

6.2.6.3 Outdoor Fire Alarm System.

Outdoor storage areas with an aggregate area greater than 400 ft² (37.1 m²) shall be provided with a fire alarm system complying with 6.2.3.1.2 and 6.2.3.1.3.

Statement of Problem and Substantiation for Public Input

Is this section intended to include detection in addition to alarm? Also, reference 6.2.3.1.3 does not exist.

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 19:18:10 EST 2026

Committee: BAT-AAA



Public Input No. 83-NFPA 800-2026 [Section No. 6.2.6.3]

6.2.6.3 Outdoor Fire Alarm System.

Outdoor storage areas with an aggregate area greater than 400 ft² (37.1 m²) shall be provided with a fire alarm system complying with 6.2.3.1.2- ~~and 6.2.3.1.3.~~

Statement of Problem and Substantiation for Public Input

6.2.3.1.3 does not exist. As written, this is unenforceable and will create confusion during plan review and inspection. If the committee intended an additional requirement, add it as 6.2.3.1.3, then keep the reference.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 05 17:36:21 EST 2026

Committee: BAT-AAA



Public Input No. 85-NFPA 800-2026 [Section No. 6.3.1]

6.3.1 General.

6.3.1.1 Classification Requirement.

All batteries shall be classified in accordance with 6.3.2 and 6.3.4 3.

6.3.1.1.1

Batteries classified as low risk shall be stored in accordance with 6.3.6 5.

6.3.1.1.2

Batteries classified as high risk shall be stored in accordance with 6.3.7 6.

Statement of Problem and Substantiation for Public Input

The current text points low-risk storage to 6.3.6 (which is high-risk), points high-risk storage to 6.3.7 (which does not exist), and contains an "except for 6.3.6" circular reference. This is a fundamental internal consistency error that prevents correct application and enforcement.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 86-NFPA 800-2026 [Section No. 6.3.5.1]</u>	
<u>Public Input No. 87-NFPA 800-2026 [Section No. 6.3.6.1]</u>	

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 05 17:38:34 EST 2026

Committee: BAT-AAA



Public Input No. 500-NFPA 800-2026 [Section No. 6.3.1.1.1]

6.3.1.1.1

Batteries classified as low risk shall be stored in accordance with 6.3.6 5.

Statement of Problem and Substantiation for Public Input

This appears to be a typographical error and refers to high risk.

Submitter Information Verification

Submitter Full Name: Steve Edley

Organization: Atlas Power Technologies

Affiliation: Atlas Power Technologies

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 15:18:50 EST 2026

Committee: BAT-AAA



Public Input No. 100-NFPA 800-2026 [Section No. 6.3.2.2]

6.3.2.2*

Used batteries that have undergone screening or evaluation for repurposing and are determined not to be at risk of spontaneous thermal runaway shall be classified as low risk. Screening or evaluation shall include documented criteria and results acceptable to the AHJ.

Statement of Problem and Substantiation for Public Input

Without minimum documentation expectations, “screening” will vary widely and could be applied inconsistently. Requiring documented criteria improves consistency while retaining flexibility.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 05 18:48:17 EST 2026

Committee: BAT-AAA



Public Input No. 142-NFPA 800-2026 [Section No. 6.3.2.2]

6.3.2.2*

Used batteries that have undergone screening or evaluation for repurposing and are determined ~~not to be at risk of~~ free from the potential for spontaneous thermal runaway shall be classified as low risk.

Statement of Problem and Substantiation for Public Input

In safety documents such as this one the word "risk" should be reserved for and used only when the intended meaning is "the combination of the probability of occurrence of an adverse event and the potential consequences of that event."

The phrase "risk of" in this type of document generally refers to a "possibility of" or "the potential for" regardless of the potential consequence.

Based on the context of this sentence, the phrase "determined not to be at risk of..." should be replaced with the phrase "determined to be free from the potential for..."

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 140-NFPA 800-2026 [New Section after 3.3.33]	
Public Input No. 143-NFPA 800-2026 [Section No. 6.3.3.3]	

Submitter Information Verification

Submitter Full Name: Daniel Roberts

Organization: Electrical Safety Solutions

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 08 14:32:36 EST 2026

Committee: BAT-AAA



Public Input No. 446-NFPA 800-2026 [Section No. 6.3.2.3]

6.3.2.3

Batteries with a state of charge not exceeding 30 percent in accordance with 6.1.4.5 shall be classified as low risk.

How would recyclers determine the State of Charge (SOC) requirement?

Statement of Problem and Substantiation for Public Input

Not feasible for recyclers.

Submitter Information Verification

Submitter Full Name: Michael Marino

Organization: Recycled Materials Association (ReMA)

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 10:35:24 EST 2026

Committee: BAT-AAA



Public Input No. 88-NFPA 800-2026 [Section No. 6.3.2.3]

6.3.2.3

Batteries with a state of charge not exceeding 30 percent in accordance with 6.1.4.5 shall 6 shall be classified as low risk.

Statement of Problem and Substantiation for Public Input

6.1.4.5 does not exist. 6.1.6 is the SOC-based condition in this chapter.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 05 17:41:56 EST 2026

Committee: BAT-AAA



6.3.3 High-Risk Battery Classification.

6.3.3.1*

~~Batteries with known or suspected defects or damage~~ Any battery collection not comprised solely of low risk batteries shall be classified as high risk.

Move to annex:

A. 6.3.3.

~~2-~~

~~Batteries designated 1~~

Common examples of high risk batteries include any battery or collection of batteries:

With known or suspected defects or damage

Designated for recycling, disposal, or waste ~~handling shall be classified as high risk.~~

~~**6.3.3.3**~~ –

~~Used batteries shall be classified as high risk when any of the following conditions are met*~~ Batteries have been collected ~~handling~~

Collected from the public or employees

* ~~Batteries That have not undergone screening or evaluation for repurposing~~

Batteries That have undergone screening or evaluation for repurposing and are determined to be at risk of spontaneous thermal runaway.

Statement of Problem and Substantiation for Public Input

Simplification of the text. If a battery or collection of them is not low risk, it is treated as high risk by default.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

Street Address:

City:

State:

Zip:

Submission Date: Thu Jan 29 16:09:37 EST 2026

Committee: BAT-AAA



Public Input No. 447-NFPA 800-2026 [Section No. 6.3.3.2]

6.3.3.2

Batteries designated for recycling, disposal, or waste handling shall be classified as high risk.

What is the justification for this? Why aren't the same risk frameworks applied here as above? These requirements impose significant, unwarranted hardship on recyclers, with no evidence to support them.

Statement of Problem and Substantiation for Public Input

What is the justification for this? Why aren't the same risk frameworks applied here as above? These requirements impose significant, unwarranted hardship on recyclers, with no evidence to support them.

Submitter Information Verification

Submitter Full Name: Michael Marino

Organization: Recycled Materials Association (ReMA)

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 10:36:34 EST 2026

Committee: BAT-AAA



Public Input No. 143-NFPA 800-2026 [Section No. 6.3.3.3]

6.3.3.3

Used batteries shall be classified as high risk when any of the following conditions are met:

- (1) * Batteries have been collected from the public or employees
- (2) * Batteries have not undergone screening or evaluation for repurposing
- (3) Batteries have undergone screening or evaluation for repurposing and are determined not to be ~~at risk of spontaneous~~ free from the potential for spontaneous thermal runaway

Statement of Problem and Substantiation for Public Input

In safety documents such as this one the word "risk" should be reserved for and used only when the intended meaning is "the combination of the probability of occurrence of an adverse event and the potential consequences of that event."

The phrase "risk of" in this type of document generally refers to a "possibility of" or "the potential for" regardless of the potential consequence.

Based on the context of this sentence, the phrase "determined to be at risk of..." should be replaced with the phrase "determined not to be free from the potential for..."

This revision matches that proposed for 6.3.2.2

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 142-NFPA 800-2026 [Section No. 6.3.2.2]	

Submitter Information Verification

Submitter Full Name: Daniel Roberts

Organization: Electrical Safety Solutions

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 08 14:44:02 EST 2026

Committee: BAT-AAA



Public Input No. 448-NFPA 800-2026 [Section No. 6.3.3.3]

6.3.3.3

Used batteries shall be classified as high risk when any of the following conditions are met:

- (1) * Batteries have been collected from the public or employees
- (2) * Batteries have not undergone screening or evaluation for repurposing
- (3) Batteries have undergone screening or evaluation for repurposing and are determined to be at risk of spontaneous thermal runaway

Section (1) indicates batteries collected from the public or employees are automatically considered high risk. Same concerns as above. Not applying other risk measures and undue burden on the recycling industry.

Statement of Problem and Substantiation for Public Input

Section (1) indicates batteries collected from the public or employees are automatically considered high risk. Same concerns as above. Not applying other risk measures and undue burden on the recycling industry.

Submitter Information Verification

Submitter Full Name: Michael Marino

Organization: Recycled Materials Association (ReMA)

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 10:38:23 EST 2026

Committee: BAT-AAA



Public Input No. 101-NFPA 800-2026 [Section No. 6.3.4]

6.3.4 Segregation.

~~Low-risk and high-risk storage areas shall be permitted to be separated from one another~~

Low-risk and high-risk storage areas shall be separated from one another by one of the following:

- (1) a minimum of 20 ft (6 m) or in accordance with 6.3.5.1 .

~~6.3.4.1 –~~

- (1) by fire barriers with a 2-hour fire resistance rating and with horizontal assemblies with a 2-hour fire resistance rating constructed in accordance with the local building code.

Statement of Problem and Substantiation for Public Input

urrent wording implies 20 ft is always required even when a rated barrier is provided. Clarifying the options reduces confusion and improves design application.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 05 18:49:53 EST 2026

Committee: BAT-AAA



Public Input No. 503-NFPA 800-2026 [Section No. 6.3.4 [Excluding any Sub-Sections]]

Low-risk and high-risk storage areas shall be separated from one another by a minimum of 20 ft (6 m) or in accordance with ~~6.3.5.4~~ - the HMA.

Statement of Problem and Substantiation for Public Input

Some technologies do not present a hazard warranting 20ft separation of high risk an low risk batteries. The HMA should identify separation requirements.

Submitter Information Verification

Submitter Full Name: Steve Edley

Organization: Atlas Power Technologies

Affiliation: Atlas Power Technologies

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 15:22:40 EST 2026

Committee: BAT-AAA



Public Input No. 510-NFPA 800-2026 [Section No. 6.3.5]

~~6.3.5 – Storage of Low-Risk Batteries:~~

~~6.3.5.1 – Application:~~

~~The storage of low-risk batteries shall comply with Chapter 6 , except for 6.3.7.~~

Statement of Problem and Substantiation for Public Input

This text is not needed. The chapter already provides minimum requirements for low risk storage.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 16:22:26 EST 2026

Committee: BAT-AAA



Public Input No. 297-NFPA 800-2026 [Section No. 6.3.5.1]

6.3.5.1 Application.

The storage of low-risk batteries shall comply with Chapter 6, except for 6.3.7- 6

Statement of Problem and Substantiation for Public Input

There is no 6.3.7 listed for the chapter - appears to be an error in the numbering... I assume this was to indicate that low risk did not need to meet the high risk section 6.3.6?

Submitter Information Verification

Submitter Full Name: Michael Leffert

Organization: General Motors

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 26 17:30:02 EST 2026

Committee: BAT-AAA



Public Input No. 496-NFPA 800-2026 [Section No. 6.3.5.1]

6.3.5.1 Application.

The storage of low-risk batteries shall comply with Chapter 6, except for 6.3.7 XX .

Statement of Problem and Substantiation for Public Input

We do not understand the intent of this reference, but 6.3.7 does not exist. Additionally, this section does not cover high risk batteries referred to in the first paragraph of 6.3.4 which refers to this section.

Submitter Information Verification

Submitter Full Name: Steve Edley

Organization: Atlas Power Technologies

Affiliation: Atlas Power Technologies

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 15:12:47 EST 2026

Committee: BAT-AAA



Public Input No. 86-NFPA 800-2026 [Section No. 6.3.5.1]

6.3.5.1 Application.

The storage of low-risk batteries shall comply with Chapter 6, except for 6.3.7 6 .

Statement of Problem and Substantiation for Public Input

The current text points low-risk storage to 6.3.6 (which is high-risk), points high-risk storage to 6.3.7 (which does not exist), and contains an “except for 6.3.6” circular reference. This is a fundamental internal consistency error that prevents correct application and enforcement.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 85-NFPA 800-2026 [Section No. 6.3.1]</u>	

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 05 17:39:46 EST 2026

Committee: BAT-AAA



6.3.6 Storage of High-Risk Batteries.

6.3.6.4 – Application.

~~The storage of high-risk batteries shall comply with Chapter 6 , except for 6.3.6 -~~

~~6.3.6.2*~~ General Requirements.

~~The storage of high-risk batteries shall comply with all of the following:~~

- ~~• All batteries, regardless of classification, that are stored in high-risk areas shall be classified as high-risk batteries.~~

~~Containers and areas used for the storage of high-risk batteries shall be clearly labeled to identify the batteries as being~~

~~at increased~~

~~high risk.~~

6.3.6.3* Indoor Storage.

Indoor storage locations for high-risk batteries shall comply with all of the following:

- (1) Individual piles shall not exceed 100 ft² (9.3 m²) in area.
- (2) Individual pile height shall not exceed 5 ft (1.5 m).
- (3) Each pile shall be separated from other piles by a minimum of 20 ft (6.1 m).
- (4) Piles shall be separated by a minimum of 20 ft (6.1 m) from the following exposures:
 - (5) Combustible materials
 - (6) Hazardous materials
 - (7) Other exposure hazards
 - (8) Lot lines
- (9) ~~High-risk batteries shall not be stored above 5 ft (1.5 m) unless taller storage configurations are supported by the HMA.~~
- (10) Where racking is provided for the storage of high-risk batteries, the racking shall be equipped with in-rack suppression and designed in accordance with the HMA.
- (11) Solid pile storage shall not be permitted.
- (12) Multi-row racking shall not be permitted.
- (13) Automated storage and retrieval system (ASRS) racking shall not be permitted.

6.3.6.4* Hazardous or Universal Waste.

Batteries classified as hazardous or universal waste shall also comply with applicable local, state, and federal waste management regulations.

Statement of Problem and Substantiation for Public Input

Proposed simplification of the text. 6.3.6.2 (1) does not seem to make sense. If batteries are low risk, and in area with high risk batteries and properly segregated, is that not OK?

If storage above 5 ft refers to pile size, I suggest moving it up to follow other pile dimensions. If it is related to storage in elevated racks, make this more clear.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 16:24:04 EST 2026

Committee: BAT-AAA



Public Input No. 246-NFPA 800-2026 [Section No. 6.3.6.1]

6.3.6.1 Application.

The storage of high-risk batteries shall comply with Chapter 6, except for 6.3.6.7.

Statement of Problem and Substantiation for Public Input

This is apparently a typo. It makes no sense to state 6.3.6 doesn't apply in section 6.3.6. TC probably intended to reference 6.3.7.

Submitter Information Verification

Submitter Full Name: Raymond Hansen

Organization: US Department of the Air Force

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 26 12:56:12 EST 2026

Committee: BAT-AAA



Public Input No. 298-NFPA 800-2026 [Section No. 6.3.6.1]

6.3.6.1 Application.

The storage of high-risk batteries shall comply with Chapter 6, except for 6.3.6.5 .

Statement of Problem and Substantiation for Public Input

This states that high risk doesn't need to comply with the high risk section - appears to have been a numbering issue - I would think the only thing they don't need to comply with is the low risk section 6.3.5

Submitter Information Verification

Submitter Full Name: Michael Leffert

Organization: General Motors

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 26 17:33:09 EST 2026

Committee: BAT-AAA



Public Input No. 521-NFPA 800-2026 [Section No. 6.3.6.1]

6.3.6.1 Application.

The storage of high-risk batteries shall comply with Chapter 6, except for 6.3.6.

Statement of Problem and Substantiation for Public Input

6.3.6 appears to be the incorrect reference.

Submitter Information Verification

Submitter Full Name: Luke Webber

Organization: Mitsubishi Logisnext Americas

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 16:47:44 EST 2026

Committee: BAT-AAA



Public Input No. 524-NFPA 800-2026 [Section No. 6.3.6.1]

6.3.6.1 Application.

The storage of high-risk batteries shall comply with Chapter 6, except for 6.3.6.5 .

Statement of Problem and Substantiation for Public Input

seems that this should be 6.3.5

Submitter Information Verification

Submitter Full Name: Luke Webber

Organization: Mitsubishi Logisnext Americas

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 16:53:54 EST 2026

Committee: BAT-AAA



Public Input No. 87-NFPA 800-2026 [Section No. 6.3.6.1]

6.3.6.1 Application.

The storage of high-risk batteries shall comply with Chapter 6, except ~~for~~ as modified by 6.3.6.

Statement of Problem and Substantiation for Public Input

The current text points low-risk storage to 6.3.6 (which is high-risk), points high-risk storage to 6.3.7 (which does not exist), and contains an “except for 6.3.6” circular reference. This is a fundamental internal consistency error that prevents correct application and enforcement.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 85-NFPA 800-2026 [Section No. 6.3.1]</u>	

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 05 17:40:40 EST 2026

Committee: BAT-AAA



Public Input No. 144-NFPA 800-2026 [Section No. 6.3.6.2]

6.3.6.2* General Requirements.

The storage of high-risk batteries shall comply with all of the following:

- (1) All batteries, regardless of classification, that are stored in high-risk areas shall be classified as high-risk batteries.
- (2) Containers and areas used for the storage of high-risk batteries shall be clearly labeled to ~~identify the batteries as being at increased risk~~ identify that they are to be used for that purpose only.

Statement of Problem and Substantiation for Public Input

In safety documents such as this one the word "risk" should be reserved for and used only when the intended meaning is "the combination of the probability of occurrence of an adverse event and the potential consequences of that event."

In this instance phrase "at increased risk" is unnecessary as the objective of the labelling requirement is to advise that the container or area is to be used only for the purpose of storing high-risk batteries.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 140-NFPA 800-2026 [New Section after 3.3.33]	

Submitter Information Verification

Submitter Full Name: Daniel Roberts

Organization: Electrical Safety Solutions

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 08 16:03:31 EST 2026

Committee: BAT-AAA



Public Input No. 299-NFPA 800-2026 [Section No. 6.3.6.3]

6.3.6.3* Indoor Storage.

Indoor storage locations for high-risk batteries shall comply with all of the following unless deviations are supported by the HMA :

- (1) Individual piles shall not exceed 100 ft² (9.3 m²) in area.
- (2) Each pile shall be separated from other piles by a minimum of 20 ft (6.1 m).
- (3) Piles shall be separated by a minimum of 20 ft (6.1 m) from the following exposures:
 - (4) Combustible materials
 - (5) Hazardous materials
 - (6) Other exposure hazards
 - (7) Lot lines
- (8) High-risk batteries shall not be stored above 5 ft (1.5 m) ~~unless taller storage configurations are supported by the HMA~~.
- (9) Where racking is provided for the storage of high-risk batteries, the racking shall be equipped with in-rack suppression and designed in accordance with the HMA.
- (10) Solid pile storage shall not be permitted.
- (11) Multi-row racking shall not be permitted.
- (12) Automated storage and retrieval system (ASRS) racking shall not be permitted.

Statement of Problem and Substantiation for Public Input

I think we want the local experts on the ground doing the HMA, etc... to be able to adjust these specifications when appropriate.

Submitter Information Verification

Submitter Full Name: Michael Leffert

Organization: General Motors

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 26 17:34:56 EST 2026

Committee: BAT-AAA



Public Input No. 431-NFPA 800-2026 [Section No. 6.3.6.3]

6.3.6.3* Indoor Storage.

Indoor storage locations for abnormal high-risk batteries shall comply with all of the following:

- (1) Individual piles shall not exceed 100 ft² (9.3 m²) in area.
- (2) Each pile shall be separated from other piles by a minimum of 20 ft (6.1 m).
- (3) Piles shall be separated by a minimum of 20 ft (6.1 m) from the following exposures:
 - (4) Combustible materials
 - (5) Hazardous materials
 - (6) Other exposure hazards
 - (7) Lot lines
- (8) High-risk batteries shall not be stored above 5 ft (1.5 m) unless taller storage configurations are supported by the HMA.
- (9) Where racking is provided for the storage of high-risk batteries, the racking shall be equipped with in-rack suppression and designed in accordance with the HMA.
- (10) Solid pile storage shall not be permitted.
- (11) Multi-row racking shall not be permitted.
- (12) Automated storage and retrieval system (ASRS) racking shall not be permitted.

Statement of Problem and Substantiation for Public Input

High-risk batteries should be better defined, such as batteries with a fire risk due to a sudden and significant voltage drop, swelling, or heating. 8- and 9-series batteries that meet normal specifications are defined as high risk.

Submitter Information Verification

Submitter Full Name: Wenmo Liang

Organization: CATL

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 09:32:38 EST 2026

Committee: BAT-AAA



Public Input No. 594-NFPA 800-2026 [Section No. 6.3.6.3]

6.3.6.3* Indoor Storage.

Indoor storage locations for high-risk batteries shall comply with all of the following:

- (1) Individual piles shall not exceed 100 ft² (9.3 m²) in area.
- (2) Each pile shall be separated from other piles by a minimum of 20 ft (6.1 m).
- (3) Piles shall be separated by a minimum of 20 ft (6.1 m) from the following exposures:
 - (a) Combustible materials
 - (b) Hazardous materials
 - (c) Other exposure hazards
 - (d) Lot lines
- (4) High-risk batteries shall not be stored above 5 ft (1.5 m) unless taller storage configurations are supported by the HMA.
- (5) Where racking is provided for the storage of high-risk batteries, the racking shall be equipped with in-rack suppression and designed in accordance with the HMA.
- (6) Solid pile storage shall not be permitted.
- (7) Multi-row racking shall not be permitted.
- (8) Automated storage and retrieval system (ASRS) racking shall not be permitted.

Statement of Problem and Substantiation for Public Input

6.3.6.3(6) What is the intent? Items 1, 2, and 3 reference piles. Is this meant to be a prohibition on stacking? Can battery containers be stacked on a single pallet? Can pallets be stacked?

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 19:18:59 EST 2026

Committee: BAT-AAA



Public Input No. 512-NFPA 800-2026 [Section No. 6.3.6.4]

6.3.6.1.4* Hazardous or Universal Waste.

Batteries classified as hazardous or universal waste shall also comply with applicable local, state, and federal waste management regulations.

Statement of Problem and Substantiation for Public Input

This requirement is under the section for storage of high risk batteries, but it may also apply to low risk storage. If this is correct, consider moving it to a new section that is more generally applicable, such as before current section on containers as I have proposed.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 16:36:58 EST 2026

Committee: BAT-AAA



Public Input No. 103-NFPA 800-2026 [Section No. 6.5]

6.5 Storage of Vehicles Containing Batteries. (Reserved)

Statement of Problem and Substantiation for Public Input

Chapter 6 contains both a reserved “Storage of Vehicles Containing Batteries” section (6.5) and an active full vehicle storage section (6.9), plus a scope exclusion that references a placeholder chapter. The committee should consolidate to a single location and correct internal references for usability.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 79-NFPA 800-2026 [Section No. 6.1.3]</u>	

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 05 18:53:41 EST 2026

Committee: BAT-AAA



Public Input No. 11-NFPA 800-2025 [Section No. 6.5]

~~6.5 Storage of Vehicles Containing Batteries~~ (Reserved)

Statement of Problem and Substantiation for Public Input

Propose to delete the title in 6.5 and just state that 6.5 is reserved for future use. The title and contents are shown in clause 6.9.

Submitter Information Verification

Submitter Full Name: Jim Eckstein

Organization: Crown Equipment Corporation

Street Address:

City:

State:

Zip:

Submission Date: Tue Dec 30 13:32:08 EST 2025

Committee: BAT-AAA



Public Input No. 595-NFPA 800-2026 [Section No. 6.5]

6.5 Storage of Vehicles Containing Batteries. (Reserved)

Statement of Problem and Substantiation for Public Input

Duplicated title with section 6.9

Submitter Information Verification

Submitter Full Name: Corey Kinsman

Organization: Summit Fire Consulting

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 19:20:06 EST 2026

Committee: BAT-AAA



Public Input No. 102-NFPA 800-2026 [Section No. 6.6]

6.6* Emergency Response and Preparedness.

Emergency response planning, fire department coordination, and firefighting considerations shall comply with Section 4.8 and shall address high-risk battery storage areas and DDR isolation areas, as applicable .

Statement of Problem and Substantiation for Public Input

Chapter 6 introduces classification and isolation concepts. Emergency response provisions should explicitly capture those hazards so the linkage is clear and enforceable.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 05 18:51:57 EST 2026

Committee: BAT-AAA



Public Input No. 300-NFPA 800-2026 [Section No. 6.9.1 [Excluding any Sub-Sections]]

The requirements of ~~Chapter 7 shall~~ this section shall apply to the storage of vehicles powered by electric drive or hybrid systems.

Statement of Problem and Substantiation for Public Input

Thinking this is a typo - the scope here would be this section - not Chapter 7?

Submitter Information Verification

Submitter Full Name: Michael Leffert

Organization: General Motors

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 26 17:37:31 EST 2026

Committee: BAT-AAA



Public Input No. 516-NFPA 800-2026 [Section No. 6.9.1 [Excluding any Sub-Sections]]

The requirements of ~~Chapter 7 - section 6.9~~ shall apply to the storage of vehicles powered by electric drive or hybrid systems.

Statement of Problem and Substantiation for Public Input

I think the chapter reference is not correct. Chapter 7 is transportation and shipping. It seems to me need to reference 6.9 which is the current section.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 16:41:35 EST 2026

Committee: BAT-AAA



Public Input No. 525-NFPA 800-2026 [Section No. 6.9.1 [Excluding any Sub-Sections]]

The requirements of Chapter 7-6_ shall apply to the storage of vehicles powered by electric drive or hybrid systems.

Statement of Problem and Substantiation for Public Input

should be 6?

Submitter Information Verification

Submitter Full Name: Luke Webber

Organization: Mitsubishi Logisnext Americas

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 16:54:58 EST 2026

Committee: BAT-AAA



Public Input No. 89-NFPA 800-2026 [Section No. 6.9.1 [Excluding any Sub-Sections]]

The requirements of ~~Chapter 7~~ this section shall apply to the storage of vehicles powered by electric drive or hybrid systems.

Statement of Problem and Substantiation for Public Input

Chapter 7 addresses transportation and shipping of batteries and battery-supported products. Vehicle storage requirements are contained in Section 6.9; therefore, referencing Chapter 7 in 6.9.1 is inconsistent with the chapter subject matter and appears to be a drafting error. Correcting the reference clarifies applicability and prevents misapplication of transportation provisions to vehicle storage.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

Street Address:

City:

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Zip:

Submittal Date: Mon Jan 05 17:44:43 EST 2026

Committee: BAT-AAA



Public Input No. 397-NFPA 800-2026 [Section No. 6.9.1.1]

6.9.1.1

The requirements of this section shall not apply to the following:

- (1) Residential dwellings
- (2) Aircraft
- (3)* Autonomous mobile robots (AMR) and piloted robots
- (4) Parking garages used by the general public
- (5) Charging of vehicles
- (6) Temporary display of vehicles no longer than 30 days
- (7) Outdoor fleet yards
- (8) Hydrogen fuel cells
- (9) New powered-mobility devices (PMDs) in retail packaging

Statement of Problem and Substantiation for Public Input

Lists AGVs not being included in this section BUT footnote in Appendix under 6.9.1 indicates AGVs are included.
Need to make a determination one way or another

Submitter Information Verification

Submitter Full Name: Lisa Parks

Organization: GM

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jan 28 15:25:48 EST 2026

Committee: BAT-AAA



Public Input No. 198-NFPA 800-2026 [New Section after 6.9.3]

6.9.3.1

The requirements of this section shall not apply to HEVs with batteries of less than 3 kWh unless such batteries are damaged or recalled (see 6.9.3.3).

Statement of Problem and Substantiation for Public Input

HEV batteries are typically 1 to 2 kWh and are operated around 50% SOC. Associated risks are far lower than for EVs or PHEVs.

Submitter Information Verification

Submitter Full Name: James McDowall

Organization: McDowall Advisors LLC

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City:

State:

Zip:

Submittal Date: Mon Jan 19 14:38:07 EST 2026

Committee: BAT-AAA



Public Input No. 301-NFPA 800-2026 [Section No. 6.9.3]

6.9.3– Electric Vehicles (EVs) , Plug-In Hybrid Vehicles (PHEVs) , and Hybrid Electric Vehicles (HEVs) .

6.9.3.1 Indoor Vehicle Storage.

6.9.3.1.1

Each area where vehicles are stored shall be provided with an approved fire protection system designed with the findings of the HMA and installed in accordance with NFPA 13.

6.9.3.1.2

Electric vehicles stored in rooms or spaces shall be separated from the remainder of the building areas as required by the HMA in accordance with either of the following:

- (1) Clearance of 10 ft (3 m) from combustibles
- (2) Fire barriers with a 2-hour fire resistance rating and with horizontal assemblies with a 2-hour fire resistance rating constructed in accordance with the local building code unless otherwise specified by the HMA

6.9.3.1.3

Storage shall not be placed in or obstruct any required means of egress.

6.9.3.1.4

Storage shall allow access for firefighting operations in accordance with local fire and building codes.

6.9.3.2 Outdoor Vehicle Storage.

6.9.3.2.1

Storage shall allow access for firefighting operations in accordance with local fire and building codes.

6.9.3.2.2

Outdoor vehicle storage lots or yards shall be provided with all of the following:

- (1) Designated emergency staging areas for fire department operations
- (2) Fire hydrant coverage in accordance with NFPA 1 and locally applicable codes
- (3)* Storage yards provided with security and routine monitoring.
- (4) Storage yards that are kept free of unmaintained vegetation, debris, and any other material that is not necessary to the proper operation of the facility
- (5) Signage for storage areas containing electric vehicles that indicates the following:
 - (6) The presence of energized batteries and their location on-site
 - (7) Contact information for authorized personnel or site owners

6.9.3.3 Storage of Damaged or Recalled Batteries in Vehicles.

6.9.3.3.1

Damaged, defective, or recalled batteries contained in vehicles shall be stored in designated isolated areas that provide all of the following:

- (1) Minimum 50 ft (15.2 m) separation from other vehicles and structures or a wall with a 2-hour fire resistance ratings
- (2)* Fire-resistant ground pads that are free of combustibles

6.9.3.3.2

Storage areas shall be equipped with both of the following:

- (1) Continuous thermal imaging or equivalent monitoring in a constantly attended location
- (2) Rapid-access fire suppression equipment acceptable to the AHJ

6.9.3.3.3

Weather protection for areas that store damaged or recalled vehicles is allowed provided all of the following conditions are met:

- (1) Protection is designed to maintain structural integrity throughout the duration of thermal events.
- (2) Protection is made of non-combustible material
- (3) Protection does not impede firefighting operations
- (4) Protection does not allow the accumulation of flammable vapors or gases in the storage area

Statement of Problem and Substantiation for Public Input

I may have missed it - but I didn't see these acronyms defined elsewhere - so just calling out the full names here. If elsewhere in the document prior to this, then this is OK and I would withdraw this input.

Submitter Information Verification

Submitter Full Name: Michael Leffert

Organization: General Motors

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 26 17:38:47 EST 2026

Committee: BAT-AAA



Public Input No. 214-NFPA 800-2026 [Sections 6.9.3.1.1, 6.9.3.1.2]

Sections 6.9.3.1.1, 6.9.3.1.2

6.9.3.1.1

Each area where vehicles are stored shall be provided with an approved fire protection system designed with the findings of the HMA and installed in accordance with NFPA 13.

6.9.3.1.2

Electric vehicles stored in rooms or spaces shall be separated from the remainder of the building areas as required by the HMA in accordance with either of the following:

- (1) Clearance of 10 ft (3 m) from combustibles
- (2) Fire barriers with a 2-hour fire resistance rating and with horizontal assemblies with a 2-hour fire resistance rating constructed in accordance with the local building code unless otherwise specified by the HMA

Statement of Problem and Substantiation for Public Input

Are car dealerships included in this requirement? If so then i think an annex note explaining that would assist the user as it is unclear.

Submitter Information Verification

Submitter Full Name: Steven Sawyer

Organization: Self-Employed

Street Address:

City:

State:

Zip:

Submittal Date: Tue Jan 20 08:55:49 EST 2026

Committee: BAT-AAA



Public Input No. 518-NFPA 800-2026 [Section No. 6.9.3.2.2]

6.9.3.2.2

Outdoor vehicle storage lots or yards shall be provided with all of the following:

- (1) Designated emergency staging areas for fire department operations
- (2) Fire hydrant coverage in accordance with NFPA 1 and locally applicable codes
- (3)* Storage yards provided with security and routine monitoring.
- (4) Storage yards that are kept free of unmaintained vegetation, debris, and any other material that is not necessary to the proper operation of the facility
- (5) ~~Signage for storage areas containing electric vehicles that indicates the following:~~
 - (6) ~~The presence of energized batteries and their location on-site~~
 - (7) ~~Contact information for authorized personnel or site owners~~

Statement of Problem and Substantiation for Public Input

Best to keep all signage requirements in 6.9.2.1. No need to have them repeated here.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 16:45:16 EST 2026

Committee: BAT-AAA



Public Input No. 254-NFPA 800-2026 [Section No. 6.9.3.3]

6.9.3.3 Storage of ~~Damaged or Recalled Batteries~~ Damaged Batteries in Vehicles.

6.9.3.3.1

Damaged, defective, or recalled batteries which have the potential of producing a dangerous evolution of heat, fire, or short circuit, contained in vehicles shall be stored in designated isolated areas that provide all of the following:

- (1) Minimum 50 ft (15.2 m) separation from other vehicles and structures or a wall with a 2-hour fire resistance ratings
- (2)* Fire-resistant ground pads that are free of combustibles

6.9.3.3.2

Storage areas shall be equipped with both of the following:

- (1) Continuous thermal imaging or equivalent monitoring in a constantly attended location
- (2) Rapid-access fire suppression equipment acceptable to the AHJ

6.9.3.3.3

Weather protection for areas that store damaged or recalled vehicles is allowed provided all of the following conditions are met:

- (1) Protection is designed to maintain structural integrity throughout the duration of thermal events.
- (2) Protection is made of non-combustible material
- (3) Protection does not impede firefighting operations
- (4) Protection does not allow the accumulation of flammable vapors or gases in the storage area

Statement of Problem and Substantiation for Public Input

Recalled batteries does not always imply a thermal runaway safety defect (recall examples which may not be of a concern: an incorrect label or incorrect bolt torque used to fasten battery in a vehicle). To clarify the intent of this section, it is suggested that NFPA 800 use similar language from US DOT 49CFR173.185(f) language for damaged/defective/recalled batteries to clarify that the concern is for defective batteries which have the ability to produce a dangerous evolution of heat.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 256-NFPA 800-2026 [Section No. 7.3]	
Public Input No. 371-NFPA 800-2026 [Section No. 6.9.3.3]	
Public Input No. 372-NFPA 800-2026 [Section No. 6.9.4.3]	

Submitter Information Verification

Submitter Full Name: Todd Mackintosh

Organization: General Motors

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 26 14:29:59 EST 2026

Committee: BAT-AAA



Public Input No. 371-NFPA 800-2026 [Section No. 6.9.3.3]

6.9.3.3 Storage of Damaged or ~~Recalled~~ Batteries in Vehicles.

6.9.3.3.1

Damaged, defective, or recalled batteries which have the potential of producing a dangerous evolution of heat, fire, or short circuit, contained in vehicles shall be stored in designated isolated areas that provide all of the following:

- (1) Minimum 50 ft (15.2 m) separation from other vehicles and structures or a wall with a 2-hour fire resistance ratings
- (2)* Fire-resistant ground pads that are free of combustibles

6.9.3.3.2

Storage areas shall be equipped with both of the following:

- (1) Continuous thermal imaging or equivalent monitoring in a constantly attended location
- (2) Rapid-access fire suppression equipment acceptable to the AHJ

6.9.3.3.3

Weather protection for areas that store ~~damaged or recalled~~ damaged vehicles is allowed provided all of the following conditions are met:

- (1) Protection is designed to maintain structural integrity throughout the duration of thermal events.
- (2) Protection is made of non-combustible material
- (3) Protection does not impede firefighting operations
- (4) Protection does not allow the accumulation of flammable vapors or gases in the storage area

Statement of Problem and Substantiation for Public Input

Recalled batteries do not always imply a thermal runaway safety defect (recall examples which may not be of a concern: an incorrect label or incorrect bolt torque used to fasten battery in a vehicle). To clarify the intent of this section, it is suggested that NFPA 800 use similar language from US DOT 49CFR173.185(f) language for damaged/defective/recalled batteries to clarify that the concern is for defective batteries which have the ability to produce a dangerous evolution of heat.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 254-NFPA 800-2026 [Section No. 6.9.3.3]</u>	

Submitter Information Verification

Submitter Full Name: Todd Mackintosh

Organization: General Motors

Street Address:

City:

State:

Zip:

Submission Date: Wed Jan 28 12:39:39 EST 2026

Committee: BAT-AAA



Public Input No. 105-NFPA 800-2026 [Section No. 6.9.3.3.2]

6.9.3.3.2

Storage areas shall be equipped with both of the following:

- (1) Continuous thermal imaging or equivalent monitoring ~~in~~ shall be provided and shall annunciate to a constantly attended location or to a supervising station in accordance with NFPA 72, as acceptable to the AHJ.
- (2) Rapid-access fire suppression equipment acceptable to the AHJ

Statement of Problem and Substantiation for Public Input

Requiring on-site constant attendance is not always feasible for storage yards and seasonal storage locations. Permitting annunciation to either a constantly attended location or a supervising station (in accordance with NFPA 72), as acceptable to the AHJ, maintains the safety intent of timely event recognition and response while improving implementability across common storage configurations.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 05 18:57:23 EST 2026

Committee: BAT-AAA



Public Input No. 372-NFPA 800-2026 [Section No. 6.9.4.3]

6.9.4.3 Storage of Damaged or Recalled Vehicles.

6.9.4.3.1

Damaged, defective, or recalled ~~vehicles containing batteries~~ vehicles containing batteries, which have the potential of producing a dangerous evolution of heat, fire, or short circuit, shall be stored in designated isolation areas that provide all of the following:

- (1) Minimum 50 ft (15.2 m) separation from other vehicles and structures or a wall with a 2-hour fire resistance rating
- (2)* Fire-resistant ground pads that are free of combustibles

6.9.4.3.2

Storage areas shall be equipped with all of the following:

- (1) Continuous thermal imaging or equivalent monitoring in a constantly attended location
- (2) Rapid-access fire suppression equipment acceptable to the AHJ

6.9.4.3.3

Weather protection for areas that store damaged or recalled vehicles is allowed provided all of the following conditions are met:

- (1) Protection is designed to maintain structural integrity throughout the duration of thermal events
- (2) Protection is made of non-combustible material
- (3) Protection does not impede firefighting operations
- (4) Protection does not allow the accumulation of flammable vapors or gases in the storage area

Statement of Problem and Substantiation for Public Input

Recalled batteries do not always imply a thermal runaway safety defect (recall examples which may not be of a concern: an incorrect label or incorrect bolt torque used to fasten battery in a vehicle). To clarify the intent of this section, it is suggested that NFPA 800 use similar language from US DOT 49CFR173.185(f) language for damaged/defective/recalled batteries to clarify that the concern is for defective batteries which have the ability to produce a dangerous evolution of heat.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 254-NFPA 800-2026 [Section No. 6.9.3.3]	

Submitter Information Verification

Submitter Full Name: Todd Mackintosh

Organization: General Motors

Street Address:

City:

State:

Zip:

Submission Date: Wed Jan 28 12:44:42 EST 2026

Committee: BAT-AAA



Public Input No. 526-NFPA 800-2026 [Section No. 6.9.4.3.1]

6.9.4.3.1

~~Damaged Vehicles containing damaged~~ , defective, or ~~recalled vehicles containing~~ recalled batteries shall be stored in designated isolation areas that provide all of the following:

- (1) Minimum 50 ft (15.2 m) separation from other vehicles and structures or a wall with a 2-hour fire resistance rating
- (2)* Fire-resistant ground pads that are free of combustibles

Statement of Problem and Substantiation for Public Input

this should be limited to the vehicles that contain the DDR and not the vehicle itself

Submitter Information Verification

Submitter Full Name: Luke Webber

Organization: Mitsubishi Logisnext Americas

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 16:56:19 EST 2026

Committee: BAT-AAA



Public Input No. 449-NFPA 800-2026 [Section No. 6.9.4.3.2]

6.9.4.3.2

Storage areas shall be equipped with all of the following:

- (1) Continuous thermal imaging or equivalent monitoring in a constantly attended location
- (2) Rapid-access fire suppression equipment acceptable to the AHJ

Does this section apply to body/repair shops/auto dealerships? Requiring continuous thermal imaging, or equivalent (what does that mean), is prohibitive, especially for outside storage. Section (2) further stipulates that rapid access to fire suppression suitable to the AHJ is required. Need to define more clearly to prevent unintended industry consequences and costs.

Statement of Problem and Substantiation for Public Input

Does this section apply to body/repair shops/auto dealerships? Requiring continuous thermal imaging, or equivalent (what does that mean), is prohibitive, especially for outside storage. Section (2) further stipulates that rapid access to fire suppression suitable to the AHJ is required. Need to define more clearly to prevent unintended industry consequences and costs.

Submitter Information Verification

Submitter Full Name: Michael Marino

Organization: Recycled Materials Association (ReMA)

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 10:40:19 EST 2026

Committee: BAT-AAA



Public Input No. 528-NFPA 800-2026 [Section No. 6.9.4.3.3]

6.9.4.3.3

Weather protection for areas that store vehicles containing damaged, defective or recalled vehicles batteries is allowed provided all of the following conditions are met:

- (1) Protection is designed to maintain structural integrity throughout the duration of thermal events
- (2) Protection is made of non-combustible material
- (3) Protection does not impede firefighting operations
- (4) Protection does not allow the accumulation of flammable vapors or gases in the storage area

Statement of Problem and Substantiation for Public Input

to align with prior comment

Submitter Information Verification

Submitter Full Name: Luke Webber

Organization: Mitsubishi Logisnext Americas

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 16:57:41 EST 2026

Committee: BAT-AAA



Public Input No. 104-NFPA 800-2026 [Section No. 6.9.5.1.2]

6.9.5.1.2

PMDS stored in rooms or spaces shall be separated from the remainder of the building areas as required by the HMA in accordance with either of the following:

- (1) Clearance of 3 ft (0.9 m) from combustibles
- (2) Fire barriers with a 2-hour fire resistance rating and with horizontal assemblies with a 2-hour fire resistance rating constructed in accordance with the local building code unless otherwise specified by the HMA

Statement of Problem and Substantiation for Public Input

Editorial correction to prevent misinterpretation.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 05 18:56:34 EST 2026

Committee: BAT-AAA



Public Input No. 248-NFPA 800-2026 [Section No. 6.9.5.1.2]

6.9.5.1.2

PMDS stored in rooms or spaces shall be separated from the remainder of the building areas as required by the HMA in accordance with either of the following:

- (1) Clearance of 3 ft (0.9 m) ~~combustibles~~ from combustible materials, combustible wastes or hazardous materials.
- (2) Fire barriers with a 2-hour fire resistance rating and with horizontal assemblies with a 2-hour fire resistance rating constructed in accordance with the local building code unless otherwise specified by the HMA

Statement of Problem and Substantiation for Public Input

The existing sentence is not proper grammar - it appears that the word "from" is missing. However, the text as used in 8.2.2.2.1 appears to be a better choice for this section.

Submitter Information Verification

Submitter Full Name: Raymond Hansen

Organization: US Department of the Air Force

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 26 13:04:49 EST 2026

Committee: BAT-AAA



Public Input No. 373-NFPA 800-2026 [Section No. 6.9.5.4]

6.9.5.4 Storage of ~~Damaged or Recalled PMDs~~ Damaged PMDs .

6.9.5.4.1

Damaged, defective, or recalled PMDs containing ~~batteries~~ batteries which have the potential of producing a dangerous evolution of heat, fire, or short circuit shall be stored in designated isolation areas that provide all of the following:

- (1) Minimum 10 ft (3 m) separation from other PMDs and structures or a wall with a 2-hour fire resistance rating
- (2)* Fire-resistant ground pads that are free of combustibles

6.9.5.4.2

Storage areas shall be equipped with all of the following:

- (1) Continuous thermal imaging or equivalent monitoring in a constantly attended location
- (2) Rapid-access fire suppression equipment acceptable to the AHJ

6.9.5.4.3

Weather protection for areas that store damaged ~~or recalled~~ PMDs is allowed provided all of the following conditions are met:

- (1) Protection is designed to maintain structural integrity throughout the duration of thermal events.
- (2) Protection is made of non-combustible material
- (3) Protection does not impede firefighting operations
- (4) Protection does not allow the accumulation of flammable vapors or gases in the storage area

Statement of Problem and Substantiation for Public Input

Recalled batteries do not always imply a thermal runaway safety defect (recall examples which may not be of a concern: an incorrect label or incorrect bolt torque used to fasten battery in a vehicle). To clarify the intent of this section, it is suggested that NFPA 800 use similar language from US DOT 49CFR173.185(f) language for damaged/defective/recalled batteries to clarify that the concern is for defective batteries which have the ability to produce a dangerous evolution of heat.

Submitter Information Verification

Submitter Full Name: Todd Mackintosh

Organization: General Motors

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jan 28 12:51:38 EST 2026

Committee: BAT-AAA



Public Input No. 302-NFPA 800-2026 [Section No. 6.9.5.4.2]

6.9.5.4.2

Storage areas shall be equipped with all of the following:

- (1) Continuous thermal imaging or equivalent monitoring in a location not constantly attended- ~~location~~ .
- (2) Rapid-access fire suppression equipment acceptable to the AHJ

Statement of Problem and Substantiation for Public Input

Seems like this would not be required in a constantly attended situation. If the goal is to require thermal monitoring no matter the state of attendance then take out any reference to state of attendance.

Submitter Information Verification

Submitter Full Name: Michael Leffert

Organization: General Motors

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 26 17:42:00 EST 2026

Committee: BAT-AAA



Chapter 7 Transportation and Shipping of Batteries

7.1 Application:

This chapter shall apply to the transportation and shipping of batteries and battery-supported products, including new, used, damaged, defective, and end-of-life batteries.

7.1.1 –

The requirements of this chapter shall apply to the following shipping and transportation modes:

- (1) Ground — Highway and Rail
- (2) Air
- (3) Sea transport

7.2 – General Requirements.

7.2.1.1

Batteries, including but not limited to lithium-ion, lithium metal, sodium-ion, and other electrochemical storage systems, shall be shipped in accordance with local, state, federal, and international transportation regulations applicable to the mode of transport and chemistry or technology of the battery being transported.

7.2.2 –

Where multiple regulations apply, the most restrictive requirement shall govern.

7.3 – Damaged, Defective, or Recalled Batteries:

7.3.1 –

Batteries identified as damaged, defective, or recalled shall be prepared, packaged, and offered for transport in accordance with the applicable authority requirements for safe containment and hazard mitigation.

7.4 – Shipping Papers:

7.4.1 –

A shipping document describing the battery and hazard classification shall accompany each consignment, as required by applicable regulations:

7.4.2 –

Documentation shall include the proper shipping name, UN identification number, hazard class, packing group (if assigned), and quantity.

7.4.3 –

When transported internationally, shipping papers shall conform to the requirements of the applicable modal regulations:

7.5 – Modal Requirements:

7.5.1 – Air Transport:

Air transport shall comply with applicable aviation dangerous goods regulations, including operator or state variations:

7.5.2 – Vessel Transport:

Vessel transport shall comply with applicable maritime dangerous goods regulations, including provisions for segregation, stowage, and emergency response:

7.5.3 – Highway and Rail Transport:

Highway and rail transport shall comply with the applicable national regulations:

7.5.4 – International Multi-Modal Shipments:

International multimodal shipments shall comply with the most restrictive applicable regulation:

7.6 – Training:

7.6.1 –

~~Persons preparing or offering batteries for transport shall receive training consistent with applicable regulatory requirements for hazardous materials or dangerous goods.~~

7.6.2 –

~~Training shall address classification, packaging, marking, labeling, documentation, and emergency response.~~

7.6.3 –

~~Records of training shall be maintained in accordance with the applicable regulations.~~

7.7 – Security Plans:

7.7.1 –

~~Where required by the applicable regulations, a hazardous materials or dangerous goods security plan shall be developed and implemented.~~

7.7.2 –

~~The plan shall include personnel security, unauthorized access prevention, and enroute security measures.~~

7.8 – Packaging:

7.8.1 –

~~Where applicable, batteries and battery packaging shall be tested in accordance with the applicable test methods prescribed in the United Nations' *Manual of Tests and Criteria* and the *UN Recommendations on the Transport of Dangerous Goods – Model Regulations* :~~

7.8.2 –

~~Packaging shall be designed to prevent short circuits, movement within the package, and accidental activation.~~

Statement of Problem and Substantiation for Public Input

It is understood that transport and shipping is included in NFPA 800 in an effort to be "comprehensive", but this section serves no practical value to users or enforces of this Code:

1. Chapter 7 contains no unique NFPA-developed safety requirements or technical specifications. Instead, it relies almost exclusively on generic references to external regulations.
2. NFPA 800 is intended for adoption by local and state Authorities Having Jurisdiction (AHJs) (such as fire marshals or building officials); however, the transportation of hazardous materials (batteries) is primarily governed and enforced by federal agencies and international bodies. Local fire inspectors typically do not have the authority to enforce federal interstate commerce or international transit laws.

Submitter Information Verification

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Submittal Date: Fri Jan 23 11:02:15 EST 2026

Committee: BAT-AAA



Public Input No. 240-NFPA 800-2026 [Section No. 7.1.1]

7.1.1

The requirements of this chapter shall apply to the following shipping and transportation modes:

- (1) Ground — Highway and Rail
- (2) Air
- (3) Sea transport

Statement of Problem and Substantiation for Public Input

No change proposed. Consider consistent terminology (for example, “vessel” instead of “sea transport,” and “highway” or “rail” instead of “ground”) to align with common regulatory language.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

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Submission Date: Thu Jan 22 20:30:55 EST 2026

Committee: BAT-AAA



Public Input No. 233-NFPA 800-2026 [Section No. 7.2.1]

7.2.1

Batteries, including but not limited to lithium-ion, lithium metal, sodium-ion, and other electrochemical storage systems, shall be shipped in accordance with applicable local, state, federal, and international transportation regulations ~~applicable to~~ for the mode(s) of transport and the chemistry or technology of the battery being transported.

Add A7.2.1:

-

Transportation regulations vary by jurisdiction and mode. Examples of commonly applicable regulations include U.S. DOT Hazardous Materials Regulations (49 CFR Parts 171-180), ICAO Technical Instructions (air), IATA Dangerous Goods Regulations (air, where used), the IMDG Code (vessel), and ADR/RID (road/rail, where adopted). Users should consult the competent authority requirements applicable to the shipment origin, destination, and route.

Statement of Problem and Substantiation for Public Input

Revised text slightly for readability and to identify that batteries can undergo multiple modes of transport. Added annex material to improve usability and correlation by directing users to some of the most common governing regulations and regulatory bodies.

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Submittal Date: Thu Jan 22 20:02:31 EST 2026

Committee: BAT-AAA



Public Input No. 287-NFPA 800-2026 [Section No. 7.2.1]

7.2.1

~~Batteries, including but not limited to lithium-ion, lithium metal, sodium-ion, and other electrochemical storage systems, shall~~ Batteries shall be shipped in accordance with local, state, federal, and international transportation regulations applicable to the mode of transport and chemistry or technology of the battery being transported.

Statement of Problem and Substantiation for Public Input

The listed examples are not necessary for proper application of the general requirements of this chapter.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

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State:

Zip:

Submittal Date: Mon Jan 26 16:23:22 EST 2026

Committee: BAT-AAA



Public Input No. 234-NFPA 800-2026 [Section No. 7.2.2]

7.2.2

Where multiple regulations apply to a shipment , the ~~most restrictive requirement shall govern.~~ shipment shall comply with each applicable regulation. Where requirements differ between applicable authorities, the shipper shall comply with the requirements applicable to the route and mode of transport, as required by the governing authority and acceptable to the AHJ.

Statement of Problem and Substantiation for Public Input

Transportation compliance is not always resolved by choosing the “most restrictive” requirement. Requirements can be different rather than more or less restrictive, and applying a “most restrictive” concept can conflict with the actual applicability rules for a given mode, route, or authority. Requiring compliance with each applicable regulation improves accuracy and enforceability.

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Submittal Date: Thu Jan 22 20:07:01 EST 2026

Committee: BAT-AAA



Public Input No. 192-NFPA 800-2026 [New Section after 7.3]

TITLE OF NEW CONTENT

Type your content here ..Batteries that have been damaged due to a fire event shall have permission from US DOT to ship without the typical packaging requirements when those requirements are not practical according to the CFR.

Statement of Problem and Substantiation for Public Input

After a fire event there times when the batteries modules, racks etc. can not be removed and the packaging requiremnts can not be adhered to according to the US DOT guidelines for DDR packaging. Special permission from US DOTis required to transport these batteries because of the situation. This iwill give AHJ the coverage they need when this situation come up.

Submitter Information Verification

Submitter Full Name: Paul Rogers

Organization: ESRG

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State:

Zip:

Submittal Date: Mon Jan 19 11:05:25 EST 2026

Committee: BAT-AAA



Public Input No. 256-NFPA 800-2026 [Section No. 7.3]

7.3 Damaged ~~, or~~ Defective ~~, or Recalled~~ Batteries.

7.3.1

Batteries identified as damaged ~~, or~~ defective ~~, or recalled~~ shall be prepared, packaged, and offered for transport in accordance with the applicable authority requirements for safe containment and hazard mitigation.

Statement of Problem and Substantiation for Public Input

Only US regulations reference "recalled" batteries in addition to damaged/defective batteries. International transportation regulations only reference damaged or defective batteries. As commented in section 6, recalled batteries do not always capture defective/damaged batteries which pose a concern for a dangerous evolution of heat. To better align internationally, it is suggested to drop "recalled" from damaged/defective battery description.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 254-NFPA 800-2026 [Section No. 6.9.3.3]</u>	Remove recall references for damaged/defective

Submitter Information Verification

Submitter Full Name: Todd Mackintosh

Organization: General Motors

Street Address:

City:

State:

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Submittal Date: Mon Jan 26 14:41:59 EST 2026

Committee: BAT-AAA



Public Input No. 360-NFPA 800-2026 [New Section after 7.3.1]

TITLE OF NEW CONTENT

Ocean shipping of end-of-life lithium ion batteries should be limited to those that have been demonstratively deactivated to materials that cannot rapidly evolve heat or ignite.

Statement of Problem and Substantiation for Public Input

This helps avoid the problem of fires occurring through the use of illegal or doctored manifest declarations, as well as the threat to ocean shippers. Requiring all end-of-life lithium batteries to be fully deactivated takes away any possibility of their explosion or rapid evolution of heat and dramatically reduces the threat of fire on board or in port. This is good risk management.

Submitter Information Verification

Submitter Full Name: Michael Cooney

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City:

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Submittal Date: Tue Jan 27 22:20:19 EST 2026

Committee: BAT-AAA



Public Input No. 237-NFPA 800-2026 [Section No. 7.3.1]

7.3.1

Batteries identified as damaged, defective, or recalled shall be prepared, packaged, and offered for transport in accordance with the applicable modal regulations and competent authority requirements-~~for safe containment and hazard mitigation~~. Where the applicable regulations restrict or prohibit transport of damaged or defective batteries except under specific conditions, the shipment shall only be offered for transport when those conditions are met, including any required approvals, special provisions, and use of packaging authorized under a competent authority approval or special permit, with compliance with all associated approval or permit terms and limitations.

Add A.7.3.1:

In the United States, certain shipments of damaged, defective, or recalled batteries, and certain packaging designs for such shipments may be authorized under DOT Special Permits issued by PHMSA. Where a packaging is authorized under a DOT Special Permit, the shipper must comply with the terms of that permit, and use may be limited to the permit holder or parties covered by the permit, as applicable. Outside the United States, similar authorizations may be issued by the applicable competent authority (for example, competent authority approvals under modal dangerous goods frameworks), and where used, the shipper should comply with all associated authorization conditions and limitations.

Statement of Problem and Substantiation for Public Input

DDR shipments are frequently subject to additional restrictions, special provisions, and approvals that vary by mode and jurisdiction. Certain DDR packaging systems and shipment configurations are authorized under competent authority approvals or special permits (for example, DOT Special Permits in the United States), and use is contingent on compliance with the specific terms and limitations of the approval (packaging instructions, marking/labeling, modal restrictions, quantity limits, and conditions for offering for transport). Explicitly recognizing these authorization pathways improves correlation with dangerous goods practice, prevents an overly broad reading that DDR batteries may be shipped based only on general "safe containment," and supports consistent enforcement by tying compliance to the governing authority requirements and the conditions of any applicable approval.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

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Submission Date: Thu Jan 22 20:19:02 EST 2026

Committee: BAT-AAA



Public Input No. 235-NFPA 800-2026 [Section No. 7.4.2]

7.4.2

Documentation shall include the proper shipping name, UN identification number, hazard class, packing group (if assigned), ~~and quantity~~ quantity, and any required special provision references, approvals, or statements required by the applicable regulations .

Statement of Problem and Substantiation for Public Input

For many battery shipments, compliance hinges on special provisions, state of charge limitations, packaging instructions, or approvals (especially DDR). Capturing "required statements/approvals" as a minimum documentation element improves enforceability.

Submitter Information Verification

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Submittal Date: Thu Jan 22 20:10:54 EST 2026

Committee: BAT-AAA



Public Input No. 361-NFPA 800-2026 [New Section after 7.5.1]

TITLE OF NEW CONTENT

Air Transport of end-of-life lithium ion batteries shall be limited to those that have been demonstratively deactivated to materials that can not longer rapidly evolve heat or ignite.

Statement of Problem and Substantiation for Public Input

This solves the problem of people mis-managing manifest declarations and reduces all risk of an air accident. This is good safety practice.

Submitter Information Verification

Submitter Full Name: Michael Cooney

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Submittal Date: Tue Jan 27 22:21:44 EST 2026

Committee: BAT-AAA



Public Input No. 236-NFPA 800-2026 [Sections 7.5.1, 7.5.2, 7.5.3]

Sections 7.5.1, 7.5.2, 7.5.3

7.5.1 Air Transport.

Air transport shall comply with applicable ~~aviation~~ air dangerous goods regulations, including the ICAO Technical Instructions and operator or state variations.

7.5.2 Vessel Transport.

Vessel transport shall comply with ~~applicable maritime dangerous goods regulations~~, including provisions for the IMDG Code, including segregation, stowage, and emergency response provisions .

7.5.3 Highway and Rail Transport.

Highway and rail transport shall comply with the applicable national regulations. Shipments subject to U.S. jurisdiction shall comply with 49 CFR Parts 171-180. International shipments shall comply with applicable competent authority requirements and any adopted road and rail dangerous goods regulations.

Statement of Problem and Substantiation for Public Input

The mode sections currently repeat “applicable regulations” without naming them. Referencing the core modal frameworks improves clarity and enforceability.

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Submittal Date: Thu Jan 22 20:13:03 EST 2026

Committee: BAT-AAA



Public Input No. 290-NFPA 800-2026 [Section No. 7.5.4]

7.5.4 ~~International~~ Multi-Modal Shipments.

~~International multimodal~~ Multimodal shipments shall comply with the most restrictive applicable regulation.

Statement of Problem and Substantiation for Public Input

It is not necessary to restrict the requirement to international shipments. Domestic shipments that are multimodal should also conform to the strictest applicable regulations.

Submitter Information Verification

Submitter Full Name: Richard Kluge

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Submittal Date: Mon Jan 26 16:26:02 EST 2026

Committee: BAT-AAA



Public Input No. 238-NFPA 800-2026 [Section No. 7.6.1]

7.6.1

Persons preparing or offering batteries who classify, package, mark, label, prepare shipping papers, or offer batteries for transport shall receive training consistent with applicable regulatory requirements for as required by the applicable hazardous materials or dangerous goods regulations for the mode(s) of transport and jurisdiction(s) involved .

Statement of Problem and Substantiation for Public Input

Training requirements vary by role, mode, and jurisdiction. This wording captures the roles that trigger training and keeps the requirement aligned with governing regulations.

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Submittal Date: Thu Jan 22 20:24:02 EST 2026

Committee: BAT-AAA



Public Input No. 239-NFPA 800-2026 [Sections 7.8.1, 7.8.2]

Sections 7.8.1, 7.8.2

7.8.1

Where required by applicable regulations, batteries and battery packaging shall be tested in accordance with the ~~applicable test methods prescribed in the~~ United Nations' *Manual of Tests and Criteria* and the *UN Recommendations on the Transport of Dangerous Goods — Model Regulations*.

7.8.2

Packaging shall be authorized for the intended shipment and shall be designed to prevent short circuits, movement within the package, ~~and damage during normal conditions of transport, and~~ accidental activation, as required by applicable regulations.

Statement of Problem and Substantiation for Public Input

UN test methods and packaging performance requirements are applied through the modal regulations. Adding “where required” and “authorized” improves accuracy and avoids implying that every packaging used for every battery must independently be tested, regardless of regulatory applicability.

Submitter Information Verification

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Submission Date: Thu Jan 22 20:26:48 EST 2026

Committee: BAT-AAA



7.9 Removal of Transportation Markings

Transportation placards, markings, and other labels required for shipment shall be removed before final installation.

7.9.1

Equipment that has been delivered, stored, or staged for installation shall not retain transportation-specific markings.

7.9.2

Permanent signage consistent with the hazards and operational characteristics of the installed system shall be provided in accordance with applicable codes and standards.

Statement of Problem and Substantiation for Public Input

Energy storage equipment is frequently delivered with transportation-specific hazard markings required under DOT, UN, or equivalent transport regulations. These markings are appropriate for in-transit hazard communication but do not accurately represent the hazards of the equipment once on site, stored, or installed. In practice, many transportation placards or markings are left in place after delivery, staging, or installation. This creates confusion for emergency responders and AHJs who may misinterpret the equipment's final hazard profile based on markings intended solely for transportation.

NFPA 1, 70, 800 (proposed), and 855 provide requirements for signage and hazard communication for energy storage equipment in the stored or installed condition. However, none of these standards explicitly address the removal of transportation-specific markings once equipment is delivered, stored, or staged for installation. Without a clear requirement, transportation placards may remain on equipment indefinitely, leading to inconsistent hazard communication, potential misalignment with the signage expectations for such systems, and incorrect emergency response guidance.

This proposed subsection establishes a clear transition point between transportation hazards and hazards associated with staged, stored, or installed systems. It ensures that:

- (1) Transportation markings are removed once the equipment is delivered, staged, or stored.
- (2) Stored or installed equipment displays signage appropriate to its final configuration and hazards.
- (3) Emergency responders and AHJs receive accurate, relevant hazard information.
- (4) Installed systems avoid unintentional noncompliance with applicable site signage requirements.

This addition improves clarity, consistency, and responder safety without imposing new technical burdens on manufacturers or installers.

Submitter Information Verification

Submitter Full Name: Adam Jakubowski

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Submittal Date: Thu Jan 29 12:19:00 EST 2026

Committee: BAT-AAA



Public Input No. 505-NFPA 800-2026 [Section No. 7.8.2]

7.8.2

Packaging shall be designed to prevent short circuits, movement within the package, and accidental activation except when shorting straps are provided on supercapacitors in accordance with UL 810A.

Statement of Problem and Substantiation for Public Input

Shorting supercapacitors is a means to maintain a zero state of charge.

Submitter Information Verification

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Submittal Date: Thu Jan 29 15:31:04 EST 2026

Committee: BAT-AAA



Chapter 8 Battery Powered Equipment (BPE)- Infrastructure, Installation, and Operational Safety

8.1*– Scope:

This chapter shall apply to the infrastructure, installation, and operational management of battery-powered equipment (BPE), including the charging and staging of battery powered equipment.

8.1.1 –

This chapter shall not apply to the following:

- (1) BPE with a capacity of less than 200 Wh
- (2) Charging BPE devices for personal use in an occupancy by its owner

8.2 – General Requirements:

8.2.1 * – Compliance with Fire Protection and Safety Codes:

Battery-powered equipment and subsystems shall be covered by this chapter.

8.2.1.1 –

The installation and operation of BPE shall be in accordance with approved permits:

8.2.1.2 –

The requirements of Chapter 8 shall apply to all of the following:

- (1) Light electric vehicles (LEVs) and portable micromobility devices (PMDs)
- (2) Electric buses
- (3) Battery-powered industrial equipment
- (4) Mobile battery units
- (5) Indoor and outdoor storage of BPE
- (6) Charging stations
- (7) BPE repair and maintenance facilities
- (8) Equipment fleet storage areas or yards
- (9) Public infrastructure
- (10) Portable power packs
- (11) Autonomous mobile robots (AMR) and piloted robots
- (12) Battery containment enclosures (BCE)
- (13) Marine battery applications
- (14) Electric vehicle power export equipment (EVPE)

8.2.1.3 * –

Battery-operated equipment and charging equipment

Battery Powered Equipment (BPE)

Battery-operated equipment shall be listed, labeled, and operated in accordance with the manufacturer's instructions:

8.2.1.4 –

Fire alarm systems shall have the ability to shut down charging and staging areas if required by the hazard mitigation analysis (HMA):

8.2.1.5* –

An HMA shall be required and documented by a registered design professional in accordance with Section 4.3 for BPE exceeding 600 kWh.

8.2.1.6 –

Separation distances and fire resistance ratings shall be modified or reduced in accordance with the HMA.

8.2.1.7 –

Damaged, defective, and recalled (DDR) batteries and equipment shall not be charged.

8.2.1.7.1 –

DDR batteries shall be removed from operational areas and managed separately.

8.2.1.8 –

An emergency response plan (ERP) shall developed in accordance with Chapter 4 :

8.2.1.9 –

Storage of batteries per the requirements of Chapter 6 shall be required.

8.2.1.9.1 –

Charged batteries for BPE that are staged for longer than 30 days shall be in accordance with battery storage requirements.

8.2.1.10 –

BPE end of life and decommissioning shall be in accordance with Chapter 9 :

8.2.1.11 –

All BPE shall be maintained and operated according to manufacturer's instructions.

8.2.1.12* –

Charging shall only be done using the charging equipment supplied by the original equipment manufacturer (OEM) in accordance with the listing and manufacturer's instructions.

8.2.2 – Installation and Operational Safety Requirements:

8.2.2.1 –

8.2.2.2 –

Battery charging installations shall be located in areas designated for such purposes.

8.2.2.2.1 –

Storage of combustible materials, combustible waste, or hazardous materials shall not be permitted within 3 ft (1 m) of the charging equipment.

8.2.2.3 –

BPE facilities shall be provided with impact protection in accordance with the HMA.

8.2.2.4 –

Battery maintenance personnel shall wear PPE in accordance with the manufacturer's instructions and NFPA 70E :

8.2.2.5 –

Charging stations shall include signage with emergency response procedures and exiting.

8.2.2.6 –

Charging operations shall not be conducted in or obstruct any required means of egress.

8.2.2.7 –

Repair, maintenance, staging, or charging of a BPE for business purposes shall not be permitted in dwelling units.

8.2.3 – Fire Detection:

8.2.3.1* –

Fire areas dedicated to BPE staging or charging shall be provided with fire detection consisting of a radiant energy detection system, smoke detection system, thermal image fire detection system, or other approved detection means in accordance with the HMA.

8.2.3.1.1 –

Fire detection systems shall be installed, tested, inspected, and maintained in accordance with *NFPA 72*.

8.2.3.1.2 –

Fire alarm systems shall be monitored by a supervising station in accordance with *NFPA 72*.

8.2.3.1.3 –

Fire alarm equipment shall be listed for the purpose for which it is used.

8.2.4 * – Fire Suppression:

8.2.4.1 * –

Water-based or fixed fire suppressions shall be provided for fire areas and exposures with reactive metal or ion chemistries battery indoor charging and staging installations and operations in accordance with the HMA.

8.2.4.2 * –

The hazard classification for the sprinkler systems shall be in accordance with the HMA and designed and installed in accordance with *NFPA 13*.

8.2.5 – Explosion Control and Preventions:

8.2.5.1 * –

Fire areas where a flammable or explosive gas can be emitted during abnormal conditions shall be provided with a gas detection system or approved explosion control and prevention system based on an HMA.

8.2.5.2 –

Explosion control and prevention systems shall be considered critical safety systems in accordance with *NFPA 68* and *NFPA 69*.

8.2.5.3 –

Explosion control and prevention systems shall be monitored by systems compliant with *NFPA 72*.

8.2.5.4 –

Gas detection equipment shall be inspected, tested, and maintained in accordance *NFPA 72* and the manufacturer's instructions.

8.2.6 – Critical Safety Systems:

8.2.6.1 –

Where installations involving two or more integrated critical safety systems are present, the systems shall be tested to verify the operation and function of such systems.

8.2.6.2 –

When a critical safety system is tested, the response of the system shall be verified.

8.2.6.3 –

After repair or replacement of equipment, retesting of integrated systems shall be limited to verifying the response of critical safety functions initiated by the repaired or replaced equipment.

8.2.6.4 – Testing:

8.2.6.4.1 –

For new buildings, integrated testing in accordance with *NFPA 4* shall be conducted prior to the issuance of a certificate of occupancy.

8.2.6.4.2 –

For existing buildings, integrated testing in accordance with *NFPA 4* shall be conducted at intervals not exceeding 5 years unless otherwise specified by an integrated system test plan.

8.2.6.5 – Commissioning:

The procedures, methods, and documentation for the commissioning of critical safety systems and their interconnections with other building systems shall be in accordance with *NFPA 3*.

8.2.6.5.1 –

Critical safety systems shall be provided with secondary power in accordance with the hazard mitigation analysis.

8.3 – Location and Installation Requirements:

8.3.1 – Indoor Battery Fire Areas:

8.3.1.1 * –

Where an indoor battery exceeds 600 kWh and is required by the AHJ, a hazard mitigation analysis shall be provided.

8.3.1.2 –

Indoor battery charging and staging areas shall be fire resistance rated, comply with NFPA 1, and be in accordance with the HMA.

8.3.1.3 –

BPE battery charging and staging inside buildings shall be physically separated from flammable or combustible materials by an approved fire-rated barrier or in accordance with NFPA 1.

8.3.1.3.1 –

Physical separation shall not be less than 10 ft (3.05 m).

8.3.1.4 –

Charging and staging of BPE cannot be co-located with high-hazard materials.

8.3.1.5 –

Exhaust ventilation systems shall be installed in enclosed BPE staging areas to prevent hazardous gas accumulation in accordance with NFPA 69 and the HMA.

8.3.1.6 –

BPE staging and charging areas and exposures shall be protected in accordance with the HMA.

8.3.1.7 –

Fire protection and mitigation shall be in accordance with the HMA.

8.3.1.8 * –

If charged batteries for equipment are staged while not in use, building sprinklers, in-rack sprinklers or gas suppression systems shall be installed to protect the hazard area and exposures.

8.3.2 – Outdoor Battery Charging Infrastructure and Installations:

8.3.2.1 –

Outdoor battery charging infrastructure shall be separated by a minimum of 10 ft (3 m) from the following exposures:

- (1) Lot lines
- (2) Public ways
- (3) Buildings
- (4) Stored combustible materials
- (5) Hazardous materials
- (6) High-piled stock
- (7) Other exposure hazards

8.3.2.2 * –

Separation distances shall be permitted to be reduced based on approved barriers in accordance with the applicable fire code or the HMA.

8.4 – Battery Safety for Electric Mobility and Industrial Equipment:

8.4.1 – Electric Buses and Heavy-Duty EV Storage:

8.4.1.1 –

Electric bus depots shall comply with NFPA 88A.

8.4.2 * – Light Electric Vehicles (LEVs) and Personal Micromobility Device (PMDs):

8.4.2.1 –

Retail staging of LEVs and PMDs shall separate lithium-ion batteries from combustibles in accordance with NFPA 1.

8.4.2.1.1 –

Indoor LEV and PMD battery charging or staging areas shall be fire-rated and comply with NFPA 1.

8.4.2.2 * –

Fire-resistance-rated enclosures shall provide a 1-hour fire resistance rating in accordance with ASTM E119, *Standard Test Methods for Fire Tests of Building Construction and Materials*, and UL 263, *Fire Tests of Building Construction and Materials*, for LEV and PMD charging and staging fire areas exceeding 600 kWh.

8.4.2.3 –

Hazard mitigation analysis shall be required for LEV and PMD charging and staging areas where the MAQ exceeds 600 kWh to define the fire resistance rating, separation, and mitigation strategies.

8.4.3 * – Battery-Powered Industrial Equipment.

8.4.3.1 * – Lead-Acid Batteries.

8.4.3.1.1 –

The charging area shall be equipped with exhaust ventilation (natural or mechanical) with the exhaust located at a high level to avoid hydrogen accumulation below the roof level.

8.4.3.1.1.1 –

The exhaust ventilation shall be sufficient to keep the hydrogen concentration below 1 percent (25 percent of the LEL).

8.4.3.1.2 * –

Charging stations located directly inside warehouse or storage areas shall be provided with a separation distance of 5 ft (1.5 m) between any storage and the battery charger or the battery-powered industrial equipment.

8.4.3.1.3 * –

For separation distances of less than 5 ft (1.5 m), a one-hour fire barrier shall be provided between the battery charger, battery-powered industrial equipment, and any combustible load.

8.4.3.1.4 –

Battery chargers shall not be installed directly inside rack storage arrangements.

8.4.3.1.5 –

Physical protection shall be provided around the battery chargers to prevent mechanical damage from battery-powered industrial equipment.

8.4.3.1.6 –

A specific marking shall be provided on the ground in the area where the charging station and forklift are located to prevent any temporary storage.

8.4.3.2 * – Lithium-Ion Batteries.

8.4.3.2.1 * –

Charging stations located directly inside warehouses or storage areas shall be provided with a separation distance of 20 ft (6.1 m) between any storage and the battery charger or battery-powered industrial equipment.

8.4.3.2.2 * –

For separation distances less than 20 ft (6.1 m), a one-hour fire barrier shall be provided between the battery charger or battery-powered industrial equipment and any combustible load.

8.4.3.2.3 –

Battery chargers shall not be installed directly inside rack storage arrangements.

8.4.3.2.4 –

Physical protection shall be provided around the battery chargers to prevent mechanical damage from battery-powered industrial equipment.

8.4.3.2.5 –

A specific marking shall be provided on the ground in the area where the charging station and forklift are located to prevent any temporary storage of materials.

8.5 – Maritime Propulsion and Marine Battery Installations.

8.5.1 – Application.

The requirements of Section 8.5 shall apply to all of the following where used for marine applications:

- (1) Fully electric battery-powered vessels
- (2) Hybrid-electric vessels
- (3) Emergency source of power
- (4) Backup power

8.5.1.1 –

The requirements of Section 8.5 shall apply to all of the following marine vessels:

- (1) Commercial, service, and passenger vessels, such as ferries, tugboats, pleasure crafts, etc.
- (2) Cargo vessels
- (3) Military vessels
- (4) Offshore platforms
- (5) Submarines
- (6) Underwater vehicles

8.5.2 – Marine Battery Room and Compartment Design.

8.5.2.1 –

The battery system and its installation shall be designed, constructed, and installed in accordance with the applicable marine standards.

8.5.2.2 –

Dedicated battery rooms shall be constructed with a minimum 2-hour fire-rated enclosure in accordance with NFPA-302.

8.5.2.3 –

Battery compartments shall not be located forward of the collision bulkhead of the vessel.

8.5.2.4 –

Battery systems installed onboard shall be structurally reinforced to withstand static and dynamic inclinations of the vessel.

8.6 – Electric Vehicle Power Export Equipment (EVPE).

The use, operation, and maintenance of electric vehicle power export equipment (EVPE) shall comply with NFPA 70, NFPA 70B, and NFPA 70E:

manufacturer's installation instructions

Statement of Problem and Substantiation for Public Input

The inclusion of Chapter 8 in this provisionally developed standard represents the single most consequential—and potentially disastrous—standards development activity undertaken by NFPA in recent history. Battery-powered equipment is an omnipresent force in virtually every facet of modern life. From smartphones and laptops powering our work and communication, electric vehicles, mobility equipment, life-sustaining medical devices, household appliances, industrial equipment such as forklifts and AGV's to energy storage systems supporting the modernization of the electrical grid. If approved for inclusion in the provisional standard, Chapter 8 will have disastrous consequences for millions of occupancies in its attempt to regulate hundreds of millions of unique batteries powered devices with a “one bucket fits them all” approach.

Chapter 8 glaringly fails to address the most pressing real-world hazards, such as those from charging unlisted battery-powered equipment inside residential dwelling spaces where loss of life incidents has been evidenced. To ignore this critical topic is a disservice to the general populous and undermines any claims justifying the necessity for provisional standard development. The technical committee has failed to demonstrate any necessity or urgency for shoehorning these requirements to a provisional standard, especially when they pertain to listed and labeled equipment already governed through established and mature product safety standards.

Chapter 8 offers no substantive guidance or meaningful improvement over the comprehensive requirements already captured in prevailing NFPA and ICC installation codes. Provisional standards require a well-established, urgent need for rapid dissemination—such as responding to emergencies or special circumstances that existing codes and standards do not address. Chapter 8 falls short, largely lacking foundation in scientific rigor, technical merit, or event

history as required by NFPA rules and regulations. Discussions and requirement development have not been grounded in verifiable evidence, event history, loss data, or empirical analysis. While significant event history exists for unlisted mobility equipment in multi-family dwellings, NFPA 800 inexplicably sidesteps this, focusing instead on creating onerous and burdensome requirements without merit or rigor for listed and labeled equipment.

A "rush-to-publish" mentality cannot come at the expense of industry, public safety, or the credibility of NFPA and ANSI governed standards development activities. Without a strict focus on merit and rigor, Chapter 8 risks undermining the legitimacy of not only NFPA 800 but all consensus-developed standards. Onerous, capricious, and burdensome requirements do not promote safety, they breed resentment, non-compliance, fuel legislative efforts to curtail the reach of voluntary standards and erode the confidence of all affected parties. Chapter 8, as proposed, would trigger widespread non-compliance due to impractical rules, heightened risks from ignored hazards like unlisted devices, and undermine innovation in a battery-dependent world.

Chapter 8 must be reserved and refined through NFPA's traditional standards development process, a rigorous, inclusive framework that ensures thorough vetting, stakeholder collaboration, and data-backed outcomes. Existing fire and installation codes already provide proven, holistic coverage for the hazards associated with the utilization of battery-powered equipment. Additionally, as currently proposed, requirements within Chapter 8 encroach on the ANSI recognized scope of other consensus developed standards such as NFPA 70. In such instances, it is not appropriate for NFPA 800 to encroach into the scope of other developed and mature codes.

Submitter Information Verification

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Zip:

Submission Date: Thu Jan 29 14:52:01 EST 2026

Committee: BAT-AAA



Public Input No. 344-NFPA 800-2026 [Section No. 8.1]

8.1* Scope.

This chapter shall apply to the infrastructure, installation, and operational management of battery-powered equipment (BPE), including the charging and staging of battery powered equipment.

This chapter shall be applied to only lithium-ion based BPE.

8.1.1

This chapter shall not apply to the following:

- (1) BPE with a capacity of less than 200 Wh
- (2) Charging BPE devices for personal use in an occupancy by its owner

Statement of Problem and Substantiation for Public Input

Moving this information from the Annex to 8.1 as it is important guidance for those applying the contents.

Submitter Information Verification

Submitter Full Name: Richard Kluge

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Affiliation: ATIS

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Submittal Date: Tue Jan 27 18:33:13 EST 2026

Committee: BAT-AAA



Public Input No. 529-NFPA 800-2026 [Section No. 8.1 [Excluding any Sub-Sections]]

This chapter shall apply to the infrastructure, installation, and operational management of battery-powered equipment (BPE), including the charging and staging of [need definition] of battery powered equipment.

Statement of Problem and Substantiation for Public Input

need definition

Submitter Information Verification

Submitter Full Name: Luke Webber

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Submittal Date: Thu Jan 29 16:58:55 EST 2026

Committee: BAT-AAA



Public Input No. 199-NFPA 800-2026 [Section No. 8.1.1]

8.1.1

This chapter shall ~~not~~ apply to the following:

- ~~BPE with a capacity of less than 200 Wh~~

~~Charging~~ where the aggregate energy of BPE in a facility exceeds the threshold energy levels in Table 1.3.1.

8.1.2

~~This chapter shall not apply to charging BPE devices for personal use in an occupancy by its owner .~~

Statement of Problem and Substantiation for Public Input

Regulation of facilities with BPE should be based on aggregate energy levels, not the energy of individual BPE units.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 183-NFPA 800-2026 [New Section after 1.3]</u>	

Submitter Information Verification

Submitter Full Name: James McDowall

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Submission Date: Mon Jan 19 14:53:39 EST 2026

Committee: BAT-AAA



Public Input No. 332-NFPA 800-2026 [Section No. 8.1.1]

8.1.1

This chapter shall not apply to the following:

- (1) BPE with ~~a capacity~~ an aggregate capacity of less than ~~200~~ 1000 Wh
- (2) Charging or storage of BPE devices for personal use in an occupancy by ~~its~~ their owner

Statement of Problem and Substantiation for Public Input

The table in A8.2.1 list threshold quantities for application of chapter 8 and the lowest amount is 1 kWh. It seems this should be the aggregate value. Storage by owners as well as charging should be permitted.

Submitter Information Verification

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Submittal Date: Tue Jan 27 17:17:35 EST 2026

Committee: BAT-AAA



Public Input No. 507-NFPA 800-2026 [New Section after 8.2.1.2]

This chapter shall not apply to the following
Energy Storage Systems

Statement of Problem and Substantiation for Public Input

We do not believe this chapter applies to ESS. If this is the case, then it needs to be clarified.

Submitter Information Verification

Submitter Full Name: Steve Edley

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Submittal Date: Thu Jan 29 15:37:13 EST 2026

Committee: BAT-AAA



Public Input No. 200-NFPA 800-2026 [Section No. 8.2.1.2]

8.2.1.2

The requirements of Chapter 8 shall apply to ~~all of the~~ BPE including, but not limited to, the following:

- (1) Light electric vehicles (LEVs) and portable micromobility devices (PMDs)
- (2) Electric buses
- (3) Battery-powered industrial equipment
- (4) Mobile battery units
- (5) Indoor and outdoor storage of BPE
- (6) Charging stations
- (7) BPE repair and maintenance facilities
- (8) Equipment fleet storage areas or yards
- (9) Public infrastructure
- (10) Portable power packs
- (11*) Autonomous mobile robots (AMR) and piloted robots
- (12) Battery containment enclosures (BCE)
- (13) Marine battery applications
- (14) Electric vehicle power export equipment (EVPE)

Statement of Problem and Substantiation for Public Input

Having a closed list of BPE excludes classes of BPE not listed, such as UAVs. All BPE should be covered, including devices not yet invented.

Submitter Information Verification

Submitter Full Name: James McDowall

Organization: McDowall Advisors LLC

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Submittal Date: Mon Jan 19 15:00:19 EST 2026

Committee: BAT-AAA



Public Input No. 333-NFPA 800-2026 [Section No. 8.2.1.2]

8.2.1.2

The requirements of Chapter 8 shall apply to all of the following:

- (1) Light electric vehicles (LEVs) and portable micromobility devices (PMDs)
- (2) Electric buses
- (3) Battery-powered industrial equipment
- (4) Mobile battery units and portable power packs not used as Energy Storage Systems
- (5) Indoor and outdoor storage of BPE
- (6) BPE Charging stations
- (7) BPE repair and maintenance facilities
- (8) Equipment fleet storage areas or yards
- (9) ~~Public infrastructure~~
- (10) ~~Portable power packs~~
- (11*) Autonomous mobile robots (AMR) and piloted robots
- (12) Battery containment enclosures (BCE)
- (13) Marine battery applications
- (14) Electric vehicle power export equipment (EVPE)

Statement of Problem and Substantiation for Public Input

It seems mobile battery units and portable power packs are similar enough to be combined. Include statement "not used as Energy Storage Systems" as otherwise these would fall under NFPA 855. Public infrastructure is removed as it is too vague to be included.

Submitter Information Verification

Submitter Full Name: Richard Kluge

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Affiliation: ATIS

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Submission Date: Tue Jan 27 17:24:55 EST 2026

Committee: BAT-AAA



Public Input No. 405-NFPA 800-2026 [Section No. 8.2.1.2]

8.2.1.2

The requirements of Chapter 8 shall apply to all of the following:

- (1) Light electric vehicles (LEVs) and portable micromobility devices (PMDs)
- (2) Electric buses
- (3) Battery-powered industrial equipment
- (4) Mobile battery units
- (5) Indoor and outdoor storage of BPE
- (6) Charging stations
- (7) BPE repair and maintenance facilities
- (8) Equipment fleet storage areas or yards
- (9) Public infrastructure
- (10) Portable power packs
- (11*) Autonomous mobile robots (AMR) and piloted robots
- (12) Battery containment enclosures (BCE)
- (13) Marine battery applications
- (14) ~~Electric vehicle power export equipment (EVPE)~~

Statement of Problem and Substantiation for Public Input

Inclusion of "electric vehicle power export equipment" implies that the requirements of this section would apply to EVs. As EVs are subject to regulation by NHTSA, including them here would require unnecessary extraneous requirements on those vehicles.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 404-NFPA 800-2026 [Section No. 3.3.29.10]</u>	Similar consideration for not applying requirements to EVs.
<u>Public Input No. 406-NFPA 800-2026 [Section No. A.8.2.1.3]</u>	

Submitter Information Verification

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Submittal Date: Wed Jan 28 15:47:14 EST 2026
Committee: BAT-AAA



Public Input No. 330-NFPA 800-2026 [Section No. 8.2.1.3]

8.2.1.3*

Battery-operated equipment and charging equipment shall be listed ~~, labeled, and~~ and labeled to an applicable product safety standard and installed and operated in accordance with the ~~manufacturer's listing~~ and manufacturer's instructions.

Statement of Problem and Substantiation for Public Input

Clarifies when listing/labeling to product standard is required and that operation and installation must follow listing and manufacturer's instructions.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 331-NFPA 800-2026 [Section No. 8.2.1.11]</u>	

Submitter Information Verification

Submitter Full Name: Jacob Dentici

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Submittal Date: Tue Jan 27 14:26:43 EST 2026

Committee: BAT-AAA



Public Input No. 362-NFPA 800-2026 [Section No. 8.2.1.3]

8.2.1.3*

Battery-operated equipment and charging equipment ~~shall~~ that are within scope of an established recognized standard (such as those indicated in Annex A and Annex F) shall be listed, labeled, and operated in accordance with the manufacturer's instructions.

Statement of Problem and Substantiation for Public Input

The original clause indicates all battery powered equipment shall be listed and labeled but an established recognized standard may not exist for some battery powered products which pose no safety hazards to the public. Battery powered products which do fall within the scope of recognized safety standards such as those UL standards indicated in Annex A and Annex F must definitely be Listed and labelled.

Submitter Information Verification

Submitter Full Name: Ted Marks

Organization: individual

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Submission Date: Wed Jan 28 09:10:51 EST 2026

Committee: BAT-AAA



Public Input No. 530-NFPA 800-2026 [Section No. 8.2.1.3]

8.2.1.3*

Battery-operated equipment and charging equipment shall be listed, labeled, and designed and manufactured in accordance with applicable standards and operated in accordance with the manufacturer's manufacturer's instructions .

Statement of Problem and Substantiation for Public Input

need flexibility for existing requirements per NFPA505

Submitter Information Verification

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Submittal Date: Thu Jan 29 16:59:33 EST 2026

Committee: BAT-AAA



Public Input No. 334-NFPA 800-2026 [Section No. 8.2.1.4]

8.2.1.4

Fire alarm systems shall have the ability to shut down charging and ~~staging areas~~ sound an audible alarm in staging areas if required by the hazard mitigation analysis (HMA).

Statement of Problem and Substantiation for Public Input

I think sounding an alarm is more appropriate than shutting down a staging area which seems to imply stopping access in and out of the area.

Submitter Information Verification

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Affiliation: ATIS

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Submittal Date: Tue Jan 27 17:32:01 EST 2026

Committee: BAT-AAA



Public Input No. 201-NFPA 800-2026 [Section No. 8.2.1.5]

8.2.1.5*

An HMA shall be required and documented by a registered design professional in accordance with Section 4.3- for BPE exceeding 600 kWh .

Statement of Problem and Substantiation for Public Input

NFPA 855 does not have a separate threshold for submitting HMAs, so an HMA is required for a Li-ion battery exceeding 20kWh. 600kWh is too high and is not chemistry-specific.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 183-NFPA 800-2026 [New Section after 1.3]</u>	Set threshold energy levels for entire document.
<u>Public Input No. 202-NFPA 800-2026 [Section No. 8.3.1.1]</u>	

Submitter Information Verification

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Submittal Date: Mon Jan 19 15:07:06 EST 2026

Committee: BAT-AAA



Public Input No. 473-NFPA 800-2026 [Section No. 8.2.1.5]

8.2.1.5*

An HMA shall be required ~~and documented by a~~ for BPE charging or staging fire areas where one or more of the following conditions exist:

- (1) Charging within enclosed areas without permanently provided ventilation
- (2) Indoor staging/charging within a defined area separated by fire barriers or used as a dedicated room
- (3) Credible deflagration hazards are identified
- (4) Staging/charging of equipment containing reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte
- (5) Other conditions as required by the AHJ.

The HMA shall be prepared by a registered design professional in accordance with Section 4.3- ~~for BPE exceeding 600 kWh~~ .

Statement of Problem and Substantiation for Public Input

Revised for clarity. The draft uses an aggregate stored energy threshold (600 kWh) as the trigger for requiring an HMA for BPE charging and staging areas. This threshold is not technically correlated to a distinct hazard change at 600 kWh, and it can create an arbitrary compliance threshold where a 599 kWh area and a 600 kWh area would be expected to have materially different engineering documentation despite having similar configurations, separation, and protection features when designed in accordance with NFPA 1 or the locally adopted building and fire codes. In addition, NFPA 855 (2026 edition) removed the fixed maximum stored energy threshold approach for triggering an HMA; retaining a fixed threshold in NFPA 800 creates correlation issues between standards and can drive inconsistent AHJ expectations. A more defensible approach would be to base the HMA trigger on objective hazard indicators (for example, enclosure type, occupancy/use, density/configuration, charging operations, ventilation conditions, presence of flammable electrolytes, or credible deflagration hazards), with the HMA used to address site-specific deviations and higher hazard configurations.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 475-NFPA 800-2026 [Section No. 8.3.1.1]</u>	
<u>Public Input No. 476-NFPA 800-2026 [Section No. 8.4.2.3]</u>	

Submitter Information Verification

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Submittal Date: Thu Jan 29 13:49:30 EST 2026

Committee: BAT-AAA



Public Input No. 252-NFPA 800-2026 [Section No. 8.2.1.6]

8.2.1.6

Separation distances and fire resistance ratings shall be ~~modified or reduced in~~ modified in accordance with the HMA.

Statement of Problem and Substantiation for Public Input

"or reduced" is redundant, the wording already addresses expansions or reductions

Submitter Information Verification

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Submittal Date: Mon Jan 26 13:52:47 EST 2026

Committee: BAT-AAA



Public Input No. 477-NFPA 800-2026 [Section No. 8.2.1.6]

8.2.1.6

Separation distances and fire resistance ratings shall be ~~modified or reduced~~ determined in accordance with this chapter. Reductions shall be permitted where justified by the HMA and approved by the AHJ.

Statement of Problem and Substantiation for Public Input

Section 8.2.1.6 implies that separation distances and fire resistance ratings will be “modified or reduced” by the HMA, but Chapter 8 does not establish a single, consistent prescriptive baseline for all BPE applications. Revising 8.2.1.6 to a conditional allowance clarifies that the baseline is the prescriptive criteria in Chapter 8 (and referenced codes), and that the HMA is an alternative method only when reductions are otherwise allowed and approved.

Submitter Information Verification

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Submittal Date: Thu Jan 29 14:11:08 EST 2026

Committee: BAT-AAA



Public Input No. 331-NFPA 800-2026 [Section No. 8.2.1.11]

8.2.1.11

All BPE shall be maintained ~~and operated~~ according to manufacturer's instructions.

Statement of Problem and Substantiation for Public Input

8.2.1.3 covers operation, 8.2.1.11 should only cover maintenance. Or consolidate under 8.2.1.3.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 330-NFPA 800-2026 [Section No. 8.2.1.3]</u>	

Submitter Information Verification

Submitter Full Name: Jacob Dentici

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Submittal Date: Tue Jan 27 14:28:53 EST 2026

Committee: BAT-AAA



Public Input No. 335-NFPA 800-2026 [Section No. 8.2.1.12]

8.2.1.12*

Charging of reactive metal or reactive ion batteries shall only be done using the charging equipment supplied by the original equipment manufacturer (OEM) in accordance with the listing and manufacturer's instructions.

Statement of Problem and Substantiation for Public Input

As initially proposed, one would not be able to charge a lead-acid battery for an ICE car as lead-acid batteries are not normally listed and don't come with a manufacturer's charger. An alternative is to exempt lead-acid batteries from this chapter.

Submitter Information Verification

Submitter Full Name: Richard Kluge

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Affiliation: ATIS

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Submittal Date: Tue Jan 27 17:34:24 EST 2026

Committee: BAT-AAA



Public Input No. 472-NFPA 800-2026 [Section No. 8.2.1.12]

8.2.1.12*

Charging shall only be done using the charging equipment supplied by the original equipment manufacturer (OEM) ~~in~~ , or using charging equipment listed and labeled for the intended application and compatible with the BPE in accordance with the ~~listing and~~ manufacturer's instructions.

Statement of Problem and Substantiation for Public Input

OEM only charging equipment can unintentionally prohibit listed, interoperable, and commonly used charging systems (for example, fleet and infrastructure deployments) that are not OEM-branded but are listed for the use and intended to be compatible. This revision maintains the intent, and avoids prohibiting common, complaint practices, and supports enforceability of the code.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

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Submittal Date: Thu Jan 29 13:44:33 EST 2026

Committee: BAT-AAA



Public Input No. 531-NFPA 800-2026 [Section No. 8.2.1.12]

8.2.1.12*

Charging shall only be done using the charging equipment ~~supplied~~ approved by the original equipment manufacturer (OEM) in accordance with the listing and manufacturer's instructions.

Statement of Problem and Substantiation for Public Input

change to approved as some battery OEMS do not provide chargers

Submitter Information Verification

Submitter Full Name: Luke Webber

Organization: Mitsubishi Logisnext Americas

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Submittal Date: Thu Jan 29 17:00:51 EST 2026

Committee: BAT-AAA



Public Input No. 536-NFPA 800-2026 [Section No. 8.2.1.12]

8.2.1.12*

Charging shall only be done using the charging equipment supplied by the original equipment manufacturer (OEM) or aftermarket supplier charging equipment with equivalent specifications and safety protections, in accordance with the listing and manufacturer's instructions.

Statement of Problem and Substantiation for Public Input

If original manufacturer is out of business, alternate manufacturer's equipment could be utilized

Submitter Information Verification

Submitter Full Name: Bobby Baird

Organization: Uf Health Shands

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 17:20:51 EST 2026

Committee: BAT-AAA



Public Input No. 136-NFPA 800-2026 [Section No. 8.2.2.1]

8.2.2.1

Does it make sense to add a section about water containment within the site?

If they use water as a supplement, would they need to collect it for processing?

Statement of Problem and Substantiation for Public Input

Comment

Submitter Information Verification

Submitter Full Name: Jackie Huynh

Organization: Pacific Northwest National Lab

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Zip:

Submittal Date: Wed Jan 07 18:10:21 EST 2026

Committee: BAT-AAA



Public Input No. 329-NFPA 800-2026 [Section No. 8.2.2.1]

8.2.2.1

Statement of Problem and Substantiation for Public Input

Add text or delete the subsection.

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

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City:

State:

Zip:

Submittal Date: Tue Jan 27 14:24:35 EST 2026

Committee: BAT-AAA



Public Input No. 336-NFPA 800-2026 [Section No. 8.2.2.2.1]

8.2.2.2.1

Storage of combustible materials, combustible waste, or hazardous materials not associated with the BPE shall not be permitted within 3 ft (1 m) of the charging equipment.

Statement of Problem and Substantiation for Public Input

In many cases, the BPE itself is constructed of combustible materials. What we want to exclude is other stored combustibles.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

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Submittal Date: Tue Jan 27 17:54:35 EST 2026

Committee: BAT-AAA



Public Input No. 450-NFPA 800-2026 [Section No. 8.2.3.1 [Excluding any Sub-Sections]]

Fire areas dedicated to BPE staging or charging shall be provided with fire detection consisting of a radiant energy detection system, smoke detection system, thermal image fire detection system, or other approved detection means in accordance with the HMA.

Charging large battery-powered machinery used in the recycling process outdoors should not be included in this provision. What smoke detection system will work for this purpose? Automatic electric shutoff and adequate standoff distances from other combustible materials should be required minimums. Prescribing thermal detection for outdoor use imposes an undue burden on recyclers and requires them to purchase costly equipment for a risk that can be mitigated differently.

Statement of Problem and Substantiation for Public Input

Charging large battery-powered machinery used in the recycling process outdoors should not be included in this provision. What smoke detection system will work for this purpose? Automatic electric shutoff and adequate standoff distances from other combustible materials should be required minimums. Prescribing thermal detection for outdoor use imposes an undue burden on recyclers and requires them to purchase costly equipment for a risk that can be mitigated differently.

Submitter Information Verification

Submitter Full Name: Michael Marino

Organization: Recycled Materials Association (ReMA)

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Submittal Date: Thu Jan 29 10:41:43 EST 2026

Committee: BAT-AAA



Public Input No. 337-NFPA 800-2026 [Section No. 8.2.4.1]

8.2.4.1*

~~Water-based or fixed fire suppressions~~ Sprinkler systems shall be provided for fire areas and exposures with reactive metal or ion ~~chemistries~~ chemistry, battery indoor charging and staging installations and operations in accordance with the HMA.

Statement of Problem and Substantiation for Public Input

For clarity, replace water-based or fixed fire suppression with sprinkler systems.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

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Zip:

Submittal Date: Tue Jan 27 18:00:32 EST 2026

Committee: BAT-AAA



Public Input No. 33-NFPA 800-2026 [Section No. 8.2.4.2]

8.2.4.2*

The hazard classification for the sprinkler systems shall be in accordance with the HMA and designed and installed in accordance with ~~NFPA 13~~ applicable standards in section 4.4.2.3.

Statement of Problem and Substantiation for Public Input

Current language as defined in 4.4.2.3 allow the use of standards other than NFPA 13.

Submitter Information Verification

Submitter Full Name: Stefan Sekula

Organization: Viking Corporation

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City:

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Zip:

Submittal Date: Mon Jan 05 13:29:39 EST 2026

Committee: BAT-AAA



Public Input No. 203-NFPA 800-2026 [Section No. 8.2.5]

8.2.5 Explosion Prevention and Control ~~and Preventions~~ .

8.2.5.1*

Fire areas where a flammable or explosive gas can be emitted during abnormal conditions shall be provided with a gas detection system ~~or~~ and approved explosion ~~control and~~ prevention system ~~based on an HMA.~~

~~8.2.5.2 –~~

~~Explosion control and prevention systems shall be considered critical safety systems in accordance with NFPA 68 and NFPA 69 in accordance with NFPA 69. In addition, a partial volume deflagration evaluation shall be conducted in accordance with NFPA 68 .~~

8.2.5.3

Explosion prevention and control ~~and prevention~~ systems shall be monitored by systems compliant with *NFPA 72*.

8.2.5.4

Gas detection equipment shall be inspected, tested, and maintained in accordance *NFPA 72* and the manufacturer's instructions.

Statement of Problem and Substantiation for Public Input

Use of an NFPA 68-only system is inappropriate in an occupied facility. Revised text is consistent with 4.4.4.3 and 5.6.2.1.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 193-NFPA 800-2026 [Section No. 5.6.2]</u>	Consistent treatment of explosion prevention.
<u>Public Input No. 194-NFPA 800-2026 [Section No. 4.4.4]</u>	Consistent treatment of explosion prevention.

Submitter Information Verification

Submitter Full Name: James McDowall
Organization: McDowall Advisors LLC
Street Address:
City:
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Zip:
Submittal Date: Mon Jan 19 15:22:15 EST 2026
Committee: BAT-AAA



Public Input No. 338-NFPA 800-2026 [Section No. 8.2.5.1]

8.2.5.1*

Fire areas where a flammable or explosive gas ~~can be emitted during~~ concentrations can exceed safety limits during abnormal conditions shall be provided with a gas detection system or approved explosion control and prevention system based on an HMA.

Statement of Problem and Substantiation for Public Input

Any battery can emit flammable gas during abnormal conditions. Action must be taken when gasses can exceed safe limits.

Submitter Information Verification

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Submittal Date: Tue Jan 27 18:05:36 EST 2026

Committee: BAT-AAA



Public Input No. 339-NFPA 800-2026 [Section No. 8.2.5.3]

8.2.5.3

~~Explosion~~ Active explosion control and prevention systems, such as those in accordance with NFPA 69, shall be monitored by systems compliant with *NFPA 72*.

Statement of Problem and Substantiation for Public Input

Passive explosion controls such as NFPA 68 relief panels can be exempted from monitoring. Monitoring is more important for active protection systems.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

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Submittal Date: Tue Jan 27 18:09:22 EST 2026

Committee: BAT-AAA



Public Input No. 202-NFPA 800-2026 [Section No. 8.3.1.1]

8.3.1.1 * –

~~Where an indoor battery exceeds 600 kWh and is required by the AHJ, a hazard mitigation analysis shall be provided.~~

Statement of Problem and Substantiation for Public Input

The requirement for an HMA is already established in 8.2.1.5.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 201-NFPA 800-2026 [Section No. 8.2.1.5]</u>	Both deal with HMA requirements.

Submitter Information Verification

Submitter Full Name: James McDowall

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Submittal Date: Mon Jan 19 15:15:12 EST 2026

Committee: BAT-AAA



Public Input No. 340-NFPA 800-2026 [Section No. 8.3.1.1]

8.3.1.1*

Where ~~an indoor battery exceeds 600~~ indoor BPE has a capacity over 600 kWh and is required by the AHJ, a hazard mitigation analysis shall be provided.

Statement of Problem and Substantiation for Public Input

This statement should refer to indoor BPE as opposed to indoor battery to avoid conflicting with NFPA 855 until such time when the scope of these documents are better understood.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

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City:

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Zip:

Submittal Date: Tue Jan 27 18:13:58 EST 2026

Committee: BAT-AAA



Public Input No. 475-NFPA 800-2026 [Section No. 8.3.1.1]

8.3.1.1*

Where an indoor battery exceeds 600 kWh and is required by the AHJ, a hazard mitigation analysis required by 8.2.1.5, an HMA, shall be provided.

Statement of Problem and Substantiation for Public Input

Either delete as this is redundant to 8.2.1.5 or replace as noted.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 473-NFPA 800-2026 [Section No. 8.2.1.5]</u>	
<u>Public Input No. 476-NFPA 800-2026 [Section No. 8.4.2.3]</u>	

Submitter Information Verification

Submitter Full Name: Jacob Dentici

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City:

State:

Zip:

Submittal Date: Thu Jan 29 14:00:06 EST 2026

Committee: BAT-AAA



Public Input No. 471-NFPA 800-2026 [Section No. 8.3.1.3 [Excluding any Sub-Sections]]

BPE battery charging and staging inside buildings shall be physically separated from flammable or combustible materials by an approved fire-rated barrier ~~or in accordance~~ , line-of sight separation as described below, or by being installed in a listed battery storage cabinet in accordance with NFPA 1.

Statement of Problem and Substantiation for Public Input

It is unclear as originally written what parts of NFPA 1 apply. It's also unclear if the 10' line of sight separation is in addition to or instead of the fire-rated barrier.

Submitter Information Verification

Submitter Full Name: Christopher Bond

Organization: TLC Engineering Solutions

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 29 13:19:59 EST 2026

Committee: BAT-AAA



Public Input No. 341-NFPA 800-2026 [Section No. 8.3.1.3.1]

8.3.1.3.1

~~Physical~~ For reactive metal and reactive ion chemistry based BPE, physical separation shall not be less than 10 ft (3.05 m).

Statement of Problem and Substantiation for Public Input

The separation distance is lower for certain battery types such as lead-acid.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

Street Address:

City:

State:

Zip:

Submittal Date: Tue Jan 27 18:18:06 EST 2026

Committee: BAT-AAA



Public Input No. 251-NFPA 800-2026 [Section No. 8.4.2.3]

8.4.2.3

Hazard mitigation analysis shall be required for LEV and PMD charging and staging areas where the Maximum Allowable Quantity (MAQ) exceeds 600 kWh to define the fire resistance rating, separation, and mitigation strategies.

Statement of Problem and Substantiation for Public Input

I cannot find MAQ used or defined in the document except in A.8.2.1. A definition of MAQ should also be provided in Chapter 3.

Also, suggest the TC consider requiring the hazard analysis when the Threshold Quantities (another term not defined except in A.8.2.1). Otherwise, no hazard analysis is needed until 50-150 e-bikes could be stored in many occupancies when using MAQ. This really means no hazard analysis will ever be needed for e-bikes in any occupancy. That really doesn't address the e-bike fire problems now being experienced. Is that what the TC intended? The original text in A.8.2.1 had the math error that described up to 3 e-bikes being permitted. Is a lower number (such as 3) what the TC intends to trigger a hazard analysis?

Submitter Information Verification

Submitter Full Name: Raymond Hansen

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Submittal Date: Mon Jan 26 13:30:44 EST 2026

Committee: BAT-AAA



Public Input No. 476-NFPA 800-2026 [Section No. 8.4.2.3]

8.4.2.3

Hazard mitigation analysis shall be required for LEV and PMD charging and staging areas where the MAQ exceeds 600 kWh required by 8.2.1.5 to define the fire resistance rating, separation, and mitigation strategies.

Statement of Problem and Substantiation for Public Input

Reference to 8.2.1.5 improves consistency.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 473-NFPA 800-2026 [Section No. 8.2.1.5]</u>	
<u>Public Input No. 475-NFPA 800-2026 [Section No. 8.3.1.1]</u>	

Submitter Information Verification

Submitter Full Name: Jacob Dentici

Organization: Bowman Fire & Life Safety

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City:

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Submittal Date: Thu Jan 29 14:01:33 EST 2026

Committee: BAT-AAA



Public Input No. 215-NFPA 800-2026 [Section No. 8.4.3.1]

8.4.3.1* Lead-Acid Batteries.

8.4.3.1. Storage and charging of industrial trucks shall be in accordance with NFPA 505 and this section.

8.4.3.1.1

The charging area shall be equipped with exhaust ventilation (natural or mechanical) with the exhaust located at a high level to avoid hydrogen accumulation below the roof level.

8.4.3.1.1.1

The exhaust ventilation shall be sufficient to keep the hydrogen concentration below 1 percent (25 percent of the LEL).

8.4.3.1.2*

Charging stations located directly inside warehouse or storage areas shall be provided with a separation distance of 5 ft (1.5 m) between any storage and the battery charger or the battery powered industrial equipment.

8.4.3.1.3*

For separation distances of less than 5 ft (1.5 m), a one-hour fire barrier shall be provided between the battery charger, battery-powered industrial equipment, and any combustible load.

8.4.3.1.4

Battery chargers shall not be installed directly inside rack storage arrangements.

8.4.3.1.5

Physical protection shall be provided around the battery chargers to prevent mechanical damage from battery-powered industrial equipment.

8.4.3.1.6

A specific marking shall be provided on the ground in the area where the charging station and forklift are located to prevent any temporary storage.

Statement of Problem and Substantiation for Public Input

NFPA 505 addresses industrial trucks and should be referenced and if appropriate extracted from.

Submitter Information Verification

Submitter Full Name: Steven Sawyer

Organization: Self-Employed

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City:

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Submittal Date: Tue Jan 20 08:58:20 EST 2026

Committee: BAT-AAA



Public Input No. 342-NFPA 800-2026 [Section No. 8.4.3.1]

~~8.4.3.1 * – Lead-Acid Batteries:~~

~~8.4.3.1.1 –~~

~~The charging area shall be equipped with exhaust ventilation (natural or mechanical) with the exhaust located at a high level to avoid hydrogen accumulation below the roof level.~~

~~8.4.3.1.1.1 –~~

~~The exhaust ventilation shall be sufficient to keep the hydrogen concentration below 1 percent (25 percent of the LEL).~~

~~8.4.3.1.2 * –~~

~~Charging stations located directly inside warehouse or storage areas shall be provided with a separation distance of 5 ft (1.5 m) between any storage and the battery charger or the battery powered industrial equipment.~~

~~8.4.3.1.3 * –~~

~~For separation distances of less than 5 ft (1.5 m), a one-hour fire barrier shall be provided between the battery charger, battery-powered industrial equipment, and any combustible load.~~

~~8.4.3.1.4 –~~

~~Battery chargers shall not be installed directly inside rack storage arrangements.~~

~~8.4.3.1.5 –~~

~~Physical protection shall be provided around the battery chargers to prevent mechanical damage from battery-powered industrial equipment.~~

~~8.4.3.1.6 –~~

~~A specific marking shall be provided on the ground in the area where the charging station and forklift are located to prevent any temporary storage.~~

Statement of Problem and Substantiation for Public Input

Consider removing this section. These battery types are very well understood and have been addressed in the fire and building codes for many years. Other than low levels of ventilation, little more is required for safe use.

Submitter Information Verification

Submitter Full Name: Richard Kluge

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Submittal Date: Tue Jan 27 18:23:22 EST 2026

Committee: BAT-AAA



Public Input No. 137-NFPA 800-2026 [Section No. 8.4.3.2]

8.4.3.2* Lithium-Ion Batteries. (Should this include any ion-batteries, such as Na-ion?)

8.4.3.2.1*

Charging stations located directly inside warehouses or storage areas shall be provided with a separation distance of 20 ft (6.1 m) between any storage and the battery charger or battery-powered industrial equipment.

8.4.3.2.2*

For separation distances less than 20 ft (6.1 m), a one-hour fire barrier shall be provided between the battery charger or battery-powered industrial equipment and any combustible load.

8.4.3.2.3

Battery chargers shall not be installed directly inside rack storage arrangements.

8.4.3.2.4

Physical protection shall be provided around the battery chargers to prevent mechanical damage from battery-powered industrial equipment.

8.4.3.2.5

A specific marking shall be provided on the ground in the area where the charging station and forklift are located to prevent any temporary storage of materials.

Statement of Problem and Substantiation for Public Input

Question for clarification

Submitter Information Verification

Submitter Full Name: Jackie Huynh

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City:

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Zip:

Submittal Date: Wed Jan 07 18:12:19 EST 2026

Committee: BAT-AAA



Public Input No. 343-NFPA 800-2026 [Section No. 8.4.3.2]

8.4.3.2* ~~Lithium-Ion~~ Reactive Metal and Reactive Ion Batteries.

8.4.3.2.1*

Charging stations located directly inside warehouses or storage areas shall be provided with a separation distance of 20 ft (6.1 m) between any storage and the battery charger or battery-powered industrial equipment.

8.4.3.2.2*

For separation distances less than 20 ft (6.1 m), a one-hour fire barrier shall be provided between the battery charger or battery-powered industrial equipment and any combustible load.

8.4.3.2.3

Battery chargers shall not be installed directly inside rack storage arrangements.

8.4.3.2.4

Physical protection shall be provided around the battery chargers to prevent mechanical damage from battery-powered industrial equipment.

8.4.3.2.5

A specific marking shall be provided on the ground in the area where the charging station and forklift are located to prevent any temporary storage of materials.

Statement of Problem and Substantiation for Public Input

Make the title of this section consistent with the other sections of the document that group lithium-ion with other reactive battery types.

Submitter Information Verification

Submitter Full Name: Richard Kluge

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Submittal Date: Tue Jan 27 18:26:45 EST 2026

Committee: BAT-AAA



Public Input No. 520-NFPA 800-2026 [Section No. 8.6]

8.6 Electric Vehicle Power Export Equipment (EVPE).

8.6.1 The use, operation, and maintenance of electric vehicle power export equipment (EVPE) shall comply with NFPA 70, ~~NFPA 70B~~, and NFPA 70E.

8.6.2 The permanent installation shall comply with NFPA 70.

Statement of Problem and Substantiation for Public Input

NFPA 70 is an installation code. It does not have to do with the use or maintenance of EVPE.

Submitter Information Verification

Submitter Full Name: Christopher Bond

Organization: TLC Engineering Solutions

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City:

State:

Zip:

Submittal Date: Thu Jan 29 16:47:37 EST 2026

Committee: BAT-AAA



Public Input No. 204-NFPA 800-2026 [Chapter 9]

Chapter 9 Battery Recycling, ~~Disposal, and Decommissioning~~ and Disposal

9.1* Scope.

This chapter shall apply to the ~~recycling, disposal, and decommissioning of reactive metal and reactive recycling and disposal of alkali-metal and alkali-metal-~~ ion battery energy storage systems (BESS), electric vehicle (EV) batteries, industrial battery banks, and consumer battery products.

9.1.1 ~~Recycling, Recycling and~~ Disposal, ~~and Decommissioning~~ Decision Point.

~~When recycling, disposal, and decommissioning per Chapter 9, the application of the standards shall~~ The application of Chapter 9 shall start at the decision point to recycle or dispose a battery and continue until the completion of that task.

9.1.2 Disassembly.

Disassembly refers to pretreatment or preparation of cells/modules/packs for further processing as recycled or waste materials. For a BESS, this occurs after decommissioning as outlined in NFPA 855, when cells/modules/packs are removed from the BESS.

9.2 General Requirements.

9.2.1 Regulatory Compliance.

9.2.1.1

End-of-life batteries shall be classified in accordance with the applicable federal, state, and local environmental regulations governing the identification and management of wastes.

9.2.1.2

End-of-life batteries shall be managed, disposed of, and recycled, as applicable, in accordance with Chapter 9.

9.2.1.3 –

~~Decommissioning of BESS is exempt from the requirements of Chapter 9 when managed in accordance with NFPA 855.~~

9.2.1.4*

Combustible dust producing operations shall be carried out in accordance with NFPA 660.

9.2.1.5

Repurposing and remanufacturing facilities shall comply with Chapter 5.

9.2.1.6

The storage of batteries prior to disposal or recycling shall comply with Chapter 6.

9.2.1.7

A fire emergency plan shall be created for each recycling or disposal facility.

9.2.2 Hazard Mitigation Analysis (HMA).

A hazard mitigation analysis (HMA), as required by Chapter 4, shall be prepared to evaluate the fire risks associated with battery recycling and disposal facilities.

9.2.2.1*

The HMA shall be submitted to and approved by the AHJ.

9.2.2.2

In addition to the requirements outlined in Chapter 4, the HMA shall address the following:

- (1) Detection of thermal events and fire conditions, including the type and placement of detection technologies
- (2) Availability of water supply and adequacy of fire department access
- (3) Potential for deflagration resulting from the release of flammable gases during thermal runaway events
- (4) Potential for projectile hazards during recycling and disposal processes, including the potential for ignition of adjacent areas, materials, buildings, and other exposures
- (5) Anticipated temperature exposures and their effect on battery stability
- (6) Anticipated weather conditions, including extremes of heat and cold
- (7) Battery sorting specifications and procedures
- (8) An evaluation of the suitability of the processing equipment used
- (9) Separation distances between materials, incompatible materials, and hazardous materials, as applicable
- (10) Intake and inspection procedures and segregation
- (11) Ventilation requirements
- (12) Other items as required by the AHJ

9.2.2.3

The HMA shall apply to facilities in which battery recycling and disposal take place.

9.2.2.4

Review and implementation of the HMA shall occur during the planning phase of a facility in which battery recycling or disposal occurs, and when a major modification, repurposing of an asset, or introduction of new hazards to the process occurs.

9.2.2.5*

Where credible deflagration hazards are identified, protective measures shall be evaluated and implemented in accordance with NFPA 68 and NFPA 69.

9.2.2.5.1

Exception: An alternative means of protection, in lieu of NFPA 68 and NFPA 69, can be provided, where justified by the HMA and approved by the AHJ.

9.2.2.6

Materials generated from recycling and disposal processes shall be classified in accordance with NFPA 400.

9.2.2.7

Materials generated from recycling and disposal processes shall be stored and used in accordance with Chapter 9 of this code and Chapters 50–75 of NFPA 1.

9.2.3 Fire Protection.

9.2.3.1* Suppression.

Each area where batteries are recycled or disposed of shall be provided with one of the following, as determined by the HMA identified in 9.2.2:

- (1) For indoor areas, an approved automatic fire suppression system.
- (2) For outdoor areas, approved fire protection features, such as water supplies, hydrants, or equivalent means approved by the AHJ

9.2.3.1.1*

Automatic fire control and suppression systems shall comply with the following standards or an equivalent per the AHJ:

- (1) NFPA 12
- (2) NFPA 13
- (3) NFPA 15
- (4) NFPA 750
- (5) NFPA 770
- (6) NFPA 2001
- (7) NFPA 2010

9.2.3.2 Detection.

Each area where batteries are recycled or disposed of shall be provided with one of the following, as determined by the HMA identified in 9.2.2:

- (1) For indoor areas, an approved fire alarm system activated by a smoke detection system, a thermal image fire detection system, a radiant-energy detection system, or equivalent means approved by the AHJ
- (2) For outdoor areas, an approved fire alarm system activated by a thermal image fire detection system, radiant-energy detection system, or equivalent means approved by the AHJ

9.2.3.2.1

The approved system shall be designed and installed in accordance with *NFPA 72*.

9.2.4 Fire Extinguishers.

Fire extinguishing equipment suitable for all the types of batteries being recycled or disposed of shall be provided throughout recycling and disposal processes, including areas where batteries are loaded and unloaded, in accordance with NFPA 10.

9.2.4.1

Travel distance to reach fire-extinguishing equipment shall not exceed 75 ft (22.9 m).

9.2.5 Containers and Packaging.

When stored prior to or following a recycling or disposal process, containers and packaging shall comply with the applicable provisions of Chapter 6.

9.2.6 Reporting.

All battery fires shall be reported to the AHJ in accordance with NFPA 1.

9.3 Recycling.

9.3.1 General Requirements.

9.3.1.1

Where recycling processes have the potential to generate hazardous materials, those materials shall be meet the following:

- (1) Containment that prevents the transition of fire from one compartment to another and is in alignment with the HMA, identified in 9.2.2
- (2) Compliance with NFPA 400 where secondary containment is provided

9.3.2* Electric Vehicle Battery Removal.

Batteries shall be removed from vehicles powered by electric drive or hybrid drive systems.

9.3.3 Collection.

The collection of batteries from the public or employees shall comply with the applicable requirements outlined in Chapter 6.

9.4 Disposal.

9.4.1 General Requirements.

9.4.1.1* Hazard Mitigation Analysis for Facilities Receiving Municipal Solid Waste.

9.4.1.2* Tipping Floors, Refuse Pits, and Refuse Derived Fuel (RDF).

9.4.1.3* Shredders and Conveyor.

9.4.2 Transfer Stations.

Automatic fire suppression at transfer stations shall consist of one or both of the following:

- (1) Automatic sprinkler protection
- (2) Water mist protection

9.4.3 Material Processing Facilities (MPF) and Electronic Waste Recyclers.

9.4.3.1 Fire Suppression Systems.

9.4.3.1.1

Automatic fire suppression shall consist of one or both of the following:

- (1) Automatic sprinkler protection
- (2) Sorting and dismantling rooms equipped with extinguishers

9.4.3.1.2

Shredders utilized in electronic waste recycling facilities shall meet the requirements of 9.4.3.1.1 and have one or more of the following, separate from conventional fire protection systems:

- (1) Automatic deluge protection
- (2) Water spray fixed system (see NFPA 15)

9.4.3.2 Collection.

An alternate storage plan shall be created when outlet facilities are not able to receive storage and material storage is being accomplished in remote areas.

Statement of Problem and Substantiation for Public Input

Decommissioning is not covered in Chapter 9.

Submitter Information Verification

Submitter Full Name: James McDowall

Organization: McDowall Advisors LLC

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 19 15:33:09 EST 2026

Committee: BAT-AAA



Public Input No. 306-NFPA 800-2026 [Section No. 9.1 [Excluding any Sub-Sections]]

This chapter shall apply to the recycling, disposal, and decommissioning of reactive metal and reactive ion ~~battery energy~~ batteries used in energy storage systems (BESS), electric ~~vehicle~~ vehicles (EV) ~~batteries~~, industrial battery banks, and consumer battery products.

Statement of Problem and Substantiation for Public Input

From the current text, it is unclear if the limitation of the scope is intended to be reactive metal and reactive ion chemistries across all listed applications or just for BESS, while covering all chemistries for EV, industrial battery banks, and consumer battery products. The suggested edit is consistent with the annex and provides clarity as to which battery chemistries are being addressed.

Submitter Information Verification

Submitter Full Name: Richard Kluge

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Affiliation: ATIS

Street Address:

City:

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Zip:

Submittal Date: Mon Jan 26 19:57:46 EST 2026

Committee: BAT-AAA



Public Input No. 305-NFPA 800-2026 [Section No. 9.1.1]

9.1.1– Recycling, Disposal, and Decommissioning Decision Point.

~~When recycling~~

~~Application.~~

~~The requirements of this chapter shall apply to all phases of the recycling , disposal, and decommissioning per Chapter 9 , the application of the standards shall start at the decision point to recycle or dispose a battery and continue until the completion of that task process .~~

Statement of Problem and Substantiation for Public Input

The text of the current draft is a bit vague and difficult to enforce as it requires determination of "decision point". Maybe better to say all phases are subject to the requirements of the chapter.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

Street Address:

City:

State:

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Submittal Date: Mon Jan 26 19:51:55 EST 2026

Committee: BAT-AAA



Public Input No. 357-NFPA 800-2026 [New Section after 9.1.2]

TITLE OF NEW CONTENT

Deactivation refers to the process of rendering the EOL LIB unable to rapidly evolve heat or ignite a fire.

Statement of Problem and Substantiation for Public Input

This solves the problem that people think end-of-life lithium ion batteries are not really that dangerous. They are, or they can act like bombs, and the use of the word deactivate clearly explains the type of processing that truly needs to be done prior to their shipment - rendered unable to evolve heat or ignite a fire..

Submitter Information Verification

Submitter Full Name: Michael Cooney

Organization: University of Hawaii at Manoa

Street Address:

City:

State:

Zip:

Submittal Date: Tue Jan 27 22:08:27 EST 2026

Committee: BAT-AAA



Public Input No. 304-NFPA 800-2026 [Section No. 9.1.2]

9.1.2 – Disassembly:

Disassembly refers to pretreatment or preparation of cells/modules/packs for further processing as recycled or waste materials. For a BESS, this occurs after decommissioning as outlined in NFPA 855, when cells/modules/packs are removed from the BESS.

Statement of Problem and Substantiation for Public Input

This text reads like a definition. It does not seem to be a requirement. The term, while not incorrectly defined, is not used in chapter 9 so it seems this content can be removed.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 26 19:49:24 EST 2026

Committee: BAT-AAA



Public Input No. 399-NFPA 800-2026 [Section No. 9.1.2]

9.1.2 Disassembly.

Disassembly refers to ~~pretreatment or~~ preparation of cells/modules/packs for further processing as recycled or waste materials. For a BESS, this occurs after decommissioning as outlined in NFPA 855, when cells/modules/packs are removed from the BESS.

Statement of Problem and Substantiation for Public Input

the word pretreatment as used with disassembly and recycling has a regulatory requirement that could inadvertently be applied where it is not applicable. Removed pretreatment to avoid this confusion

Submitter Information Verification

Submitter Full Name: Lisa Parks

Organization: GM

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jan 28 15:32:18 EST 2026

Committee: BAT-AAA



Public Input No. 358-NFPA 800-2026 [Section No. 9.2.1.1]

9.2.1.1

End-of-life batteries shall be classified in accordance with the applicable federal, state, and local environmental regulations governing the identification and management of wastes. End-of-life lithium ion batteries shall be excluded from the household hazardous waste exemption.

Statement of Problem and Substantiation for Public Input

So long as the exemption is in place, end-of-life lithium ion batteries will be flooded into the typical household waste streams making any attempt for a given place, especially island communities, to organize the collection and proper deactivation for all EOL LIBs. This will stop the fire in dump trucks, at transfer stations and landfill or incinerators.

Submitter Information Verification

Submitter Full Name: Michael Cooney

Organization: University of Hawaii at Manoa

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Submittal Date: Tue Jan 27 22:10:21 EST 2026

Committee: BAT-AAA



Public Input No. 145-NFPA 800-2026 [Section No. 9.2.2 [Excluding any Sub-Sections]]

A hazard mitigation analysis (HMA), as required by Chapter 4, shall be prepared to evaluate the fire ~~risks~~ hazards associated with battery recycling and disposal facilities.

Statement of Problem and Substantiation for Public Input

In safety documents such as this one the word "risk" should be reserved for and used only when the intended meaning is "the combination of the probability of occurrence of an adverse event and the potential consequences of that event."

The word "risks" in this type of document generally refers to "hazards."

Based on the context of this sentence, the word "risks" should be replaced with the term "hazards."

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 140-NFPA 800-2026 [New Section after 3.3.33]</u>	

Submitter Information Verification

Submitter Full Name: Daniel Roberts

Organization: Electrical Safety Solutions

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City:

State:

Zip:

Submittal Date: Thu Jan 08 16:19:44 EST 2026

Committee: BAT-AAA



Public Input No. 400-NFPA 800-2026 [Section No. 9.2.2.1]

9.2.2.1*

The HMA shall be submitted to and approved by the AHJ.

Statement of Problem and Substantiation for Public Input

Need to add timeframe's for AHJ to review and comment back to requestor within a specified amount of time

Submitter Information Verification

Submitter Full Name: Lisa Parks

Organization: GM

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jan 28 15:34:29 EST 2026

Committee: BAT-AAA



Public Input No. 401-NFPA 800-2026 [Section No. 9.2.2.2]

9.2.2.2

In addition to the requirements outlined in Chapter 4, the HMA shall address the following:

- (1) Detection of thermal events and fire conditions, including the type and placement of detection technologies
- (2) Availability of water supply and adequacy of fire department access
- (3) Potential for deflagration resulting from the release of flammable gases during thermal runaway events
- (4) Potential for projectile hazards during recycling and disposal processes, including the potential for ignition of adjacent areas, materials, buildings, and other exposures
- (5) Anticipated temperature exposures and their effect on battery stability
- (6) Anticipated weather conditions, including extremes of heat and cold
- (7) Battery sorting specifications and procedures
- (8) An evaluation of the suitability of the processing equipment used based on battery chemistry, format and energy density.
- (9) Separation distances between materials, incompatible materials, and hazardous materials, as applicable
- (10) Intake and inspection procedures and segregation
- (11) Ventilation requirements
- (12) Other items as required by the AHJ

Statement of Problem and Substantiation for Public Input

added key requirements needed for equipment evaluation

Submitter Information Verification

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City:

State:

Zip:

Submission Date: Wed Jan 28 15:36:30 EST 2026

Committee: BAT-AAA



Public Input No. 307-NFPA 800-2026 [Section No. 9.2.2.5 [Excluding any Sub-Sections]]

Where credible deflagration hazards are identified, protective measures shall ~~be evaluated and implemented~~ be implemented in accordance with NFPA 68 ~~and~~ or NFPA 69.

Statement of Problem and Substantiation for Public Input

Evaluation of protective measures is not essential. What you really want to have is protective measures that are implemented. Also, maybe we need to meet NFPA 68 or NFPA 69 and not in all cases both NFPA 68 and NFPA 69.

Submitter Information Verification

Submitter Full Name: Richard Kluge

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Submittal Date: Mon Jan 26 20:03:52 EST 2026

Committee: BAT-AAA



Public Input No. 308-NFPA 800-2026 [Section No. 9.2.2.7]

9.2.2.7

Materials generated from recycling and disposal processes shall be ~~stored and used in~~ handled and stored in accordance with Chapter 9 of this code and Chapters 50–75 of NFPA 1.

Statement of Problem and Substantiation for Public Input

We are not regulating how recycled materials are used. We are regulating how they are handled and stored.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

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City:

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Submittal Date: Mon Jan 26 20:08:53 EST 2026

Committee: BAT-AAA



Public Input No. 451-NFPA 800-2026 [Section No. 9.2.3.1 [Excluding any Sub-Sections]]

Each area where batteries are recycled or disposed of shall be provided with one of the following, as determined by the HMA identified in 9.2.2:

- (1) For indoor areas, an approved automatic fire suppression system.
- (2) For outdoor areas, approved fire protection features, such as water supplies, hydrants, or equivalent means approved by the AHJ

The interpretation of this could be costly for recyclers. In many cases, piped water supplies cannot be placed underground or are otherwise unavailable to current structures.

Statement of Problem and Substantiation for Public Input

The interpretation of this could be costly for recyclers. In many cases, piped water supplies cannot be placed underground or are otherwise unavailable to current structures.

Submitter Information Verification

Submitter Full Name: Michael Marino

Organization: Recycled Materials Association (ReMA)

Street Address:

City:

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Submittal Date: Thu Jan 29 10:44:24 EST 2026

Committee: BAT-AAA



Public Input No. 570-NFPA 800-2026 [Section No. 9.2.3.1.1]

9.2.3.1.1 * –

~~Automatic fire control and suppression systems shall comply with the following standards or an equivalent per the AHJ:~~

- ~~(1) NFPA-12~~
- ~~(2) NFPA-13~~
- ~~(3) NFPA-15~~
- ~~(4) NFPA-750~~
- ~~(5) NFPA-770~~
- ~~(6) NFPA-2004~~
- ~~(7) NFPA-2010~~

Statement of Problem and Substantiation for Public Input

This code section is redundant to 4.4.2.3.

Submitter Information Verification

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Submittal Date: Thu Jan 29 18:34:44 EST 2026

Committee: BAT-AAA



Public Input No. 402-NFPA 800-2026 [Section No. 9.2.3.2]

9.2.3.2 Detection.

Each area where batteries are recycled or disposed of shall be provided with one of the following, as determined by the HMA identified in 9.2.2:

- (1) For indoor areas, an approved fire alarm system activated by a smoke detection system, a thermal image fire detection system, a radiant-energy detection system, or equivalent means approved by the AHJ
- (2) For outdoor areas that are protected and within 20 ft of important infrastructures , an approved fire alarm system activated by a thermal image fire detection system, radiant-energy detection system, or equivalent means approved by the AHJ. Does not apply to locations 50 ft. or greater away from buildings and infrastructure.

9.2.3.2.1

The approved system shall be designed and installed in accordance with *NFPA 72*.

Statement of Problem and Substantiation for Public Input

Clarify where this applies as open or expendable location outdoors would not include these mitigation methods and expense

Submitter Information Verification

Submitter Full Name: Lisa Parks

Organization: GM

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jan 28 15:38:37 EST 2026

Committee: BAT-AAA



Public Input No. 453-NFPA 800-2026 [Section No. 9.2.3.2]

9.2.3.2 Detection.

Each area where batteries are recycled or disposed of shall be provided with one of the following, as determined by the HMA identified in 9.2.2:

- (1) For indoor areas, an approved fire alarm system activated by a smoke detection system, a thermal image fire detection system, a radiant-energy detection system, or equivalent means approved by the AHJ
- (2) For outdoor areas, an approved fire alarm system activated by a thermal image fire detection system, radiant-energy detection system, or equivalent means approved by the AHJ

9.2.3.2.1

The approved system shall be designed and installed in accordance with *NFPA 72*.

This section pushes recyclers with interior or exterior recycling operations toward fire-suppression systems with thermal detection, without considering other risk mitigation measures. Exterior detection requirements should be removed if other risk mitigation measures are in place, such as pile size, separation, and other provisions already outlined above. New interior/exterior protection requirements should be mandated for new facilities only.

Statement of Problem and Substantiation for Public Input

This section pushes recyclers with interior or exterior recycling operations toward fire-suppression systems with thermal detection, without considering other risk mitigation measures. Exterior detection requirements should be removed if other risk mitigation measures are in place, such as pile size, separation, and other provisions already outlined above. New interior/exterior protection requirements should be mandated for new facilities only.

Submitter Information Verification

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Submittal Date: Thu Jan 29 10:46:53 EST 2026

Committee: BAT-AAA



Public Input No. 321-NFPA 800-2026 [Section No. 9.2.6]

9.2.6 Reporting.

~~All battery fires~~ Battery fires that require fire department response shall be reported ~~to the AHJ~~ in accordance with NFPA 1.

Statement of Problem and Substantiation for Public Input

The original could create additional reporting requirements for all incidents regardless of severity.

Submitter Information Verification

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Submittal Date: Tue Jan 27 11:31:35 EST 2026

Committee: BAT-AAA



Public Input No. 403-NFPA 800-2026 [Section No. 9.2.6]

9.2.6 Reporting.

~~All battery fires~~ Battery fires that require fire department response shall be reported to the AHJ in accordance with NFPA 1.

Statement of Problem and Substantiation for Public Input

ALL battery fires being reported is way to broad and not feasible

Submitter Information Verification

Submitter Full Name: Lisa Parks

Organization: GM

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jan 28 15:41:05 EST 2026

Committee: BAT-AAA



Public Input No. 455-NFPA 800-2026 [Section No. 9.2.6]

9.2.6 Reporting.

All battery fires shall be reported to the AHJ in accordance with NFPA 1.

Language should require reporting only when battery fires persist beyond the incipient stage.

Statement of Problem and Substantiation for Public Input

Language should require reporting only when battery fires persist beyond the incipient stage. NFPA 1 alignment.

Submitter Information Verification

Submitter Full Name: Michael Marino

Organization: Recycled Materials Association (ReMA)

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City:

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Submittal Date: Thu Jan 29 11:08:43 EST 2026

Committee: BAT-AAA



Public Input No. 309-NFPA 800-2026 [Section No. 9.3.1.1]

9.3.1.1

Where recycling processes have the potential to generate hazardous materials, ~~those materials shall be meet the process shall include~~ the following protection measures :

- (1) Containment that prevents the transition of fire from one ~~compartment~~ building space or container to another and is in alignment with the HMA, identified in 9.2.2
- (2) Compliance with NFPA 400 where secondary containment is provided

Statement of Problem and Substantiation for Public Input

The requirement is applied to the process and containment, not the hazardous materials. It is not clear from the current draft if the fire containment is intended to be at the building level or some sort of chapter style container or both.

Submitter Information Verification

Submitter Full Name: Richard Kluge

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Submittal Date: Mon Jan 26 20:12:30 EST 2026

Committee: BAT-AAA



Public Input No. 392-NFPA 800-2026 [New Section after 9.3.3]

9.3.4 Repurposed Batteries

9.3.4.1

Batteries previously listed for use in other applications, such as electric vehicle propulsion, shall be permitted for reuse through an evaluation process in accordance with UL 1974 or another approved method.

Statement of Problem and Substantiation for Public Input

The repurposed batteries introduce significant potential hazards and unknowns from their initial application, as well as increased thermal runaway risks for large-scale applications such as BESS. Compliance with safety standards for second-life batteries, as proposed in NFPA 855 (9.2.4), is strongly recommended.

N 9.2.4 Repurposed and Refurbished Batteries.

N 9.2.4.1 Batteries that have been repurposed or refurbished shall meet the applicable technology-specific requirements in Table 9.6.5.

N 9.2.4.2* Batteries previously used in other applications, such as electric vehicle propulsion, shall not be permitted unless the equipment is repurposed by a UL 1974-compliant battery repurposing company where reused in ESS applications and the system complies with 4.6.1.

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Submittal Date: Wed Jan 28 14:24:32 EST 2026

Committee: BAT-AAA



Public Input No. 359-NFPA 800-2026 [Section No. 9.4.1.3]

9.4.1.3* Shredders and Conveyor.

Dry shredding should only operate on Lithium ion batteries that have been demonstratively verified to be discharged to below 30% charge in all cells.

Statement of Problem and Substantiation for Public Input

One significant cause of fire in shredding plants is the use of dry shredding on batteries that are still highly charged. Although discredited by most professionals in the field, it is still attractive as a pretreatment step because of its simplicity. However, the method has significant flaws in that it cannot guarantee full discharge owing to corrosion of end terminals. This is especially hazardous with EV batteries that may have only two conducting ports connecting all internal cells. If corrosion occurs on these EV batteries it is potentially likely that all the cells have not been discharged. This is a clear cause of rapid evolution of heat that causes fires. Saline soaking is not a method that should be used in the discharging of EOL LIBs.

Submitter Information Verification

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City:

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Zip:

Submittal Date: Tue Jan 27 22:15:38 EST 2026

Committee: BAT-AAA



Public Input No. 310-NFPA 800-2026 [Section No. 9.4.3.1.1]

9.4.3.1.1

~~Automatic fire~~ Fire suppression shall consist of one or both of the following:

- (1) Automatic sprinkler protection
- (2) Sorting and dismantling rooms equipped with portable fire extinguishers

Statement of Problem and Substantiation for Public Input

Add text to emphasize portable fire extinguisher which are not automatic fire suppression systems but are effective tools for fire fighting.

Submitter Information Verification

Submitter Full Name: Richard Kluge

Organization: NEBScore Inc.

Affiliation: ATIS

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City:

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Submittal Date: Mon Jan 26 20:19:59 EST 2026

Committee: BAT-AAA




Annex A Explanatory Material

Annex A is not a part of the requirements of this NFPA document but is included for informational purposes only. This annex contains explanatory material, numbered to correspond with the applicable text paragraphs.

A.1.2.3 — 

The requirements for product design and evaluation of electrical safety, fire safety and general hazard mitigation and product performance for operation or use are regulated by listing and labelling in accordance with various product standards or regulated by governmental regulatory authorities.

A.1.6.3 — 

If an AIJ becomes aware of additional information regarding hazards due to an inspection or through other means, the AIJ can request a hazard mitigation analysis be submitted by the owner in accordance with Section 4.3 :

Based on the hazardous mitigation analysis, the AIJ can retroactively apply any portions of this standard deemed appropriate to mitigate any hazards that could be identified in the risk assessment as unacceptable. [855: 1.4.2]

A.1.8 — 

The administrative provisions of Annex E can be used:

A.3.2.1 – Approved: –

The National Fire Protection Association does not approve, inspect, or certify any installations, procedures, equipment, or materials nor does it approve or evaluate testing laboratories. In determining the acceptability of installations or procedures, equipment, or materials, the “authority having jurisdiction” may base acceptance on compliance with NFPA or other appropriate standards. In the absence of such standards, said authority may require evidence of proper installation, procedure, or use. The “authority having jurisdiction” may also refer to the listings or labeling practices of an organization that is concerned with product evaluations and is thus in a position to determine compliance with appropriate standards for the current production of listed items.

A.3.2.2 – Authority Having Jurisdiction (AHJ): –

The phrase “authority having jurisdiction,” or its acronym AHJ, is used in NFPA standards in a broad manner because jurisdictions and approval agencies vary, as do their responsibilities. Where public safety is primary, the authority having jurisdiction may be a federal, state, local, or other regional department or individual such as a fire chief, fire marshal, chief of a fire prevention bureau, labor department, or health department; building official; electrical inspector; or others having statutory authority. For insurance purposes, an insurance inspection department, rating bureau, or other insurance company representative may be the authority having jurisdiction. In many circumstances, the property owner or his or her designated agent assumes the role of the authority having jurisdiction; at government installations, the commanding officer or departmental official may be the authority having jurisdiction.

A.3.2.3 – Code: –

The decision to designate a standard as a “code” is based on such factors as the size and scope of the NFPA standard, its intended use and form of adoption, and whether it contains substantial enforcement and administrative provisions:

A.3.2.5 – Listed: –

The means for identifying listed equipment may vary for each organization concerned with product evaluation; some organizations do not recognize equipment as listed unless it is also labeled. The authority having jurisdiction should utilize the system employed by the listing organization to identify a listed product.

A.3.3.39 – Module: –

Modules typically refer to Li-ion, Na-ion, NaNiCl or other rechargeable (secondary) batteries that use a BMS. Bloc or monobloc is typically used to refer to multicell units of batteries that do not have an integrated BMS or control electronics board, such as a lead-acid or Ni-Cd unit.

A.3.3.44 – Pack: –

Packs are typically used to refer to secondary (rechargeable) Li-ion or Na-ion cell collections. In some cases it is a few cells where one of the cells in the pack is monitored for temperature, or a collection of a few cells surrounded by thermal management material. Pack is also used to refer to a larger battery, which is often a collection of hundreds or thousands of cells, or many individual modules, usually meant for insertion into a final product, such as an electric vehicle (EV), an uninterruptible power supply (UPS), etc.

A.3.3.48 – Reactive Ion Chemistry Battery with Flammable Liquid Electrolyte: –

Reactive ion chemistry batteries with flammable liquid electrolytes include most Li-ion, sodium ion (Na-ion), and semi-solid-state Li-ion.

A.3.3.49 – Reactive Metal Chemistry Battery: –

Lithium-metal primary batteries, lithium-metal solid-state batteries (SSB), and sodium sulfur (NaS) batteries are all examples of reactive metal chemistry batteries that pose a higher fire risk than most battery chemistries if they experience an internal short or the reactive metal is exposed to water or the atmosphere:

While sodium-nickel-chloride (NaNiCl) batteries contain a reactive metal, they are not considered a reactive metal chemistry battery due to the presence of chlorine, which combines with the sodium into inert table salt if the cell is breached. UL 9540A, *Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems*, testing performed for the primary manufacturer of these batteries has reportedly (UL Report E518047) shown no fire risk from these batteries:

A.3.3.50 – Rechargeable Battery: –

Secondary battery is the technical term from the battery industry used to refer to a rechargeable battery.

A.3.3.51 – Reconditioned: –

The term reconditioned is frequently referred to as rebuilt, refurbished, or remanufactured.

A.3.3.53 – Registered Design Professional (RDP): –

The registered design professional referred to in this document is usually a licensed fire protection professional engineer (PE). However, not all fire protection engineers (even those with a PE license) have experience with batteries. Choosing an RDP with significant experience in batteries should be a key consideration.

A.3.3.55 – Repurposed Battery: –

An example of a repurposed battery is a stationary energy storage battery that has been built using used electric vehicle batteries, modules, or cells. Another term for a repurposed battery is second-life battery.

A.3.3.56 – Semi-Solid-State (SSS or SS) Battery: –

These batteries are less prone to thermal runaway than their counterparts where all of the electrolyte is a flammable liquid organic solvent, but do not have equivalent fire safety characteristics to their ion counterparts where the electrolyte is 100 percent solid-state (ASSB) or is aqueous.

A.3.3.57 – Solid-State Battery (SSB or ASSB): –

“All solid-state” (as opposed to semi-solid-state) battery types include lithium metal polymer (LMP), some lithium ion (Li-ion) polymer (LiPo), lithium metal solid-state, and Li-ion solid-state batteries. Due to the “solid” nature of the electrolyte, these batteries are less prone to thermal runaway than their flammable organic liquid solvent counterparts.

A.4.2 —

The objectives of this chapter are the intended outcomes of this code and are not prescriptive requirements.

A.4.2.1 —

Hazards that should be mitigated include the following:

- (1) Exposure of occupants to fire effects
 - (2) The time needed to evacuate, relocate, or take refuge should be maximized.

- (3) Deflagrations and explosions
 - (4) This includes pressure effects, blast hazards, and flying debris

- (5) Release, leakage, or exposure to battery constituents
 - (6) This includes electrolytes, cathode and anode materials, binders, solvents, and other active or inactive materials.

- (7) Exposure to hazardous byproducts of thermal decomposition or combustion
 - (8) This includes flammable, toxic, or corrosive gases and particulates.

- (9) Electrical hazards
 - (10) This includes shock, arcing, and fault currents.

- (11) Combustible dust hazards from powders generated during handling, processing, or failure scenarios.
- (12) Incompatibility hazards arising from storage or collection of batteries in proximity to other hazardous or reactive materials.
- (13) Hazards specific to consumer collection activities
 - (14) This includes mixed chemistries, damaged or defective batteries, and unknown states of charge.

Protection of occupants from deflagration and explosion effects can be achieved through passive design (e.g., fire walls, blast barriers) and active systems (e.g., explosion venting in accordance with NFPA 68 or explosion prevention in accordance with NFPA 69). NFPA 400 and FM DS 7-112, *Lithium-Ion Battery Manufacturing and Storage*, offer further insight on appropriate separation distances for battery systems.

The facility should use the requirement from NFPA 101 to prepare a plan and protect its occupants from fire related hazards.

A.4.2.1.3 —

The following list of standards can be used for the applicable listing and labeling of batteries, based on their chemistry and intended use:

- (1) UL 1642, *Lithium Batteries*
- (2) UL 1973, *Batteries for Use in Stationary and Motive Auxiliary Power Applications*
- (3) UL 1989, *Valve-Regulated or Vented Batteries with Aqueous Electrolytes*
- (4) UL 2054, *Household and Commercial Batteries*
- (5) UL 2271, *Batteries for Use in Light Electric Vehicle (LEV) Applications*
- (6) UL 2580, *Batteries for Use in Electric Vehicles*
- (7) UL 60086-4, *Primary Batteries — Part 4: Safety of Lithium Batteries*

Other standards not listed here can also be used as applicable to the specific product category or scope of that standard.

A.4.2.2.2 —

Mitigation of fire spread and explosion should be addressed through emergency response planning. An example of formatting an emergency response plan is provided in Annex of NFPA 855.

A.4.3.1 —

For an example of what should be considered when developing an HMA see Section G.3 of NFPA 855.

A.4.3.2.1.2 —

When an incident, near miss, or abnormal event occurs that reveals deficiencies in hazard recognition or control, the HMA should be revalidated or revised as part of corrective action.

A.4.3.3 —

Some examples of major changes that a qualified professional should determine the need for an updated HMA are the following:

- (1) A new process, facility, or installation that introduces a new hazard or alters existing mitigation strategies
- (2) A series of small modifications that over time collectively increase the risk to existing mitigation strategies

A.4.7.2.1 —

The requirement to separate different battery chemistries is based on the varying chemical properties, fire behaviors, and failure mechanisms associated with each chemistry. Mixing incompatible chemistries in the same storage area increases the risk of dangerous interactions, particularly during a thermal event or mechanical failure.

Battery types such as lithium-ion (Li-ion), nickel-metal hydride (NiMH), nickel-cadmium (NiCd), lead-acid, and lithium-metal each have unique hazard profiles:

For example, lithium-ion batteries can undergo thermal runaway and emit flammable gases when damaged or overheated, lead-acid batteries can release hydrogen gas during charging, creating an explosion hazard in unventilated areas, nickel-cadmium batteries can release toxic cadmium-containing fumes during a fire, and lithium-metal batteries are highly reactive with water and air and present extreme fire risks if breached.

Battery chemistries should be segregated in one or more of the following ways:

- (1) Separate rooms or fire compartments with fire resistance rated barriers
- (2) Physically separated by distance, especially if stored outdoors or in open warehouses
- (3) Separated by noncombustible barriers or enclosures
- (4) Isolated with independent ventilation or off-gas handling systems

A.4.7.3.3 —

To identify the cell, batteries, or BPE stored inside the packaging, additional information should be provided on the label. Information that helps to identify these details should include the following:

- (1) Electrical rating (e.g., voltage, capacity, chemistry, watt-hour)
- (2) Battery condition (e.g., new battery, used battery, damaged battery, recycling battery)
- (3) Cell, battery, and BPE quantity

A.4.8.1.1 —

NFPA 1660 provides the fundamental criteria for all hazards preparedness, response, and resiliency program management; the fundamental criteria for mass evacuation, sheltering and re-entry program management; and a process for the development of pre-incident plans to assist personal with safe and effective incident management. When preparing an emergency plan to meet the objectives stated in Section 4.2, facilities should use cell, battery, and BPE related hazards (e.g., fire and explosion):

A.4.8.3.1 —

The selection of appropriate fire extinguishment agents should be based on an assessment of the battery chemistry and chemical compatibility of extinguishing agents (e.g., water, foam, Class D agents, and inert gases):

Post-fire management procedures should include removal of stranded energy, cooling protocols, and hazardous material containment.

A.5.1 —

This chapter establishes fire protection, explosion prevention, and safety requirements for facilities engaged in the manufacturing and assembly of battery cells, modules, and packs. These provisions address hazards associated with electrode manufacturing, cell assembly, electrolyte filling, formation cycling, battery storage, module/pack assembly, and final product shipment. The requirements in this chapter aim to mitigate risks related to fire, explosion, chemical exposure, electrical faults, and thermal runaway (for those chemistries where thermal runaway is possible):

R&D and testing can include areas where batteries are subjected to drop testing, crushing, vibration, thermal cycling, short circuiting, penetration, load cycling, moisture testing, and similar abusive or non-abusive conditions. Considerations for assessing if an activity should be considered R&D or testing could include determining if the products are listed and commercially available, as well as the overall nature and purpose of the facility (e.g., if the R&D or testing is ancillary to non-R&D and testing areas). The authority having jurisdiction has the final say on what qualifies as R&D or testing areas:

Refer to NFPA 855 for re-purposing requirements for stationary battery energy storage systems (BESS) and to UL 1974, *Evaluation for Repurposing or Remanufacturing Batteries*, for other applications:

A.5.2.1.1 —

Examples of available building codes are *NFPA 5000* and the *International Building Code (IBC)*. Local jurisdictions can adopt building codes in whole or in part and include modifications. Local jurisdictions can also have their own unique building code:

NFPA 101 also contains facility classifications. Under NFPA 101, battery manufacturing and assembly facilities would typically be classified as industrial:

The (IBC) classifies battery R&D facilities (or portions of facilities involved in battery research and testing) as Group B (business) occupancies and classifies battery manufacturing facilities as Group F1:

A.5.2.1.2 —

While NFPA 400 specifically excludes corrosive materials for stationary batteries, the classifications are still generally applicable. Another useful reference published by NFPA is the *Fire Protection Guide to Hazardous Materials*:

NFPA 400 does not adjust classifications for very high quantities of hazardous materials as some battery manufacturing facilities might. In these instances, the registered design professional (RDP) who is preparing the HMA should reference NFPA 318 and FM DS 1-56, *Cleanrooms*, in determining if a higher classification than recommended by NFPA 400 for a given facility or area within a facility is justified:

Annex B contains a description of the various types of batteries and chemistries, while Annex D contains the differing risks of these various types:

A.5.2.1.3.4 —

Items that can be considered as part of this evaluation include battery chemistry, assembly and manufacturing processes, and sizes and quantities of batteries. Consideration should be given to assigning research, development, and testing areas for lithium-ion or lithium-metal batteries as high hazard contents, given the rapidity at which cells might burn and their potential for explosion. A written analysis could conclude otherwise.

Hazard of contents applies specifically to NFPA 101 for facility classification.

A.5.2.2.2 —

Means of egress might require bridging over production lines, which could cause small areas of entrapment. These small entrapments are allowable if they are caused by the means of egress but should be avoided when possible.

A.5.2.3.1 —

The fire protection for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries is unique and not currently addressed in NFPA 13. The state-of-charge (SOC) for these batteries affects the intensity of the fire and the ability of reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte cells to propagate thermal runaway. A 30 percent SOC or less is considered to be the level at which propagation is much less likely, but still possible. The higher the SOC, the more reactive a battery is in a fire scenario. At a minimum, the fire severity and duration could be increased at higher SOC. The impact of SOC also varies for different cell chemistries and can even vary for different cells of the same chemistry. While research is ongoing, the design of an automatic fire sprinkler system for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery protection can require large quantities of water to provide the desired level of fire protection. For additional information see NFPA 13.

For reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery manufacturing, where thermal runaway is the prevailing hazard, FM DS 7-112 offers guidance on sprinkler system design.

For reactive metal chemistry or reactive ion chemistry battery manufacturing, the various operations can take place in one single manufacturing building that can house 5 to 10 clean room areas (e.g., cathode mixing, cathode coating, cathode roll press, anode mixing, anode coating, anode roll press). In such cases of multiple clean rooms when thermal runaway is not the prevailing hazard, NFPA 318 can provide useful guidance in sprinkler system design.

A.5.2.3.3.1 —

The minimum response times and backup requirements of *NFPA 72* might be too slow or short, respectively for certain areas of facilities involved in the production of reactive metal chemistry batteries or reactive ion chemistries with flammable liquid electrolyte. In these cases, the HMA can mandate fire alarm system requirements that go above and beyond the minimums set by *NFPA 72*.

A.5.2.3.3.2 —

Very early warning aspirating fire detection systems (VEWFD), thermal image fire detection, radiant energy detection, early off gas detection [possibly as part of a thermal runaway propagation protection (TRPP) system], or other technologies beyond standard smoke detection can be identified in the HMA for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery production and R&D facilities (or at least for certain portions of those facilities).

A.5.2.3.3.3 —

The HMA can determine that due to high lighting levels or excessive noise in certain areas of the facility, audible alarms beyond the noise levels required as a minimum in *NFPA 72* (but not exceeding the maximum allowable) are needed. *NFPA 72* also provides options for narrowband signaling which might be appropriate for high noise areas.

It should be expected that international jurisdictions might utilize other codes or regulations that are equivalent to *NFPA 72* for fire alarms.

A.5.2.3.4.1 —

There can be instances in which a lower fire resistance rating is sufficient based on an assessment that the battery chemistry or processes are less hazardous. The 2-hour rating is derived from lithium-ion-based technologies. For additional information, see Chapter 14 of NFPA 855.

A.5.2.4.3 —

HAZCOM and GHS training is typically generalized and covers substances. For battery manufacturing facilities, it would be prudent to also train employees on items like spill response and mitigation for the specifics of the battery technology involved. In addition, while NFPA 704 signage is primarily intended for the first responders, training facility personnel on the hazards represented by these signs and how to potentially aid first responders in understanding the facility can also be useful.

Larger production facilities might wish to have four personnel per shift trained in compliance with OSHA 29 CFR 1910.120, *Hazardous Waste Operations and Emergency Response (HAZWOPER)*, or an equivalent for the local jurisdiction. In the absence of on-site HAZWOPER trained personnel, the local fire department is usually trained in this or an international equivalent and can be called in emergencies.

A.5.2.4.4 —

Recommendations on battery spill containment systems can be found in IEEE 1578, *Recommended Practice for Stationary Battery Electrolyte Spill Containment and Management*, and UL 2436, *Outline of Investigation for Spill Containment for Stationary Acid and Alkaline Electrolyte Battery Systems*. NFPA 400 and NFPA 401 provide guidance on handling of hazardous waste/materials. In the United States, applicable governmental regulations include 40 CFR 262, "Standards Applicable to Generators of Hazardous Waste."

A.5.2.5.3 —

In addition to the basic requirements for emergency response plans in Chapter 4, Annex D contains additional guidance:

A.5.2.5.4 —

It is important to have thorough written documentation, as changes to procedures, processes, resources, staffing, and equipment can impact the HMA that is required by Section 4.3. The preparation of management of change procedures should include those involved in the process and operation of the facility, including maintenance, engineering, and purchasing personnel, and all others deemed necessary. ISO 45001, *Occupational health and safety management systems — Requirements with guidance for use*, provides guidance on MoC procedures.

The HMA (or at least the portion pertaining to manufacturing areas) for facilities involved in the production of reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries should be periodically reviewed every 3–5 years or whenever there is a change that causes a significant impact to facility operations, processes, etc.

A.5.2.5.4.2 —

While implementation of the MoC procedure is not required for replacements in kind, it is critical that only qualified personnel determine if the replacement is in kind. In kind replacements are generally considered functional equivalents to procedures, processes, resources, staffing, and equipment that has been previously approved through management of change and do not introduce any new hazards that have not yet been analyzed or change the level of hazard without going through the process again.

A.5.2.5.5 —

Annual evacuation training, which is typically required by fire codes, is especially important for facilities producing or dealing with reactive metal chemistry or reactive ions with flammable liquid electrolyte batteries.

A.5.2.6.1 —

Emergency or first responders to a fire could include an on-site fire brigade for larger facilities.

See Chapter 4 and Annex D for further guidance on emergency response.

A.5.2.6.1.1 —

NFPA standards are not enforced in all jurisdictions. For example, CSA Z462, *Workplace Electrical Safety*, and CSA C22.1, Canadian Electrical Code, or CEC, are the Canadian equivalents to NFPA 70 and NFPA 70E.

A.5.3 —

The Li-ion and Na-ion cell manufacturing process often involves the use of flammable or combustible solvents and combustible dusts in the preparation of anode and cathode slurries. This process involves mixing active materials, coating electrodes, and drying solvents to create cell anodes and cathodes. Flammable solvents, including N-Methyl-2-Pyrrolidone (NMP), are commonly used in electrode coatings, requiring controlled handling. Combustible dusts can include carbon black, graphite, and cellulose among others. Care should be taken to identify all flammable liquids, combustible liquids, and combustible dusts.

All solid-state batteries (ASSB or SSB) eliminate flammable liquid electrolytes, but can introduce other fire hazards (e.g., high-temperature sintering, reactive powders, reactive metal plates, etc.).

Semi solid-state batteries (SSSB) have a reactive ion chemistry where most of the flammable organic solvent liquid electrolyte has been replaced with a solid ceramic/glass or polymer, but a small amount of flammable liquid electrolyte is added to improve high-rate performance/conductivity.

A.5.3.3.1.2 —

Plant personnel who are trained to do so can fight incipient stage fires manually. However, for larger fires involving reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte, decisions on whether to initiate any manual firefighting should be left to professional firefighters (either from the local fire department or on-site firefighters in some larger facilities):

Note that the size of an incipient stage fire involving a reactive metal or reactive ion chemistry with flammable liquid electrolyte can be smaller than an incipient stage fire involving fuels that are easier to extinguish by denying them external oxygen.

See Chapter 4 and Annex D for more information on emergency response planning.

A.5.3.3.1.3 —

Aqueous electrolyte secondary battery manufacturing facilities are usually classified as at least OH2. Testing to-date has shown that water is the most effective cooling agent for fires involving reactive metal and reactive ion chemistry batteries:

A.5.3.3.2.2 —

Guidance on addressing static electricity can be found in NFPA 77. Additional guidance for dealing with static electricity where flammable and combustible liquids are involved can be found in NFPA 30, while additional guidance on dealing with static electricity where combustible dusts are involved can be found in NFPA 660.

A.5.3.4.2 —

The cell assembly process includes stacking electrodes, welding tabs, and sealing battery casings. The process requires automated robotic assembly, spot welding, and heat sealing of battery components.

Guidance for safety concerns for these machines can be found in NFPA 70E ; 29 CFR Part 1910.147, "Hazardous Waste Operations and Emergency Response"; and ANSI/ASSP Z244.1, *The Control of Hazardous Energy — Lockout, Tagout, and Alternative Methods* :

A.5.3.4.2.2.1 —

For additional information see *NFPA 70 ; ANSI/TIA-607, Generic Telecommunications Bonding and Grounding (Earthing) for Customer Premises ; MIL-STD-464C, Electromagnetic Environmental Effects Requirements for Systems ; MIL-HDBK-2036, General Guidelines for Electronic Equipment ; and MIL-B-5087B, Bonding, Electrical, and Lighting Protection for Aerospace Systems* :

A.5.3.4.3 —

Electrolyte filling involves injecting liquid electrolytes into cells under controlled conditions. Electrolytes can be flammable, and spills or vapors pose a fire and explosion hazard.

A.5.3.4.3.1 —

NFPA 70 equivalent zoning classifications can be considered in lieu of the class and division system.

The classifications for electrical installations in chemical process areas where flammable liquids, gases or vapors are involved are found in NFPA 497.

A.5.3.4.3.4 —

Cells filled with electrolyte are considered closed even when temporarily capped.

Per NFPA 400, this means that these capped/closed cells do not count toward maximum allowable quantities of unclosed cells:

A.5.3.4.4 —

Formation cycling is the initial charge-discharge process used to activate battery chemistry. This process generates significant heat, increasing the risk of thermal runaway.

For most Li-ion chemistries, this process develops and exercises the solid electrolyte interphase (SEI) layer within cells for the first time and represents the highest hazard in the manufacturing process of these cells since defects are usually realized at this point.

A.5.3.4.4.1 —

Fire suppression is a generic term referring to any type of system that suppresses or limits fire spread. Note that thermal runaway of reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries can be minimized through proper design, charging and safety controls, but the possibility of a cell thermal runaway cannot be completely eliminated. However, fire suppression systems can potentially be effective in limiting cell-to-cell and module-to-module thermal runaway propagation.

During formation and cycling, the cells might not have yet been assembled into modules, or if already in modules or packs, they might not have the BMS controls installed yet. In these cases, safety is enhanced if the charge-discharge units used have built-in monitoring for voltage, current, and temperature.

The “Extra Hazard (Group 2) (EH2)” classification in NFPA 13 can be used for the ceiling sprinkler density. Ceiling sprinkler densities that differ from the recommendations of FM DS 7-112 can refer to A.5.4.2.2 for further guidance. In-rack sprinkler systems for reactive metal chemistry and reactive ion chemistry with flammable electrolyte batteries should be as close as possible to the batteries. FM DS 7-112 also gives guidance for in-rack sprinklers in open-frame racks (Figure 2.4.2.2.1-1 for single row rack and Figure 2.4.2.2.1-2 for double row rack) and bin-box or enclosed chamber arrangements. The minimum design for reactive metal chemistry and reactive ion chemistry with flammable liquid electrolyte battery production and R&D facilities is usually going to be the aforementioned EH2 classification, but the facility or portions thereof might be classified for even more protection depending on the recommendations of the HMA.

A.5.3.4.4.2 —

The HMA might stipulate additional detection and protection measures, such as thermal fire detectors, radiant energy detection, off-gas detection, air-sampling smoke detection, clean-agent suppression, etc.

Battery manufacturing lines can be classified into risk tiers based on material throughput, state-of-charge (SOC), and chemistry. The higher the energy processed, the more stringent the containment, detection, and ventilation measures required. The HMA can provide various fire control strategies for varying levels of fire risk in a given facility or area of a facility.

A.5.3.4.4.4 —

FM DS 7-112 provides guidance on in-rack sprinkler protection systems if the HMA recommends them. Depending on the type of formation equipment, in-rack sprinkler protection systems might not be advisable or useful.

The treatment recommended for the formation area will probably be different than what is recommended by the HMA for the aging area.

A.5.3.4.4.4.1 —

The HMA might stipulate additional protection measures such as clean agent systems to provide TRPP based on cell/module testing.

A.5.3.4.4.4.4 —

FM-DS 1-56; FM-DS 3-26, *Fire Protection for Nonstorage Occupancies*; FM-DS 7-14, *Fire Protection for Chemical Plants*; FM-DS 7-112; and FM-DS 8-1, *Commodity Classification*, provide guidance on fire protection for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery production in clean rooms. The HMA, done by an RDP, can take these documents into account.

For all process areas (electrode manufacturing, cell assembly, cell finishing, and module assembly), wet pipe ceiling level protection below 30 ft (9 m), designed per the Extra Hazard Group 1 classification in NFPA 13, should provide adequate fire protection similar to FM's HC-3 classification. However, this is not the case for ceilings higher than 30 ft. For ceilings higher than 30 ft (9 m), NFPA proposes a wet system with a minimum density of 0.45 gpm (1.7 lpm), independent of the application surface; while FM proposes an HC-3 dry pipe system with densities from 0.3 to 0.5 gpm (1.1 to 1.9 lpm), dependent on the application surface. HC-3 is defined in FM-DS 3-26 as predominant occupancy involving areas with generally continuous heavier combustibles loading with limited quantities of ignitable liquids and/or heavier amounts of plastic (e.g., plastic manufacturing, vehicle manufacturing and assembly, and printing plants).

Automatic sprinklers or FM approved water-mist should be installed in the following areas:

- (1) Under obstructions or mezzanines that exceed 3 ft (0.9 m) in width or diameter or have a total floor space greater than 10 ft² (0.9 m²);
- (2) Inside enclosed equipment, such as ovens, hoods or test enclosures made of combustible material, or within obstructed areas containing combustibles;
- (3) Inside enclosures around production equipment if the ceiling protection is not designed for HC-3 occupancies or if higher-hazard processes take place inside, such as electrolyte filling, cell charging/discharging, etc.

Minimum water supply requirements are typically covered by the adopted fire and/or building code but should be considered in the HMA, if not covered by the local codes.

A.5.3.4.4.4.5 —

This aligns with the recommendations of FM-DS 7-14.

A.5.3.4.4.4.6 —

While water of any kind will work as a heat sink, water up to 3 percent salinity or with the addition of approximately 2 lb (1 kg) of sodium bicarbonate for every 3 gal (13 L) of water acts to discharge the stranded energy. Water with higher salinity or higher concentrations of sodium bicarbonate might discharge the battery too quickly, resulting in more heat than the water "bath" can dissipate, and possibly excess production of combustible, asphyxiating, or toxic gases. One advantage of sodium bicarbonate over saline solutions is that the sodium bicarbonate mixture does not corrode the battery as much. If the terminals of the cell are still accessible and the BMS still allows the stranded energy to be discharged, placement in a saline water tank might not be necessary.

When an ASRS exists, emergency response plans (see Chapter 4 and Annex D) should consider the potential need to dismantle the ASRS to get at the seat of a fire.

FM-DS 7-112 offers guidance for storage arrangement passive protection and water-based fire protection depending on the SOG.

A.5.3.4.6 —

Requirements for handling returned battery packs can include the following:

- (1) Storage and segregation: store separately from new/non-defective batteries and personnel areas; applying equivalent fire protection and monitoring measures as what is used for defective/suspect packs
- (2) Identification and tracking: clearly label and document as "returned" or "field pack" with traceable identifiers
- (3) Inspection and testing: conduct a visual inspection and appropriate electrical/thermal characterization prior to reuse, repair, or recycling
- (4) Disassembly: only perform disassembly by trained personnel, and in designated areas with appropriate safety controls
- (5) Disposition: follow defined pathways for repair, repurpose, or end-of-life management, consistent with applicable standards and regulations

A.5.4.1 —

Incidental storage as defined here would be considered miscellaneous storage per NFPA 13.

A.5.4.1.2 —

Guidance for lithium-ion battery manufacturing and storage is provided in FM-DS 7-112. That document generally requires an occupancy classification for these types of facilities/areas of HC-3, which is roughly equivalent to an NFPA 13 hazard classification EH Group 1 (EH1) for sprinkler design when ceilings are less than 30 ft (9 m) in height and a wet pipe sprinkler is used. For ceiling heights greater than 30 ft (9 m) in FM-DS 7-112 for cells/modules/batteries stored in metal or cardboard containers, or for those stored in uncartoned, unexpanded plastic (UUP) containers.

FM-DS 7-112 also recommends that the automatic sprinkler design criteria for incidental storage of cells, modules, or batteries in metal or cardboard boxes be based on the surrounding occupancy for that storage area. FM-DS 7-112 provides more guidance for special hazards and specific process steps. FM-DS 3-26 recommends that sprinkler protection design for these metal and cardboard box incidental storages be HC-3.

FM-DS 7-112 also provides recommendations for fire protection for low-piled storage of cells/modules/batteries in UUP containers.

See A.5.3.4.4.3 for additional guidance on fire protection for incidental storage in various production, formation, and aging areas.

A.5.4.1.3 —

The HMA should provide specifics on the types of systems (wet pipe, dry pipe, double pre-action, flow rates, coverage, etc.) used in different areas of the facility.

A.5.6.2 —

IEEE/ASHRAE 1635, *Guide for the Ventilation and Thermal Management of Batteries for Stationary Applications*, provides calculations for combustible gas production and ventilation systems for all common chemistries of lead-acid, Ni-Cd, and Li-ion during various normal operating modes and during abnormal conditions.

Exact quantities of combustible gases produced by Li-ion and lithium-metal batteries in thermal runaway vary by chemistry, cell sizes, and the amount of propagation. However, average calculations for LFP, NCA, NMC, LMO, and LCO can be found in IEEE/ASHRAE 1635.

Hydrogen is the primary combustible gas produced by lithium-based and Na-ion chemistries in thermal runaway, followed by methane, and then various other hydrocarbons. A generic combustible gas sensor will sense all or most of these, but a hydrogen detecting sensor alone is sufficient because hydrogen is produced in larger quantities than the other combustibles.

Because Li-ion batteries in thermal runaway give off significant amounts of carbon monoxide, carbon monoxide sensing alone (without combustible sensors) might be sufficient for areas where Li-ion thermal runaway is the primary concern. This is because carbon monoxide sensors last longer and require less calibration than most common combustible/hydrogen sensors. Some hydrogen/combustible sensing technologies have average lifetimes as short as 2–5 years with calibration intervals ranging from every 1 to 3 months. However, there are more expensive hydrogen/combustible gas sensing technologies commercially available that can last a long time (10 to 20 years in some cases) and require infrequent (such as annual) to no calibration over their expected lifetimes.

A.5.6.2.1 —

Lithium-ion electrolytes such as dimethyl carbonate (DMC), ethylene carbonate (EC), and ethyl methyl carbonate (EMC) can produce flammable vapors at temperatures above 140°F (60°C). Real-world testing shows that gas concentrations can exceed 10,000 ppm during thermal runaway, with CO among the dominant byproducts. Facilities with high throughput can require explosion-rated exhaust fans triggered at 25 percent of the lower flammability limit (LFL).

While explosion might be a bigger concern than fire, the lower explosive limits (LEL) of various combustible gases are less well-defined than the lower flammability limits (which occur at lower concentrations than the LEL). Thus, in keeping with many other NFPA documents, this standard relies on LFL sensing targets rather than LEL.

Deflagration venting should follow sizing criteria in NFPA 68, based on enclosure volume, maximum pressure rise, and vent panel characteristics. Many lithium-ion electrolyte vapors (e.g., dimethyl carbonate) are flammable at concentrations as low as 3–5 percent.

A.5.6.3 —

NFPA 45, NFPA 91, and NFPA 318 all provide useful guidance on ventilation and exhaust systems for manufacturing and laboratory facilities.

A.5.6.3.1 —

Calculations for gassing rates can be performed using battery manufacturer-provided data or tools, or from the formulas in IEEE/ASHRAE 1635.

A.5.6.3.1.3 —

This requirement is aligned with 503.2 of the *International Mechanical Code* :

A.5.6.3.2 —

The 150 percent of the “standard” ventilation rate for emergency ventilation comes from FM DS 7-112 and reflects the need to rapidly evacuate accumulated flammable gases such as hydrogen or ethylene carbonate vapor. These gases can reach explosive concentrations at low ppm and can be difficult to detect without multi-gas analyzers calibrated to IEC 60079-29-1, *Explosive atmospheres — Part 29-1: Gas detectors — Performance requirements of detectors for flammable gases* :

As an alternative to the 150 percent rate for emergency ventilation, ISO 14644-1, *Classification of air cleanliness by particle concentration — Part 1* , defines typical clean room ventilation rates (which could apply to reactive metal chemistry and reactive ion chemistry battery types manufactured in clean rooms). Class 6 clean rooms have a very high ventilation rate, typically in the range of 80–240 air changes per hour (ach).

Manual activation in combination with an automatic activation via gas detection is allowable, provided that the operator is not exposed to any risk in performing this action.

A.5.6.4.1 —

While there are several toxic gases of concern produced from Li-ion thermal runaway, the first one to reach IDLH will be carbon monoxide (see IEEE/ASHRAE 1635):

The most common gases generated from electrolytes during the first cycling in Li-ion battery production are H_2 (hydrogen), C_2H_4 (ethylene), CO (carbon monoxide), CH_4 (methane), C_2H_6 (ethane), and CO_2 (carbon dioxide). In the case of some pouch cell production, these gases are purposely vented after the first cycle. These gases should be evaluated for potential hazards. See 5.3.4.5.2 and 5.6.4 for further information on ventilation and gas detection:

A.5.6.4.3 —

While the potential quantities of HF are small and likely to react immediately with any nearby surface (or be consumed by fire in the case of a thermal runaway), the possible presence of manufacturing workers nearby might warrant consideration for monitoring/detection:

A.5.6.4.4 —

Alarm thresholds of 25 percent of the lower flammability limit (LFL) provide conservative warnings before gas concentrations become flammable. For hydrogen, a 25 percent threshold corresponds to 1 percent volume (10,000 ppm):

Setting gas alarm trip points at 25 percent of the LFL can help with early detection. Due to incomplete mixing of gases inside enclosures and areas, there can exist pockets of gas concentrations that exceed 100 percent LFL while others are below.

Sensing at ppm levels (micro-level sensing) well below 25 percent of the LFL can be implemented in some cases to activate a TRPP system, or for other reasons. Setting a pre-action alarm of 10 percent of LFL is advisable for high-risk areas.

A.5.6.4.5 —

Combustible gas detectors can be listed to UL 2075, *Gas and Vapor Detectors and Sensors* , or have approval per FM Approvals 6320, *Combustible Gas Detectors* . Toxic gas detectors might also be listed to UL 2075 or IEC 62990-2, *Workplace atmospheres — Part 2: Gas detectors — Selection, installation, use and maintenance of detectors for toxic gases and vapours* , or have toxic gas detector approval per FM Approvals 6340, *Examination Standard for Toxic Gas and Oxygen-Depletion Detectors* :

A.5.7.1.1 —

Note that NFPA standards are not enforced in all jurisdictions. For example, the Canadian equivalent to NFPA 1660 is CSA Z1600, *Emergency and Continuity Management Program* :

The ERP is most important for facilities involved in the manufacture, handling, and testing of reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries:

A.5.7.1.1.1 —

EV manufacturers commonly produce emergency response plans available to their own employees and third-party contractors, including disassemblers. Some of these are also available on the automobile manufacturer's websites.

These EV supplier/contractor ERPs cover things like occupational safety, electrical safety, chemical safety, HAZGOM, coolant safety, thermal risks, fire and explosion risks, environmental management, dangerous goods transportation, and basic facility requirements.

EV manufacturers also produce emergency response guides (ERG) and rescue sheets available to the public but intended primarily for firefighters. Formerly, these were available through the NFPA website but are now available through the United States' National Highway Transportation Safety Administration (NHTSA) website ([nhtsa.gov/erg](https://www.nhtsa.gov/erg)). For example, this could point to OEM's website for first responders, recyclers, and battery dismantlers.

There is also a supplier partnership for the environment, which has guidance for EV battery handling and safe storage.

A.5.7.1.1.2 —

Annex D contains additional content on emergency response plans besides the basics covered in Section 4.8 :

A.6.1 —

This chapter establishes requirements for the safe storage of batteries and battery-integrated equipment, including new, used, damaged, defective, and end-of-life batteries. It applies to indoor and outdoor storage, warehouse and retail environments, bulk storage facilities, and storage areas within manufacturing plants. Fire safety, explosion prevention, and electrical safety measures are outlined to mitigate the risks of thermal runaway, fire, explosion, off-gassing, and electrical hazards.

A.6.1.6 —

The ability of a reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte cell thermal runaway to propagate, and the intensity of the fire, is affected by the state-of-charge (SOC) for these batteries, with 30 percent SOC or less considered to be the level at which propagation is much less likely, though still possible. The higher the state of charge, the more reactive a battery is in a fire scenario.

A.6.2.1.3 —

High hazards are defined in NFPA 400 and should not be confused with the levels in NFPA 704.

A.6.2.1.3.1 —

Batteries can contribute to or be affected by incidents involving high-hazard contents such as flammable gases, oxidizers, or explosive materials. Physical separation by noncombustible construction or by clear distance reduces the potential for fire spread or combined hazard effects. Performance-based alternatives might be appropriate where the hazard mitigation analysis demonstrates equivalent protection. Because reactive metal chemistries can penetrate steel during a thermal runaway, physical spacing or a non-reactive liner should be considered where steel is utilized as a storage partition.

Placement and separation from other combustible materials that are not considered high hazard such as plastics or tires should be considered in the hazard mitigation analysis. A minimum horizontal separation distance of 10 ft (3 m) is recommended to be maintained free of other stored combustible material. See FM DS 5-33, *Lithium-Ion Battery Energy Storage Systems*, for guidance on construction and spacing.

A.6.2.1.4 —

Some jurisdictions could require containers for storage of lithium batteries to be listed for the purpose. UL 1487, *Battery Containment Enclosures*, is a product standard for battery containment enclosures that addresses safety performance through both construction and testing requirements.

A.6.2.1.4.4 —

Sealed containers used for the storage of lithium-ion and lithium metal batteries can present a hazard if gases generated during thermal runaway are allowed to accumulate and are unable to self-relieve. Under such conditions, the gases could ignite and violently rupture the container, potentially resulting in the ejection of hazardous shrapnel or debris capable of causing serious injury to nearby personnel.

One method of mitigating this hazard is to design the container so that it is not airtight. For example, metal drums can be fitted with specialty pressure relief bungs. An even simpler approach is to cover one of the openings with a flexible tape or other frangible material that allows accumulated gases to vent while still offering a degree of closure. While this approach might not prevent a partial-volume deflagration inside the container, it reduces the likelihood of catastrophic container failure and acceleration of hazardous debris.

Containers used for the storage of batteries should ensure the containers or packaging are not capable of becoming pressurized from the mere off-gassing of batteries. This consideration currently does not apply to the packaging of new batteries for transportation, but similar venting provisions are often required in DOT special permits for containers used to ship damaged, defective, or recalled batteries.

A.6.2.1.5 —

Manufacturers or importers are responsible for classifying batteries under the hazard communication standard (HCS), 29 CFR 1910.1200, with respect to physical and health hazards. As clarified by OSHA's 2021 interpretation, lithium-ion batteries might not always qualify as "articles" under HCS; when they do not meet the "article" exemption, SDSs, labeling, and worker training are required.

Maintaining SDSs ensures that facility personnel and first responders have access to information needed for safe handling, storage, spill response, or emergency conditions involving batteries.

A.6.2.1.6 —

Classifying battery storage areas as storage occupancies establishes a baseline for applying the appropriate fire protection and life safety provisions of NFPA 1. Depending on the type, condition, and configuration of batteries stored, the AHJ could apply additional provisions of NFPA 1 or other NFPA codes and standards. This classification does not preclude alternative or more restrictive classifications where conditions warrant.

A.6.2.2.1 —

In accordance with storage, the HMA should address all of the following:

- (1) Detection of thermal events and fire conditions, including the type and placement of detection technologies
- (2) Fire protection features provided for areas where batteries are stored and the means by which fires will be suppressed
- (3) Availability of water supply and adequacy of fire department access
- (4) Potential for deflagration resulting from the release of flammable gases during thermal runaway events
- (5) Potential for projectile hazards
- (6) Anticipated temperature exposures and their effect on battery stability
- (7) Anticipated weather conditions, including extremes of heat and cold
- (8) Potential for hazardous releases of solid, gas, or liquids
- (9) Storage configuration and any reduction in the effectiveness of fire suppression systems due to racking, spacing, or other arrangements
- (10) Clearances
- (11) Means of egress

Additional provisions of NFPA 1 for egress and *NFPA 70* for workspace clearance and standards can apply to battery storage areas.

Annex B and Annex C provide hazards to consider for the chemistries and technologies present in the facility under review.

Battery storage presents unique hazards that require a structured and thorough evaluation. When batteries fail, they can enter thermal runaway (lithium-ion), could release flammable gases (lithium-ion, lead-acid), and can generate toxic off-gas products (Nickel cadmium, Nickel metal hydride, lithium-ion, lithium metal, lead acid) and in some cases can produce deflagration or projectile hazards. These risks are compounded by environmental factors such as elevated or extreme cold temperatures, which can destabilize battery performance and increase the likelihood of an incident. The way batteries are arranged in storage — particularly in dense racking systems — can reduce the effectiveness of fire suppression systems and delay activation of detection technologies. Reliable access to water supply and fire department intervention is also critical in controlling large-scale battery fires, which can be prolonged and difficult to extinguish. Because these hazards are dependent largely on the chemistry and the arrangement and can be highly situational, the HMA is necessary to systematically evaluate detection methods, suppression strategies, site access, and storage design, ensuring that risks are understood and mitigated before incidents occur.

Lithium-ion and lithium metal batteries can vent flammable gases and undergo thermal runaway when exposed to elevated temperatures, often above 140°F (60°C). These conditions should be avoided. Manufacturer specifications can be consulted when establishing acceptable storage temperature ranges. Cold temperatures can also reduce battery performance and might warrant evaluation as part of the analysis.

Special attention should be given to the design of racking systems, as storage configuration can influence detection sensitivity and the time required for suppression systems to activate. Improper racking or spacing could delay detection and suppression system effectiveness and increase the severity of an incident.

A.6.2.3 —

The selection of fire detection technology should be based on the characteristics of the storage environment, including the size and geometry of the space, the type of battery technology, and the fire scenarios anticipated in the hazard mitigation analysis.

Smoke detection systems, including air sampling detectors, are generally effective in smaller enclosures or spaces with limited ceiling height, where smoke can accumulate and reach detection elements quickly. These systems can provide early warning but could be challenged in larger open spaces or where smoke stratification delays detector activation.

Radiant energy detection systems (e.g., flame detectors using ultraviolet, infrared, or combination sensors) can provide rapid response to open flaming conditions and are often suited for large-volume spaces where smoke dilution could delay smoke detector response. However, their field of view and potential susceptibility to false alarms should be considered in system design.

Thermal imaging-based fire detection can be effective in both confined and large spaces, as it monitors abnormal heating at the battery module or rack level. These systems can provide earlier identification of localized thermal anomalies before the development of visible flames or smoke.

The relative value of each detection method depends on the size and layout of the storage area. For example, smaller rooms could benefit from smoke detection alone, while large warehouses or high-bay storage areas could require layered detection approaches combining thermal imaging or radiant energy detection with smoke detection to achieve reliable and timely response.

A.6.2.3.1.1 —

The fire protection for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte batteries is unique and not currently addressed in NFPA 13. While research is ongoing, the design of an automatic fire sprinkler system for reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery protection could require large quantities of water to provide the desired level of fire protection. For additional information, see A.20.4 in NFPA 13. For reactive metal chemistry or reactive ion chemistry with flammable liquid electrolyte battery manufacturing, where thermal runaway is the prevailing hazard, FM DS 7-112 offers guidance on sprinkler system design.

A.6.2.4.1 —

The intent of the container size and spacing limits is to restrict the total quantity of used or damaged batteries collected in one location, thereby limiting the potential fire load and the severity of a thermal runaway event. The 7.5 ft³ (0.21 m³) maximum for individual containers and the 15 ft³ (0.42 m³) aggregate limit are intended to keep incidents manageable until emergency response arrives. Maintaining a minimum 3-ft (0.9 m) clearance between containers and from combustible materials reduces the likelihood of fire propagation, while separation from exits ensures that a localized event does not compromise the primary means of egress.

Collection containers can see a variety of battery chemistries with a variety of abnormal conditions, including batteries that have short-circuited, have sustained impact damage, or have had internal failure of components. In such cases, a battery (lithium-ion) can enter thermal runaway, releasing heat, smoke, and flammable gases. Where this occurs inside a container, early recognition is vital. Containers that are not integrated into a building's detection system could not be sensed by general smoke or heat detection, especially if the container contains multiple compartments, or has shielding effects, or if gas and smoke generation occurs at a low level.

Requirement 5 emphasizes the need for occupant notification when thermal runaway occurs in collection containers. This can be achieved either through the building's existing detection and alarm system (installed in accordance with *NFPA 72*) or through supplemental measures integrated into the containers themselves. Examples include collection devices with built-in thermal or gas detection, local alarms that activate at the container, or specialized detectors interfaced with the building system. The goal is to ensure that occupants are promptly warned, and evacuation or emergency procedures can begin before conditions escalate.

A.6.3.2.2 —

Where batteries are intended for repurposing or reuse, structured screening and evaluation can be used to determine whether they can be reclassified as low risk in accordance with 6.3.2. *UL 1974* provides a framework for developing these screening and evaluation criteria. Applying *UL 1974* helps ensure that batteries accepted for reuse or second-life applications have been evaluated for safety performance, degradation, and potential failure modes.

A.6.3.3.1 —

Manufacturing defects increase the risk of thermal runaway or spontaneous failure. Conditions such as swelling, leakage, or mechanical damage are indications of a high-risk classification. Batteries exposed to mechanical, electrical, or thermal damage, or external fluid intrusion should be suspected to be damaged.

A.6.3.3.3(1) —

Used batteries collected from the public or employees should be considered high risk because their prior use, state of charge, and condition are often unknown. These batteries could have been subjected to abuse, over-discharge, overcharge, extreme environmental conditions, or hidden defects that are not visible at the time of collection. Treating such batteries as high risk ensures they are stored under the safeguards of 6.3.3 until further evaluation can be performed, if it is performed. Most of the batteries in this category should be recycled or disposed of and are unlikely to have beneficial second-life use options.

A.6.3.3.3(2) —

Until such an evaluation has been completed, all used batteries should be managed as high risk. This approach reflects practices in public collection and recycling programs, where uncertainty in condition and chemistry creates elevated risk compared to batteries from controlled supply-chain environments.

A.6.3.6.2 —

Labeling with terms such as used, universal waste, hazardous waste, damaged, defective, or recalled are recommended for clear and proper identification.

A.6.3.6.3 —

Separation between different battery chemistries should also be considered. Methods include providing a minimum 10 ft (3-m) separation clear of combustibles or separating combustibles with fire-rated partitions.

A.6.3.6.4 —

Additional requirements and information can be found in the following standards and datasheets. For piled storage including high-piled and sold-piled storage, see NFPA 101 or NFPA 13, as well as FM DS 117-2. For rack storage, see FM DS 8-1 and FM DS 117-2.

A.6.6 —

See Annex D, which provides information and considerations for emergency responders tasked with addressing hazards associated with a battery/battery cell fire and/or failure.

A.6.9.1 —

Examples of vehicles powered by electric drive or hybrid systems include the following:

- (1) Electric vehicles (EVs)
- (2) Plug-in hybrid electric vehicles (PHEVs)
- (3) Hybrid electric vehicles (HEVs)
- (4) Battery-powered industrial and recreational vehicles (e.g., forklifts, automated guided vehicles, golf carts, pleasure craft)
- (5) Battery-powered mobility devices (e.g., e-bikes, e-scooters)

A.6.9.1.1(3) —

Examples of AMRs and piloted robots include drones, unmanned aerial vehicles (UAVs), unmanned ground vehicles (UGVs), and automated guided vehicles (AGVs).

A.6.9.2.2(3) —

Examples of status include normal, damaged, and recall hold.

A.6.9.3.2.2(3) —

Storage areas shall be secured against unauthorized entry. Routine monitoring can include, but is not limited to, remote video monitoring or in-person observations.

A.6.9.3.3.1(2) —

Fire-resistant ground pads such as asphalt or concrete can be used.

A.6.9.4.2.2(3) —

Storage areas should be secured against unauthorized entry. Routine monitoring can include, but is not limited to, remote video monitoring or in-person observations.

A.6.9.4.3.1(2) —

Fire-resistant ground pads such as asphalt or concrete can be used.

A.6.9.5.2.2(3) —

Storage areas shall be secured against unauthorized entry. Routine monitoring can include, but is not limited to, remote video monitoring or in-person observations.

A.6.9.5.4.1(2) —

Fire-resistant ground pads such as asphalt or concrete can be used.

A.8.1 —

Examples of battery powered equipment (BPE) being used include the following:

- (1) Installing or removing batteries from intended equipment
- (2) Charging outside of intended equipment
- (3) Charging while inside of intended equipment
- (4) Discharging in intended equipment
- (5) Staging of the intended equipment while not in use.

This chapter establishes detailed fire protection, explosion prevention, electrical safety, ventilation, environmental, and emergency response requirements for the infrastructure, exhaust installation, and operational management of battery-powered equipment. The provisions align with *NFPA 70* and *NFPA 70E*; the *International Fire Code (IFC)*; *IEEE 1547, Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces*; and product safety standards or applicable safety standards to mitigate risks related to thermal runaway, explosion hazards, fire propagation, electrical shock, and hazardous gas accumulation.

Battery powered equipment can include, forklifts, buses, operational vehicles, robots, medical equipment; other typical uses are listed up 8.2.1.3 :

While the section is meant to cover all types of electrochemical chemistries, currently, it addresses only lithium ion, as it has a higher risk profile and the use of other chemistries in equipment is limited at this time.

The requirements of battery energy storage system (BESS) installations and operational management are defined in *NFPA 855* and not addressed in this section.

A.8.2.1 —

Threshold quantities and maximum allow quantities (MAQs) should comply with Table A.8.2.1 :

Threshold quantities are those levels of energy above which the code is applicable. MAQs are the action levels that require additional protective measures or evaluation when an aggregation of the BPE exceeds these levels. The MAQs are defined as the name plate ratings of the devices, as the assumption is that BPE is at 100 percent state of charge.

Some examples of ranges of BPE devices include the following:

A typical 4 Ah tool battery would be 72 Wh. Therefore, the threshold limit of 2 kWh would cover about 28 batteries.

E-bikes are 250 to 750 Wh, or about 3 bikes on the high end with a MAQ of 40 kWh.

EVs can be between 60–100kWh, so a MAQ of 600 kWh would allow about 6 EVs in a charging or staging area.

NFPA building and life safety codes (e.g., *NFPA 101*) classify occupancies based on how a building or space is used. These occupancy classifications are the foundation for determining fire protection, egress, and construction requirements.

Multiple staging and charging areas can be used with appropriate separation to limit the risk and the requirements of an hazard mitigation analysis (HMA). Fire resistance-rated barriers can also provide effective mitigation strategies. The charging and staging areas being moved outside is one of the most effective mitigation measures.

Table A.8.2.1 Occupancy Ratings ^a Applicable to Staging and Charging Areas of BPE

Occupancy Class ^{a,c,d}	Applicable Threshold MAQ ^b	Other Notes
Assembly	8 kWh 40 kWh	Assembly —
Transportation	8 kWh 40 kWh	— Bus depots, trains, air terminals
Educational	8 kWh 40 kWh	—
Day-Care	1 kWh 20 kWh	—
Health Care	2 kWh 20 kWh	—
Ambulatory Health Care	2 kWh 20 kWh	—
Detention and Correctional	8 kWh 40 kWh	Only allowed outside with adequate separation and outside of confinement areas
Residential	—	One- and two-family dwellings Not allowed - Owner and single use per section 8.2.2.18
Residential	2 kWh 30 kWh	— Lodging or rooming houses
Residential	2 kWh 30 kWh	— Hotels
Residential	2 kWh 30 kWh	— Apartment buildings
Mercantile	5 kWh 300 kWh	— general
Mercantile	5 kWh 300 kWh	— (retail) — EV charging station
Business	5 kWh 300 kWh	— (office) — General
Business	5 kWh 300 kWh	— IT/telecom
Business	20 kWh 50 kWh	—
Industrial	20 kWh 600 kWh	— General
Industrial	20 kWh 600 kWh	— Motor vehicle service and repair
Storage	20 kWh 600 kWh	— Warehouses
Storage	20 kWh 600 kWh	— Parking garages — Enclosed
Storage	20 kWh 600 kWh	— Parking garages — Open
Manufacturing	20 kWh 600 kWh	— Other

Mission-Critical Infrastructure 20 kWh 600 kWh - **Outdoor Locations** 20 kWh 1000 kWh - **High Rise Below 75 ft (22.9 m)** 2 kWh 300 kWh - **High Rise Above 75 ft (22.9 m)** 2 kWh 20 kWh - **Special Structures** —Tunnels

Reserved

-- **Special Structures** —Piers Reserved -- **Special Structures** —Tents Reserved -- **Special Structures** —Aircraft hangars Reserved -- **Special Structures** —Barns Reserved --

Notes:

- a. If an occupancy is not included, then an HMA is required.
- c. Mixed use occupancies should meet the most stringent use.
- d. Occupancy should be classified in accordance with NFPA 101.

A.8.2.1.2(11) — 

Examples of AMRs and piloted robots include drones, UAVs, UGVs, and AGVs.

A.9.2.1.3 —

The following is a list of available standards that can be used to provide listings for batteries and battery-operated products:

Mobility/Transportation Applications:

~~UL 583, Electric-Battery-Powered Industrial Trucks [& Commercial Floor Cleaners]~~

~~UL 2271, Batteries for Use in Light Electric Vehicle (LEV) Applications~~

~~UL 2272, Electrical Systems for Personal E-Mobility Devices~~

~~UL 2580, Batteries for Use in Electric Vehicles~~

~~UL 2849, Electrical Systems for eBikes~~

~~UL 2850, Outline of Investigation for Vehicle Systems of Electric Scooters and Motorcycles~~

~~UL 3030, Unmanned Aircraft Systems~~

~~UL 3100, Automated Mobile Platforms (AMPs)~~

~~UL 3300, Service, Communication, Information, Education and Entertainment Robots — SCIEE Robots~~

~~UL 5840, Electrical Systems of Battery-Powered Aviation Ground Support Equipment~~

~~UL 4900, Micromobility Charging Equipment~~

Stationary/Transportable Applications:

~~UL 1973, Batteries for Use in Stationary and Motive Auxiliary Power Applications~~

~~UL 1989, Valve-Regulated or Vented Batteries with Aqueous Electrolytes~~

~~UL 2743, Portable Power Packs~~

~~UL 1741, Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources~~

Tool/Lighting/Appliance Applications:

~~UL 1017, Vacuum Cleaners, Blower Cleaners, and Household Floor Finishing Machines [Including Battery-Powered]~~

~~UL 2317, Subject for Electric-Battery-Powered Cleaning Machines~~

~~UL 2595, General Requirements for Battery-Powered Appliances~~

~~UL 2753, Outline of Investigation for Battery-Operated Ride-On Lawn Mowers~~

~~UL 60335, Standard for Safety of Household and Similar Appliances~~

~~UL 62841, Electric Motor-Operated Hand-Held Tools, Transportable Tools and Lawn and Garden Machinery — Safety~~

Portable/Wearable Applications:

~~UL 2054, Household and Commercial Batteries~~

~~UL 2056, Power Banks~~

~~UL 1642, Lithium Batteries~~

Other Applicable Battery Standards:

~~UL 1236, Battery Chargers for Charging Engine-Starter Batteries~~

~~UL 1487, Battery Containment Enclosures~~

~~UL 2436, Outline of Investigation for Spill Containment for Stationary Acid and Alkaline Electrolyte Battery Systems~~

~~UL 3120, Outline of Investigation for Battery-Operated Exoskeletons for Industrial Applications~~

~~UL 3202, Mobile Electric Vehicle Charging Systems Integrated with Energy Storage Systems~~

~~UL 3456, Outline of Investigation for Electric-Battery-Powered Carts for Commercial Use~~

~~UL 5800, Battery Fire Containment Products~~

~~UL 8139, Electrical Systems of Electronic Cigarettes and Vaping Devices (FKIF)~~

~~UL 8400, Virtual Reality, Augmented Reality and Mixed Reality Technology Equipment (ARVR)~~

~~UL 62368-1, Audio/Video, Information and Communication Technology Equipment — Part 1: Safety Requirements (such as laptops, speakers, and other consumer electronics)~~

A.8.2.1.5 — [🔗](#)

The HMA should include an evaluation of the separation distance, fire resistance rating, gas production, explosion potential, large-scale fire testing (LSFT), reliability, and survivability of the protected area and BPE.

Some mitigation strategies that can be employed include limiting the total energy in an area, providing multiple charging areas, including additional separation or fire barriers, or moving the operational area outside.

A.8.2.1.12 — [🔗](#)

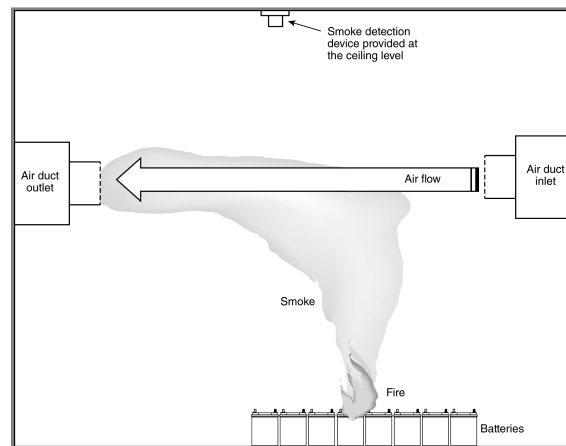
BPEs should be cross-listed with the charging equipment.

A.8.2.3.1 — [🔗](#)

When exhaust ventilation ducts are provided below the expected location of smoke detectors, additional smoke detection devices should be provided underneath that level (e.g., projected beam smoke detection) or inside the exhaust duct (duct smoke detector).

A high exhaust ventilation level below the location of the smoke detection devices can prevent smoke from reaching the device and lead to a delay in activation (or no activation at all) (see *Figure A.8.2.3.1*) :

Figure A.8.2.3.1 High Exhaust Ventilation Below the Smoke Detector.



A.8.2.4 — [🔗](#)

There currently is no fire suppression system that is suitable for the automatic extinguishment of lithium-ion batteries in a thermal runaway event. A lithium-ion battery fire can be cooled and contained but not suppressed with 100 percent certainty.

A water-based fixed fire protection system, if adequately designed, can help control the spread of fire and limit the potential consequences for exposures.

A.8.2.4.1 — [🔗](#)

Water-based systems are designed to protect the exposures and the occupancy. It is not designed to extinguish a battery fire, as the potential for stranded energy or reflash still exists. It is also meant to limit fire spread.

A.8.2.4.2 — [🔗](#)

Sprinkler systems are commonly designed to be not less than 0.3 gpm/ft² for batteries over 2500 ft² (232 m²) where one of the following exist:

- (1) The materials or storage arrangement provide a different level of sprinkler system protection in accordance with fire test data
- (2) Approved alternative automatic fire extinguishing systems are permitted

If the room area is smaller than the sprinkler design area [2500 ft² (232 m²)], the sprinkler design area should be expanded to the entire room area when the room is fire separated in accordance with 8.3.1.3 :

A.8.2.5.1 — [🔗](#)

Explosion control and prevention systems can be passive, active, or engineered systems. These systems can be used in both occupiable (buildings) and non-occupiable (enclosure) areas.

A.8.3.1.1 —

The HMA should define the conditions that need to be evaluated, including the SOC, area, fire resistance rating, suppression systems, exposures, and operational requirements.

A.8.3.1.8 —

It is assumed that because the batteries are used in equipment, the area would cover short-term staging of the batteries and be tied to the operational areas such that the batteries can be removed, charged, and stored until they are reinserted.

A.8.3.2.2 —

Examples of high-risk occupancies are fuel storage and hazardous materials areas:

A.8.4.2 —

The use of listed charging cabinets and charging docks manufactured for such purposes should be permitted when approved by the AHJ and when all the following conditions are met:

- (1) Unenclosed LEV and PMD charging cabinets and charging docks should be listed to UL 4900, as should enclosed LEV and PMD charging cabinets.
- (2) Containment enclosures should be listed to UL 1487.
- (3) LEV and PMD charging cabinets and equipment should be tested by a nationally recognized testing laboratory (NRTL) or approved testing agency for thermal propagation prevention.
- (4) Each approved LEV and PMD charging cabinet or dock shall have an aggregate energy capacity not exceeding 50 kWh, and the total aggregate energy capacity of all approved LEV and PMD charging cabinets or docks should not exceed 600 kWh within the fire control area.
- (5) Hazard mitigation analysis shall be required for LEV and PMD charging and staging areas where the MAQ exceeds 600 kWh to define the fire resistance rating, separation, and mitigation strategies unless modified by Table A.8.2.1 :
- (6) Each approved LEV and PMD charging cabinet, dock, or piece of equipment should have an adequate electrical supply directly connected to a receptacle.
- (7) Extension cords and power strips should not be used.
- (8) Each approved LEV and PMD charging cabinet or dock used indoors should have adequate mechanical exhaust ventilation within the cabinet itself or in the room in which it is used.
- (9) Approved LEV and PMD charging cabinets or docks used indoors should meet the following:
 - (10) Stored and used in a room/fire area protected by a fire sprinkler system, an automatic fire detection system, and an alarm system
 - (11) Maintain a minimum 3 ft (0.9 m) clearance from other approved charging cabinets at all times
- (12) LEV and PMD charging cabinets and docks used outdoors shall meet the following:
 - (13) Tested by a nationally recognized testing laboratory (NRTL) or approved testing agency for the environment in which it will be installed
 - (14) Installed in an approved outdoor location located at least 10 ft (3 m) from occupied structures unless protected by a fire-rated barrier
 - (15) Equipped with an approved automatic fire detection and alarm system

A.8.4.2.2 —

The HMA should define conditions that would need to be evaluated including SOC, area, fire resistance rating, suppression systems, exposures and operational requirements.

A.8.4.3 — [🔗](#)

Battery chargers for battery-powered industrial equipment such as forklifts represent a source of ignition when located in warehouses or next to storage occupancies.

Automated guided vehicles (AGV) and autonomous mobile robots (AMR) are found in industrial facilities for storage operations or for material and equipment transport in production areas. They are also found in public facilities such as hospitals, restaurants, etc., for material and equipment transport.

The hazard related to these vehicles is directly related to the type of battery they use.

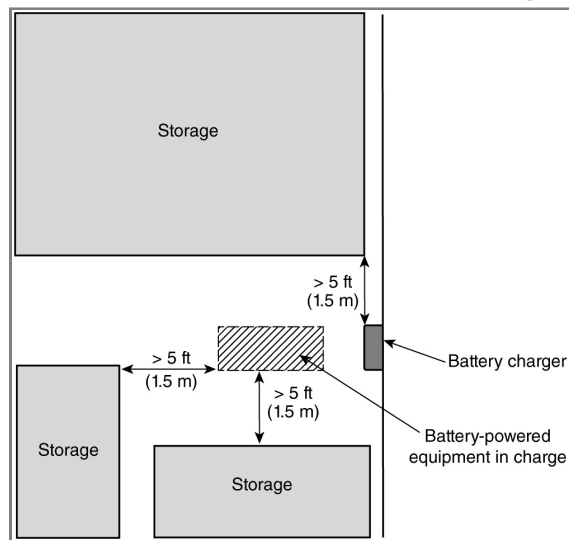
A.8.4.3.1 — [🔗](#)

The main hazard associated with lead-acid batteries is an electrical fire caused by a hydrogen release during charging during normal conditions. When charging is stopped for lead-acid batteries, they stop producing hydrogen. The fire hazard is not predominant compared to lithium-ion batteries but is still present.

A.8.4.3.1.2 — [🔗](#)

For an example of separation distance between the battery charger, battery-powered industrial equipment, and any combustible load, see Figure A.8.4.3.1.2 :

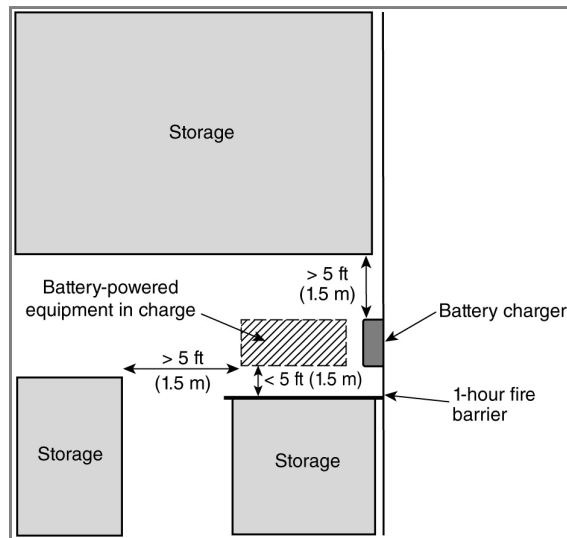
Figure A.8.4.3.1.2 Separation Distance Between Forklift or AGV/Charger and Combustible Load.



A.8.4.3.1.3 — [🔗](#)

For an example of separation distance between the battery charger, battery-powered industrial equipment, and a combustible load, see Figure A.8.4.3.1.3 :

Figure A.8.4.3.1.3 Provision of a One-Hour Fire-Barrier Between Forklift or AGV/Charger and Combustible Load.



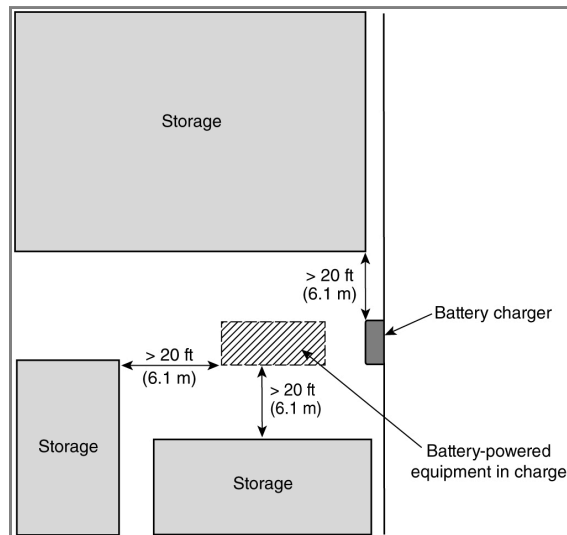
A.8.4.3.2 — [🔗](#)

The main hazard is thermal runaway and spread of fire away from the source of ignition.

A.8.4.3.2.1 — [🔗](#)

For an example of separation distance between the battery charger, battery-powered industrial equipment, and storage, see Figure A.8.4.3.2.1 :

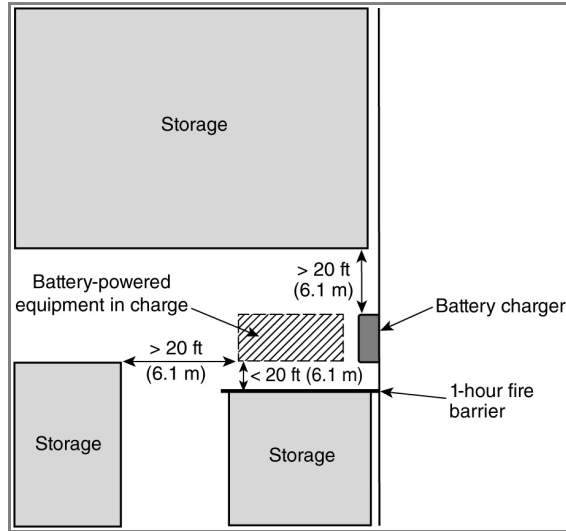
Figure A.8.4.3.2.1 Separation Distance Between Forklift Or AGV/Charger and Combustible Load.



A.8.4.3.2.2 — 

For an example of separation distance between the battery charger, battery-powered industrial equipment, fire barrier, and a combustible load, see Figure A.8.4.3.2.2 :

Figure A.8.4.3.2.2 Separation Distance Between Forklift Or AGV/Charger and Combustible Load.



A.8.5.2.1 — 

An example of an applicable marine standard is ASTM F3353, *Standard Guide for Shipboard Use of Lithium-Ion (Li-ion) Batteries* :

A.9.1 —

This chapter focuses on reactive metal and reactive ion batteries. For other chemistries and their hazards, see Annex B and Annex D. NFPA 401 has some recommendations for the reclamation or recycling of lead-acid batteries. This chapter establishes fire safety, environmental protection, and regulatory compliance requirements for the recycling, disposal, and decommissioning of battery energy storage systems (BESS), electric-vehicle (EV) batteries, industrial battery banks, and consumer battery products. It covers end-of-life management, hazardous waste handling, decommissioning procedures, fire prevention, explosion mitigation, and environmental contamination controls. The provisions align with NFPA 855; EPA 40 CFR 261, "Identification and Listing of Hazardous Waste"; EPA 40 CFR 273, "Standards for Universal Waste Management"; DOT 49 CFR 173.185, "Lithium Cells and Batteries"; UL 1974, *Evaluation for Repurposing or Remanufacturing Batteries*; UL 3601, *Measuring and Reporting Circularity of Li-ion and Other Secondary Batteries*; IFC battery energy storage systems regulations; and IEEE 1184, *Guide for Batteries for Uninterruptible Power Supply Systems*.

A.9.2.1.4 —

The anode of lithium-ion batteries often contains graphite, a known combustible. In addition, some binders used in lithium-ion batteries can produce combustible dust when shredded into fine powders.

A.9.2.2.1 —

See Annex G for the description of and Annex B for hazards associated with different battery technologies.

A.9.2.2.5 —

Used batteries can emit volatile organic compounds (VOCs) in storage. Facilities should be designed to prevent the buildup of these gases. Ventilation rates and temperature control best practices are defined in FM DS 7-112.

A.9.2.3.1 —

Types of suppression systems that are effective for indoor applications include the following:

- (1) Automatic sprinkler protection in accordance with NFPA 13
- (2) Water mist protection in accordance with NFPA 750
- (3) Dry chemical automatic fire suppression in accordance with NFPA 17
- (4) Inert gas or clean agent automatic fire suppression in high-density areas in accordance with NFPA 2001

For outdoor locations, the available water supply must be evaluated. There is a significant loss history associated with inadequate or incapable systems being available for outdoor disposal facilities. Countless landfill fires occur each year due in large part to the inability of systems to provide adequate water supply to protect adjacent exposures. NFPA 1142 can be used to determine the appropriate design size of the system.

A.9.2.3.1.1 —

The fire protection requirements for batteries are unique and are not currently addressed in NFPA 13. The fire intensity where batteries are involved is also affected by the state-of-charge (SOC) of the battery. While research is still ongoing, the design of an automatic fire sprinkler system for battery protection might require large quantities of water to provide the desired level of fire protection. For additional information, see A.20.4 of NFPA 13.

A.9.3.2 —

For electric vehicles additional precautions could include:

- (1) Employee training and certification that must be prepared in advance (e.g., high voltage electrical system level three certification TUV-SUD)
- (2) Dismantling of vehicles being conducted at electric vehicle manufacturing facilities or facilities certified for electric vehicle dismantling. Examples of facility certifications include the high voltage vehicle certification through the Automotive Recyclers Association.
- (3) Vehicles with batteries intact being located within dismantling areas of buildings that are constantly attended, or the areas being provided with thermal imaging systems for early detection of overheating battery packs
- (4) Vehicles being dismantled being provided with a minimum 10 ft (3 m) separation from other vehicles and combustible materials
- (5) Removing the high voltage battery master disconnect first during dismantling. The master disconnect should be moved away from the vehicle, and the vehicle should be left to discharge for a minimum of 15 minutes.
- (6) Following dismantling, any of the battery's exposed/disconnected high voltage wires being insulated by wrapping it in electrical tape or another approved method
- (7) Portable fire extinguishers suitable for the types of batteries being dismantled being provided in accordance with NFPA 10. The travel distance to reach fire extinguishing equipment should not exceed 75 ft (22.9 m).
- (8) Storage of vehicles prior to dismantling complying with Chapter 7 :
- (9) Storage of batteries following dismantling complying with Chapter 6 :

A.9.4.1.1 —

Fires at materials recovery facilities (MRFs), transfer stations, waste-to-energy facilities, and landfills are increasingly linked to discarded batteries in the municipal solid waste stream. Although improper disposal of batteries is prohibited under existing regulations, experience has shown that batteries often enter these facilities and present unique ignition and suppression challenges.

Where there is a risk that discarded batteries could be received, facilities are encouraged to apply the hazard mitigation analysis required by 9.2.2 to evaluate these hazards. The analysis can help determine whether existing detection, suppression, and operational features are adequate or if additional measures are warranted. Examples include early detection technologies (radiant energy or thermal imaging), suppression strategies capable of cooling lithium-ion battery fires, and operational protocols for isolation and handling of waste loads suspected to contain batteries.

By incorporating these considerations into the HMA, facilities can better align their fire protection features with the actual hazards present and reduce the frequency and severity of battery-related fire incidents.

A.9.4.1.2 —

When utilizing tipping floors, refuse pits, and refuse derived fuel (RDF), the following should be considered:

- (1) Hose stations should be designed in accordance with NFPA 14 and located throughout the areas where batteries might be present as part of the process.
- (2) Fire protection at RDF facilities should be in accordance with NFPA 850.
- (3) Fire protection at municipal solid waste (MSW) facilities should be in accordance with NFPA 850.
- (4) A fuel storage plan should be created, displaying permissible storage areas and dimensions.
- (5) A location for the placement of damaged batteries undergoing thermal events should be determined, such as 55 gal (208 L) drum of water.
- (6) A thermal detection system with alarming to a manned location should be incorporated.
- (7) A written fire emergency plan should be developed as per NFPA 850.
- (8) Fuel conveyors and fuel handling structures should be installed and operated as per NFPA 850.
- (9) Fuel conveying and fuel handling structure fire protection should utilize NFPA 850.

A.9.4.1.3 —

When utilizing shredders and conveyers, the following should be considered:

- (1) Fire sleeves and flange guards installed on any shredder with hydraulics
- (2) Valves for deluge lines to shredders in a remote location and not adjacent to equipment
- (3) One central location to deenergize all equipment employed
- (4) All equipment grounded (bonded) together or individually bonded to a grounding mat
- (5) Spark detector, thermal imaging, or flame detectors added to automatically shut down the entire system upon activation

Statement of Problem and Substantiation for Public Input

Proposed annex material conflicts with established ICC and NFPA standards covering the same scope. No risk basis, loss history, technical basis, or deficiencies in properly protected facilities justify the proposed annex materials inclusion in a provisional standard. The chapter's scope and requirements must be evaluated per ANSI guidelines for provisional standards to determine appropriate inclusions. Although provisional development streamlines standard creation, due diligence requires a basis in event history, loss history, or technical grounds for any included requirements. Without an articulable basis, the proposed content are inappropriate for this provisional standard.

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Submittal Date: Thu Jan 29 14:53:47 EST 2026

Committee: BAT-AAA



Public Input No. 146-NFPA 800-2026 [Section No. A.3.3.49]

A.3.3.49 Reactive Metal Chemistry Battery.

Lithium-metal primary batteries, lithium-metal solid-state batteries (SSB), and sodium sulfur (NaS) batteries are all examples of reactive metal chemistry batteries that pose a higher potential to cause fire ~~risk~~ than most battery chemistries if they experience an internal short or the reactive metal is exposed to water or the atmosphere.

While sodium-nickel-chloride (NaNiCl) batteries contain a reactive metal, they are not considered a reactive metal chemistry battery due to the presence of chlorine, which combines with the sodium into inert table salt if the cell is breached. UL 9540A, *Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems*, testing performed for the primary manufacturer of these batteries has reportedly (UL Report E518047) shown ~~no fire risk from~~ there is no potential for these batteries to cause fire .

Statement of Problem and Substantiation for Public Input

In safety documents such as this one the word "risk" should be reserved for and used only when the intended meaning is "the combination of the probability of occurrence of an adverse event and the potential consequences of that event."

The phrase "fire risk" is referring to the potential for the battery to cause fire.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 140-NFPA 800-2026 [New Section after 3.3.33]</u>	

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Committee: BAT-AAA



A.4.2.1.3 [🔗](#)

The following list of standards can be used for the applicable listing and labeling of batteries;

Standards for cells and batteries provide construction and test requirements that are required to be met based on their

chemistry and intended use:

- (1) ~~UL 1642, *Lithium Batteries*~~
- (2) ~~UL 1973, *Batteries for Use in Stationary and Motive Auxiliary Power Applications*~~
- (3) ~~UL 1989, *Valve Regulated or Vented Batteries with Aqueous Electrolytes*~~
- (4) ~~UL 2054, *Household and Commercial Batteries*~~
- (5) ~~UL 2271, *Batteries for Use in Light Electric Vehicle (LEV) Applications*~~
- (6) ~~UL 2580, *Batteries for Use in Electric Vehicles*~~
- (7) ~~UL 60086-4, *Primary Batteries — Part 4: Safety of Lithium Batteries*~~

Other standards not listed here can also be used as

intended application. Compliance with a cell or battery safety standard addresses potential hazards a cell or battery may experience. The list of standards in 4.2.1.3 covers a wide breadth of applications for cells and batteries. Other standards not listed 4.2.1.3 can also be used when applicable to the specific product category or scope of that standard.

Statement of Problem and Substantiation for Public Input

Move the content from A.4.2.1.3 to 4.2.1.3 regarding applicable standards. Additional explanatory context has been added to the appendix material.

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Committee: BAT-AAA



Public Input No. 497-NFPA 800-2026 [New Section after A.4.3.1]

A.4.3.2.1

Many of the performance criteria related to safety from fire can also be found in the annex of NFPA 101. [1:A.5.2.2.1]

A.4.3.2.2

It is anticipated that the design provides protection for occupants who are not intimate with the initial unintentional detonation or deflagration of explosive materials, and individuals immediately adjacent to the property. It is recognized that employees should be trained and knowledgeable in the hazards of the materials present in the workplace. It is recognized that some of these individuals could experience psychological and physical injuries, such as hearing problems, on either a short- or long-term basis. However, the intent is that they do not experience thermal burns or loss of life or limb as a direct result of the explosion. [1:A.5.2.2.2]

It is not the intent of the Code to provide protection against explosions caused by acts of terrorism. This would involve the introduction of an unknown quantity of explosives in an unknown location within or adjacent to a building. Where protection is needed against such acts of terrorism, the appropriate military and law enforcement agencies should be consulted. [1:A.5.2.2.2]

A.4.3.2.3

Given the nature and variety of hazardous materials, more than one performance criterion for a specific facility could need to be developed. Criteria have to be developed for each hazardous material and possibly for different personnel; for example, higher levels of exposure can be tolerated by personnel that are in some way protected than those personnel having no protection. Development of performance criteria for hazardous materials should be developed by the facility owner and the facility's safety personnel in conjunction with the AHJ and the emergency response personnel expected to respond to an incident. [1:A.5.2.2.3]

It is anticipated that the design provides protection for occupants inside or immediately adjacent to the facility who are not intimate with the initial unauthorized release of hazardous materials, or the initial unintentional reaction of hazardous materials. However, it is assumed that these individuals depart from the area of the incident in a time frame reasonable for their circumstances, based on their observation of the event, or some other form of notification. [1:A.5.2.2.3]

It is also anticipated that employees and emergency response personnel are trained and aware of the hazardous materials present in the facility, and the potential consequences of their involvement in the incident, and take appropriate measures to ensure their own safety during search and rescue operations. [1:A.5.2.2.3]

It is not the intent of the Code to provide protection against acts of terrorism involving the introduction of hazardous materials into a facility. This involves the introduction of an unknown quantity of materials in an unknown location within or adjacent to a building. Where protection is needed against such acts of terrorism, the appropriate military and law enforcement agencies should be consulted. [1:A.5.2.2.3]

A.4.3.2.4

Each facility designed using a performance-based approach most likely has different levels of acceptable and unacceptable property damage. This reflects the unique aspects of the performance-based designed facility and the reasons for pursuing a performance-based design. Therefore, the definition of an acceptable and an unacceptable level of property damage results from discussions between the facility's owner, manager and engineer, the designer, (possibly) the insurance underwriter and field engineer, and the AHJ. There could be cases where a property damage criterion is not needed. [1:A.5.2.2.4]

Note that the structural integrity performance criteria for property damage most likely differs from the structural integrity performance criteria for life safety. This reflects the difference in the associated objectives: a life safety criterion probably is more restrictive than one for property damage. [1:A.5.2.2.4]

A.4.3.2.5

Each facility designed using a performance-based approach most likely has a different level of acceptable and unacceptable interruption of the facility's mission. This reflects the unique aspects of the performance-based designed facility and the reasons for pursuing a performance-based design. Therefore, the definition of an acceptable and an unacceptable interruption of the facility's mission results from discussions between the

facility's owner, manager and engineer, the designer, (possibly) the insurance underwriter and field engineer, and the AHJ. There could be cases where a mission continuity criterion is not needed. [1:A.5.2.2.5]

Statement of Problem and Substantiation for Public Input

Defining a set of safety goals establishes the foundation for identifying the minimum mitigations required to reduce the hazards posed by the operations within the facility to an acceptable level. Incorporating a codified set of generalized goals within the HMA provides a structured framework for evaluating whether the proposed facility, its operations, and its safety systems satisfy a minimum standard of safety. Just as importantly, this framework provides the AHJ with a clearer basis for evaluating if the HMA's conclusions are appropriately justified.

Performance requirement language from NFPA 1 is proposed, as it has been previously developed, broadly accepted by industry, and promotes consistency in safety expectations. Using generalized safety goals rather than prescriptive design criteria affords necessary flexibility, both for addressing conditions and hazard configurations not directly anticipated by this code and for enabling a range of analysis methodologies to be applied to demonstrate compliance.

Since individual fire protection mitigation systems collectively contribute to overall risk reduction, it is appropriate to state the minimum safety goals as general requirements in Chapter 4, while leaving the specific HMA requirements pertaining to individual systems within the code listed in the applicable sections.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 495-NFPA 800-2026 [New Section after 4.3.1]</u>	Annex material provides clarification of added new Section 4.3.2
<u>Public Input No. 495-NFPA 800-2026 [New Section after 4.3.1]</u>	

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Submittal Date: Thu Jan 29 15:12:59 EST 2026

Committee: BAT-AAA



Public Input No. 147-NFPA 800-2026 [Section No. A.4.3.3]

A.4.3.3

Some examples of major changes that a qualified professional should determine the need for an updated HMA are the following:

- (1) A new process, facility, or installation that introduces a new hazard or alters existing mitigation strategies
- (2) A series of small modifications that over time collectively ~~increase~~ reduces the ~~risk to~~ effectiveness of existing mitigation strategies

Statement of Problem and Substantiation for Public Input

In safety documents such as this one the word "risk" should be reserved for and used only when the intended meaning is "the combination of the probability of occurrence of an adverse event and the potential consequences of that event."

The phrase "increase the risk to" is referring to a reduction in the effectiveness of existing mitigation strategies.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 140-NFPA 800-2026 [New Section after 3.3.33]	

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Committee: BAT-AAA



Public Input No. 148-NFPA 800-2026 [Section No. A.4.7.2.1]

A.4.7.2.1 [🔗](#)

The requirement to separate different battery chemistries is based on the varying chemical properties, fire behaviors, and failure mechanisms associated with each chemistry. Mixing incompatible chemistries in the same storage area increases the ~~risk of potential for~~ dangerous interactions, particularly during a thermal event or mechanical failure.

Battery types such as lithium-ion (Li-ion), nickel-metal hydride (NiMH), nickel-cadmium (NiCd), lead-acid, and lithium-metal each have unique hazard profiles.

For example, lithium-ion batteries can undergo thermal runaway and emit flammable gases when damaged or overheated, lead-acid batteries can release hydrogen gas during charging, creating an explosion hazard in unventilated areas, nickel-cadmium batteries can release toxic cadmium-containing fumes during a fire, and lithium-metal batteries are highly reactive with water and air and present ~~extreme fire risks if~~ an extreme potential to cause fire if breached.

Battery chemistries should be segregated in one or more of the following ways:

- (1) Separate rooms or fire compartments with fire resistance rated barriers
- (2) Physically separated by distance, especially if stored outdoors or in open warehouses
- (3) Separated by noncombustible barriers or enclosures
- (4) Isolated with independent ventilation or off-gas handling systems

Statement of Problem and Substantiation for Public Input

In safety documents such as this one the word "risk" should be reserved for and used only when the intended meaning is "the combination of the probability of occurrence of an adverse event and the potential consequences of that event."

The phrase "fire risk" is referring to the potential for the battery to cause fire.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 140-NFPA 800-2026 [New Section after 3.3.33]	

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Committee: BAT-AAA



A.4.10.1.3

Changes to a facility's operations can introduce new or increased fire or explosion hazards that are not adequately addressed by an existing HMA. Examples include, but are not limited to, increases in battery storage volume, changes in battery state of charge, modifications to manufacturing or testing processes, changes in cell or battery configuration, or changes in battery chemistry.

Periodic review of cell and battery usage ensures that the HMA remains representative of actual facility conditions and that required protection features remain appropriate for the hazards present.

Statement of Problem and Substantiation for Public Input

Hazardous mitigation analyses are developed based on specific assumptions regarding the type, quantity, configuration, and condition of materials present within a facility. For facilities utilizing lithium-ion cells and batteries, these parameters can change over time without obvious physical alterations to the building or protection systems. Changes such as increases in storage volume, variations in battery state of charge, modifications to manufacturing or testing processes, or changes in battery configuration can significantly alter the fire and explosion hazards present. Without periodic review, an HMA may no longer accurately represent actual operating conditions, potentially resulting in inadequate protection measures.

Requiring an annual review of cell and battery usage against the facility's HMA ensures that evolving operational conditions are evaluated and that protection strategies remain appropriate throughout the lifecycle of the facility. This review aligns with existing NFPA approaches to hazardous materials management and supports consistent enforcement by authorities having jurisdiction.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 498-NFPA 800-2026 [New Section after 4.10.1.2]</u>	Annex section for the proposed new section 4.10.1.3.
<u>Public Input No. 498-NFPA 800-2026 [New Section after 4.10.1.2]</u>	

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Submittal Date: Thu Jan 29 15:15:04 EST 2026

Committee: BAT-AAA



A.5.1



This chapter establishes fire protection, explosion prevention, and safety requirements for facilities engaged in the manufacturing and assembly of battery cells, modules, and packs. These provisions address hazards associated with electrode manufacturing, cell assembly, electrolyte filling, formation cycling, battery storage, module/pack assembly, and final product shipment. The requirements in this chapter ~~aim~~ aims to mitigate ~~risks related to~~ the risk associated with fire, explosion, chemical exposure, electrical faults, and thermal runaway (for those chemistries where thermal runaway is possible).

R&D and testing can include areas where batteries are subjected to drop testing, crushing, vibration, thermal cycling, short circuiting, penetration, load cycling, moisture testing, and similar abusive or non-abusive conditions. Considerations for assessing if an activity should be considered R&D or testing could include determining if the products are listed and commercially available, as well as the overall nature and purpose of the facility (e.g., if the R&D or testing is ancillary to non-R&D and testing areas). The authority having jurisdiction has the final say on what qualifies as R&D or testing areas.

Refer to NFPA 855 for re-purposing requirements for stationary battery energy storage systems (BESS) and to UL 1974, *Evaluation for Repurposing or Remanufacturing Batteries*, for other applications.

Statement of Problem and Substantiation for Public Input

In safety documents such as this one the word "risk" should be reserved for and used only when the intended meaning is "the combination of the probability of occurrence of an adverse event and the potential consequences of that event." As such, it should be singular not plural, as in "the risk associated with.."

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 140-NFPA 800-2026 [New Section after 3.3.33]	
Public Input No. 163-NFPA 800-2026 [Section No. A.6.1]	
Public Input No. 166-NFPA 800-2026 [Section No. A.8.1]	

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Committee: BAT-AAA



Public Input No. 150-NFPA 800-2026 [Section No. A.5.2.1.2]

A.5.2.1.2 [🔗](#)

While NFPA 400 specifically excludes corrosive materials for stationary batteries, the classifications are still generally applicable. Another useful reference published by NFPA is the *Fire Protection Guide to Hazardous Materials*.

NFPA 400 does not adjust classifications for very high quantities of hazardous materials as some battery manufacturing facilities might. In these instances, the registered design professional (RDP) who is preparing the HMA should reference NFPA 318 and FM DS 1-56, *Cleanrooms*, in determining if a higher classification than recommended by NFPA 400 for a given facility or area within a facility is justified.

Annex B contains a description of the various types of batteries and chemistries, while Annex D- ~~contains the differing risks of these various types~~ provides information for firefighters and emergency responders tasked with addressing the hazards associated with a battery or battery cell fire or failure .

Statement of Problem and Substantiation for Public Input

In safety documents such as this one the word "risk" should be reserved for and used only when the intended meaning is "the combination of the probability of occurrence of an adverse event and the potential consequences of that event."

The word "risks" in this type of document generally refers to "hazards."

Based on the context of this sentence, the word "risks" should be replaced with the term "hazards" and the structure of the sentence revised to align with that found in Annex D.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 140-NFPA 800-2026 [New Section after 3.3.33]	

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Committee: BAT-AAA



A.5.3.4.3.4 

Cells filled with electrolyte are considered closed even when temporarily capped.

Per NFPA 400, ~~this means that these~~ the internal contents of capped/closed cells do not count toward maximum allowable quantities of ~~unclosed cells~~ hazardous materials. Instead, these capped cells are evaluated as lithium-ion cells in production and are subject to the applicable requirements of this code .

Statement of Problem and Substantiation for Public Input

During lithium-ion cell manufacturing, this code does not presently define when the assembly of individual components constitutes a “cell” for hazard evaluation purposes. This proposed change establishes that delineation at the point when the electrolyte-filled cell is capped, thereby sealing the electrolyte within the cell enclosure. Once a lithium-ion cell is formed, the individual internal constituents (such as electrolyte, electrodes, and separators) are no longer evaluated or classified independently as hazardous materials. Instead, the cell is treated as an article with an integrated hazard profile, and the maximum allowable quantities for hazardous materials in NFPA 400 are not applied to the individual contents of completed lithium-ion cells. The hazards of the cell are instead addressed through commodity classification, storage, and protection requirements applicable to lithium-ion cells, as outlined in this code.

Prior to capping, the electrolyte-filled assembly functions as an open container of flammable liquid electrolyte and presents hazards consistent with open use under NFPA 400. Although some electrical charge may be applied to the unsealed cell, the absence of a sealed enclosure prevents pressure accumulation and gas confinement; therefore, a fire or thermal runaway event cannot produce the failure characteristics associated with a completed lithium-ion cell. Applying the cap marks the point at which the hazard profile transitions from that of exposed flammable liquid to that of a lithium-ion cell. At this stage, it is no longer appropriate to treat the electrolyte as an open use hazardous material subject to NFPA 400 MAQs. Instead, the capped cell should be evaluated and protected as a lithium-ion cell in production in accordance with the applicable provisions of this code.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 491-NFPA 800-2026 [Section No. 5.3.4.3.4]	Revised annex material to provide clarity to the revised Section 5.3.4.3.4.
Public Input No. 491-NFPA 800-2026 [Section No. 5.3.4.3.4]	

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Committee: BAT-AAA



Public Input No. 160-NFPA 800-2026 [Section No. A.5.3.4.4]

A.5.3.4.4 [🔗](#)

Formation cycling is the initial charge-discharge process used to activate battery chemistry. This process generates significant heat, increasing the ~~risk~~ possibility of thermal runaway.

For most Li-ion chemistries, this process develops and exercises the solid electrolyte interphase (SEI) layer within cells for the first time and represents the highest hazard in the manufacturing process of these cells since defects are usually realized at this point.

Statement of Problem and Substantiation for Public Input

In safety documents such as this one the word "risk" should be reserved for and used only when the intended meaning is "the combination of the probability of occurrence of an adverse event and the potential consequences of that event."

The phrase "risk of" in this type of document generally refers to a "possibility of" or "the potential for" regardless of the potential consequence.

Based on the context of this sentence, the phrase "risk of fire or thermal runaway" should be replaced with the phrase "and the possibility of thermal runaway...".

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 140-NFPA 800-2026 [New Section after 3.3.33]	

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Submittal Date: Fri Jan 16 09:39:51 EST 2026

Committee: BAT-AAA



Public Input No. 467-NFPA 800-2026 [Section No. A.5.6.3.1.3]

A.5.6.3.1.3

This requirement is aligned with 503.2 of the *International Mechanical Code*. Fans for ventilation of flammable air mixtures of concentrations at 25% or less of the LFL do not warrant non-sparking construction.

Statement of Problem and Substantiation for Public Input

Clarify in the Annex when non-sparking is required. They are not normally required when ventilation fans keep rooms at 25% of the LFL.

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Committee: BAT-AAA



A.5.6.3.2 

The 150 percent of the “standard” ventilation rate for emergency ventilation comes from FM DS 7-112 and reflects the need to rapidly evacuate accumulated flammable gases such as hydrogen or ethylene carbonate vapor. These gases can reach explosive concentrations at low ppm and can be difficult to detect without multi-gas analyzers calibrated to IEC 60079-29-1, *Explosive atmospheres — Part 29-1: Gas detectors — Performance requirements of detectors for flammable gases*.

As an alternative to the 150 percent rate for emergency ventilation, ISO 14644-1, *Classification of air cleanliness by particle concentration — Part 1*, defines typical clean room ventilation rates (which could apply to reactive metal chemistry and reactive ion chemistry battery types manufactured in clean rooms). Class 6 clean rooms have a very high ventilation rate, typically in the range of 80–240 air changes per hour (ach).

Manual activation in combination with an automatic activation via gas detection is allowable, provided that the operator is not exposed to any ~~risk~~ hazard in performing this action.

Statement of Problem and Substantiation for Public Input

In safety documents such as this one the word "risk" should be reserved for and used only when the intended meaning is “the combination of the probability of occurrence of an adverse event and the potential consequences of that event.” This means that risk is expressed as a level. In this document the terms “low risk”, “high risk”, and “extreme risk” are used to express a relative level of risk. When referring to an exposure the correct term is hazard. A person is exposed to a hazard and the associated risk.

Based on the context of this sentence, the word "risk" should be replaced with the term "hazard."

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 140-NFPA 800-2026 [New Section after 3.3.33]	

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Submission Date: Fri Jan 16 09:46:59 EST 2026
Committee: BAT-AAA



A.5.6.3.2 

The 150 percent of the “standard” ventilation rate for emergency ventilation comes from FM DS 7-112 and reflects the need to rapidly evacuate accumulated flammable gases such as hydrogen or ethylene carbonate vapor. These gases can reach explosive concentrations at low ppm and can be difficult to detect without multi-gas analyzers calibrated to IEC 60079-29-1, *Explosive atmospheres — Part 29-1: Gas detectors — Performance requirements of detectors for flammable gases* :

As an alternative to the 150 percent rate for emergency ventilation, ISO 14644-1, *Classification of air cleanliness by particle concentration — Part 1* , defines typical clean room ventilation rates (which could apply to reactive metal chemistry and reactive ion chemistry battery types manufactured in clean rooms). Class 6 clean rooms have a very high ventilation rate, typically in the range of 80–240 air changes per hour (ach):

Manual activation in combination with an automatic activation via gas detection is allowable, provided that the operator is not exposed to any risk in performing this action.

Statement of Problem and Substantiation for Public Input

The explosion hazards associated with reactive metal chemistry and reactive ion chemistry batteries with flammable liquid electrolytes are highly dependent on numerous variables, including battery chemistry, energy capacity, state of charge, electrolyte composition, enclosure volume, room geometry, leakage characteristics, and ventilation effectiveness. As a result, a fixed emergency ventilation rate expressed as a percentage of a “standard” ventilation rate may not adequately address the hazard under all conditions.

The prescriptive emergency ventilation rate of 150 percent does not account for scenarios in which the baseline ventilation rate is relatively low, the potential gas release rate is high, or room characteristics limit effective dilution or removal of flammable vapors. In such cases, compliance with a percentage-based requirement could provide a false sense of safety while failing to prevent the accumulation of flammable concentrations.

NFPA 69 requires a performance-based engineering analysis that evaluates all relevant parameters, including gas generation rates, ventilation effectiveness, ignition prevention objectives, and enclosure characteristics, to ensure that flammable concentrations are prevented or controlled as intended. Requiring an engineering analysis in accordance with NFPA 69 ensures that explosion prevention ventilation systems are appropriately designed for the specific hazards present, rather than relying on a one-size-fits-all prescriptive multiplier.

This modification improves consistency with established explosion prevention principles, results in more reliable and defensible designs, and ensures that ventilation systems provide an appropriate level of protection for the wide range of battery types, sizes, and installation conditions addressed by this code.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 501-NFPA 800-2026 [Section No. 5.6.3.2 [Excluding any Sub-Sections]]	Revised annex section for the proposed revision to Section 5.6.3.2.
Public Input No. 501-NFPA 800-2026 [Section No. 5.6.3.2 [Excluding any Sub-Sections]]	

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Committee: BAT-AAA



A.5.7.1.1.1 

EV manufacturers commonly produce emergency response plans available to their own employees and third-party contractors, including disassemblers. Some of these are also available on the automobile manufacturer's websites.

These EV supplier/contractor ERPs cover things like occupational safety, electrical safety, chemical safety, HAZCOM, coolant safety, thermal ~~risks~~ hazards, fire and explosion ~~risks~~ hazards, environmental management, dangerous goods transportation, and basic facility requirements.

EV manufacturers also produce emergency response guides (ERG) and rescue sheets available to the public but intended primarily for firefighters. Formerly, these were available through the NFPA website but are now available through the United States' National Highway Transportation Safety Administration (NHTSA) website (nhtsa.gov/erg). For example, this could point to OEM's website for first responders, recyclers, and battery dismantlers.

There is also a supplier partnership for the environment, which has guidance for EV battery handling and safe storage.

Statement of Problem and Substantiation for Public Input

In safety documents such as this one the word "risk" should be reserved for and used only when the intended meaning is "the combination of the probability of occurrence of an adverse event and the potential consequences of that event." This means that risk is expressed as a level. In this document the terms "low risk", "high risk", and "extreme risk" are used to express a relative level of risk. When referring to an exposure the correct term is hazard. A person is exposed to a hazard and the associated risk. The word "risks" in this type of document generally refers to "hazards." Based on the context of this sentence, the word "risks" should be replaced with the term "hazards."

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 140-NFPA 800-2026 [New Section after 3.3.33]</u>	

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Public Input No. 414-NFPA 800-2026 [New Section after A.6.1]

A.6.1.3

The equipment or devices referred to in this section includes final products such as Energy Storage Systems, Standby Power Systems

Statement of Problem and Substantiation for Public Input

6.1.3 (2) is not clear and this PI is intended to provide clarity by example

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Committee: BAT-AAA



Public Input No. 163-NFPA 800-2026 [Section No. A.6.1]

A.6.1

This chapter establishes requirements for the safe storage of batteries and battery-integrated equipment, including new, used, damaged, defective, and end-of-life batteries. It applies to indoor and outdoor storage, warehouse and retail environments, bulk storage facilities, and storage areas within manufacturing plants. Fire safety, explosion prevention, and electrical safety measures are outlined to ~~mitigate the risks of~~ mitigate the risk associated with thermal runaway, fire, explosion, off-gassing, and electrical hazards.

Statement of Problem and Substantiation for Public Input

In safety documents such as this one the word "risk" should be reserved for and used only when the intended meaning is "the combination of the probability of occurrence of an adverse event and the potential consequences of that event." As such, it should be singular not plural, as in "the risk associated with.."

Please see a similar proposed revision to A.5.1.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 140-NFPA 800-2026 [New Section after 3.3.33]	Use of the word "risk"
Public Input No. 149-NFPA 800-2026 [Section No. A.5.1]	Use of the word "risks"

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Committee: BAT-AAA



Public Input No. 484-NFPA 800-2026 [New Section after A.6.2.1.4.1]

A.6.2.1.4.2

Gases released during thermal runaway may create a deflagration hazard in rooms or spaces housing battery containers. This gas may escape through gaps or openings in unsealed containers, through designated vent openings and or from the opening of containers where a thermal runaway has previously occurred. Depending on the room's volume and ventilation conditions, a deflagration hazard may develop when the gas is released from the container.

Statement of Problem and Substantiation for Public Input

The use of containers for battery storage does not eliminate the deflagration hazard. Containers are typically not designed as pressure vessels and are intended to vent gases. Even when containers undergo deflagration testing, as required by the current edition of UL 1487, the potential hazard posed from gases released into building spaces must be evaluated. The proposed language provides additional clarification that the HMA shall address the potential deflagration hazard resulting from gas released into the room or space housing the container.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 483-NFPA 800-2026 [New Section after 6.2.1.4.1]</u>	Annex material provides clarification of added new Section 6.2.1.4.2
<u>Public Input No. 483-NFPA 800-2026 [New Section after 6.2.1.4.1]</u>	

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Submission Date: Thu Jan 29 14:50:27 EST 2026

Committee: BAT-AAA



A.6.2.2.1

In accordance with storage, the HMA should address all of the following:

- (1) Detection of thermal events and fire conditions, including the type and placement of detection technologies
- (2) Fire protection features provided for areas where batteries are stored and the means by which fires will be suppressed
- (3) Availability of water supply and adequacy of fire department access
- (4) Potential for deflagration resulting from the release of flammable gases during thermal runaway events
- (5) Potential for projectile hazards
- (6) Anticipated temperature exposures and their effect on battery stability
- (7) Anticipated weather conditions, including extremes of heat and cold
- (8) Potential for hazardous releases of solid, gas, or liquids
- (9) Storage configuration and any reduction in the effectiveness of fire suppression systems due to racking, spacing, or other arrangements
- (10) Clearances
- (11) Means of egress

Additional provisions of NFPA 1 for egress and *NFPA 70* for workspace clearance and standards can apply to battery storage areas.

~~Annex B and Annex C provide hazards to consider for the chemistries and technologies present~~ provides information related to battery hazards. Annex C provides an overview of current and emerging battery chemistries and technologies to facilitate hazard identification, performance evaluation, and emergency response planning in the facility under review.

Battery storage presents unique hazards that require a structured and thorough evaluation. When batteries fail, they can enter thermal runaway (lithium-ion), could release flammable gases (lithium-ion, lead-acid), and can generate toxic off-gas products (Nickel cadmium, Nickel metal hydride, lithium-ion, lithium metal, lead acid) and in some cases can produce deflagration or projectile hazards. ~~These risks are~~ The risk associated with these hazards can be compounded by environmental factors such as elevated or extreme cold temperatures, which can destabilize battery performance and increase the likelihood of an incident. The way batteries are arranged in storage — particularly in dense racking systems — can reduce the effectiveness of fire suppression systems and delay activation of detection technologies. Reliable access to water supply and fire department intervention is also critical in controlling large-scale battery fires, which can be prolonged and difficult to extinguish. Because these hazards are dependent largely on the chemistry and the arrangement and can be highly situational, the HMA is necessary to systematically evaluate detection methods, suppression strategies, site access, and storage design, ensuring that ~~risks~~ hazards are ~~understood~~ identified and mitigated before incidents occur.

Lithium-ion and lithium metal batteries can vent flammable gases and undergo thermal runaway when exposed to elevated temperatures, often above 140°F (60°C). These conditions should be avoided. Manufacturer specifications can be consulted when establishing acceptable storage temperature ranges. Cold temperatures can also reduce battery performance and might warrant evaluation as part of the analysis.

Special attention should be given to the design of racking systems, as storage configuration can influence detection sensitivity and the time required for suppression systems to activate. Improper racking or spacing could delay detection and suppression system effectiveness and increase the severity of an incident.

Statement of Problem and Substantiation for Public Input

1. The paragraph referencing Annex B and C is revised for clarity and to align with the content and scope of each Annex. The paragraph is separated into two sentences to avoid one long, run-on sentence.
2. Use of the word “risks” in the phrase “risks are compounded.”

In safety documents such as this one the word "risk" should be reserved for and used only when the intended meaning is "the combination of the probability of occurrence of an adverse event and the potential consequences of that event." As such, it should be singular not plural, as in "the risk associated with.." Please see a similar proposed revision to A.5.1.

According to the first and second sentences of this paragraph the context is the unique hazards of battery storage. The third sentence is therefore discussing the risk associated with these hazards being compounded by environmental factors. The phrase "These risks are..." should be replaced with "The risk associated with these hazards can be..."

3. Use of the word "risks" in the phrase "risks are understood." In safety documents such as this one the word "risk" should be reserved for and used only when the intended meaning is "the combination of the probability of occurrence of an adverse event and the potential consequences of that event." In this context "risks" are "hazards." Further, risk is assessed, analyzed and evaluated, whereas hazards are identified. The phrase "risks are understood..." should be replaced with the phrase "hazards are identified..."

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 140-NFPA 800-2026 [New Section after 3.3.33]	

Submitter Information Verification

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Submission Date: Fri Jan 16 11:03:06 EST 2026

Committee: BAT-AAA



Public Input No. 165-NFPA 800-2026 [Section No. A.6.3.3.1]

A.6.3.3.1

Manufacturing defects increase the ~~risk~~ possibility of thermal runaway or spontaneous failure. Conditions such as swelling, leakage, or mechanical damage are indications of a high-risk classification. Batteries exposed to mechanical, electrical, or thermal damage, or external fluid intrusion should be suspected to be damaged.

Statement of Problem and Substantiation for Public Input

In safety documents such as this one the word "risk" should be reserved for and used only when the intended meaning is "the combination of the probability of occurrence of an adverse event and the potential consequences of that event."

The phrase "risk of" in this type of document generally refers to a "possibility of" or "the potential for" regardless of the potential consequence.

Based on the context of this sentence, the phrase "risk of thermal runaway" should be replaced with the phrase "and the possibility of thermal runaway...".

The phrase "high-risk" does not need to be revised as the use of the word "risk" in this context is consistent with the meaning of the term.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 140-NFPA 800-2026 [New Section after 3.3.33]	

Submitter Information Verification

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Committee: BAT-AAA



Public Input No. 398-NFPA 800-2026 [Section No. A.6.9.1.1(3)]

A.6.9.1.1(3)

Examples of AMRs and piloted robots include drones, unmanned aerial vehicles (UAVs), unmanned ground vehicles (UGVs), and automated guided vehicles (AGVs).

Statement of Problem and Substantiation for Public Input

This footnote indicated AGVs are included but 6.9.1.1(3) indicated they are not included

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Submittal Date: Wed Jan 28 15:28:04 EST 2026

Committee: BAT-AAA



A.8.1



Examples of battery powered equipment (BPE) being used include the following:

- (1) Installing or removing batteries from intended equipment
- (2) Charging outside of intended equipment
- (3) Charging while inside of intended equipment
- (4) Discharging in intended equipment
- (5) Staging of the intended equipment while not in use.

This chapter establishes detailed fire protection, explosion prevention, electrical safety, ventilation, environmental, and emergency response requirements for the infrastructure, exhaust installation, and operational management of battery-powered equipment. The provisions align with *NFPA 70* and *NFPA 70E*; the *International Fire Code (IFC)*; *IEEE 1547, Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces*; and product safety standards or applicable safety standards to mitigate risks related to thermal runaway, explosion hazards, fire propagation, electrical shock, and hazardous gas accumulation.

Battery powered equipment can include, forklifts, buses, operational vehicles, robots, medical equipment; other typical uses are listed up 8.2.1.3 2.

While the section is meant to cover all types of electrochemical chemistries, currently, it addresses only lithium ion, as it has a higher risk profile and the use of other chemistries in equipment is limited at this time.

The requirements of battery energy storage system (BESS) installations and operational management are defined in NFPA 855 and not addressed in this section.

Statement of Problem and Substantiation for Public Input

The section reference appears to be incorrect. Section 8.2.1.2 actually provides the list of other uses.

Though a recommended change was not proposed, the statement on this section only applies to lithium ion batteries at this time should not be in the annex if it is intended to limit the scope. This material should be moved to the main body of the code or should be eliminated from the annex. I would make the change, but I am unfamiliar with the intent of the committee with regards to the applicability to alternate battery chemistries. Additionally, there are requirements for lead-acid batteries listed in Chapter 8, so this statement doesn't seem correct.

Submitter Information Verification

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Submittal Date: Tue Dec 16 07:41:36 EST 2025

Committee: BAT-AAA



A.8.1



Examples of battery powered equipment (BPE) being used include the following:

- (1) Installing or removing batteries from intended equipment
- (2) Charging outside of intended equipment
- (3) Charging while inside of intended equipment
- (4) Discharging in intended equipment
- (5) Staging of the intended equipment while not in use.

This chapter establishes detailed fire protection, explosion prevention, electrical safety, ventilation, environmental, and emergency response requirements for the infrastructure, exhaust installation, and operational management of battery-powered equipment. The provisions align with *NFPA 70* and *NFPA 70E*; the *International Fire Code (IFC)*; IEEE 1547, *Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces*; and product safety standards or applicable safety standards to mitigate risks related to the risk associated with thermal runaway, explosion hazards, fire propagation, electrical shock, and hazardous gas accumulation.

Battery powered equipment can include, forklifts, buses, operational vehicles, robots, medical equipment; other typical uses are listed up 8.2.1.3.

While the section is meant to cover all types of electrochemical chemistries, currently, it addresses only lithium ion, as it has a higher risk profile and the use of other chemistries in equipment is limited at this time.

The requirements of battery energy storage system (BESS) installations and operational management are defined in NFPA 855 and not addressed in this section.

Statement of Problem and Substantiation for Public Input

In safety documents such as this one the word "risk" should be reserved for and used only when the intended meaning is "the combination of the probability of occurrence of an adverse event and the potential consequences of that event." As such, it should be singular not plural, as in "the risk associated with.." Please see a similar proposed revision to A.5.1.

The phrase "higher risk profile" does not need to be revised as the use of the word "risk" in this context is consistent with the meaning of the term.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 140-NFPA 800-2026 [New Section after 3.3.33]	
Public Input No. 149-NFPA 800-2026 [Section No. A.5.1]	

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Submittal Date: Fri Jan 16 11:37:29 EST 2026
Committee: BAT-AAA



Public Input No. 169-NFPA 800-2026 [Section No. A.8.2.1]

A.8.2.1



Threshold quantities and maximum allow quantities (MAQs) should comply with Table A.8.2.1.

Threshold quantities are those levels of energy above which the code is applicable. MAQs are the action levels that require additional protective measures or evaluation when an aggregation of the BPE exceeds these levels. The MAQs are defined as the name plate ratings of the devices, as the assumption is that BPE is at 100 percent state of charge.

Some examples of ranges of BPE devices include the following:

A typical 4 Ah tool battery would be 72 Wh. Therefore, the threshold limit of 2 kWh would cover about 28 batteries.

E-bikes are 250 to 750 Wh, or about 3 bikes on the high end with a MAQ of 40 kWh.

EVs can be between 60–100kWh, so a MAQ of 600 kWh would allow about 6 EVs in a charging or staging area.

NFPA building and life safety codes (e.g., NFPA 101) classify occupancies based on how a building or space is used. These occupancy classifications are the foundation for determining fire protection, egress, and construction requirements.

~~Multiple~~ Effective hazard mitigation strategies include but are not limited to:

(1) The use of multiple staging and charging areas

~~can be used with appropriate separation~~

~~to limit the risk and the requirements of an hazard mitigation analysis (HMA). Fire resistance-rated barriers can also provide effective mitigation strategies. The charging and staging areas being moved outside is one of the most effective mitigation measures.~~

(2) The use of fire resistance-rated barriers

(3) Locating or moving the staging and charging areas outdoors

Table A.8.2.1 Occupancy Ratings^a Applicable to Staging and Charing Areas of BPE

Occupancy Class^{a,c,d}	Applicable Threshold	MAQ^b	Other Notes
Assembly	8 kWh	40 kWh	
Assembly — Transportation — Bus depots, trains, air terminals	8 kWh	40 kWh	
Educational	8 kWh	40 kWh	
Day-Care	1 kWh	20 kWh	
Health Care	2 kWh	20 kWh	
Ambulatory Health Care	2 kWh	20 kWh	
Detention and Correctional	8 kWh	40 kWh	Only allowed outside with adequate separation and outside of confinement areas
Residential — One- and two-family dwellings	Not allowed	-	Owner and single use per section 8.2.2.18
Residential — Lodging or rooming houses	2 kWh	30 kWh	
Residential — Hotels	2 kWh	300 kWh	
Residential — Dormitories	2 kWh	30 kWh	
Residential — Apartment buildings	2 kWh	30 kWh	
Mercantile — general	5 kWh	300 kWh	
Mercantile (retail) — EV charging station	5 kWh	300 kWh	
Business (office) — General	5 kWh	300 kWh	

<u>Occupancy Class^{a,c,d}</u>	<u>Applicable Threshold</u>	<u>MAQ^b</u>	<u>Other Notes</u>
Business — IT/telecom	20 kWh	50 kWh	-
Industrial — General	20 kWh	600 kWh	-
Industrial — Motor vehicle service and repair	20 kWh	600 kWh	-
Storage — Warehouses	20 kWh	600 kWh	-
Storage — Parking garages — Enclosed	20 kWh	600 kWh	-
Storage — Parking garages — Open	20 kWh	1000 kWh	-
Manufacturing	20 kWh	600 kWh	-
Other Mission-Critical Infrastructure	20 kWh	600 kWh	-
Outdoor Locations	20 kWh	1000 kWh	-
High Rise Below 75 ft (22.9 m)	2 kWh	300 kWh	-
High Rise Above 75 ft (22.9 m)	2 kWh	20 kWh	-
Special Structures — Tunnels	Reserved	-	-
Special Structures — Piers	Reserved	-	-
Special Structures — Tents	Reserved	-	-
Special Structures — Aircraft hangars	Reserved	-	-
Special Structures — Barns	Reserved	-	-

Notes:

- a. If an occupancy is not included, then an HMA is required.
- c. Mixed use occupancies should meet the most stringent use.
- d. Occupancy should be classified in accordance with NFPA 101.

Statement of Problem and Substantiation for Public Input

The intent of the paragraph addressed by this input seems to be to provide a list of hazard mitigation strategies. The proposed revision simplifies the information into a list format and avoids the use of the word “risk” which does not apply in this context.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 140-NFPA 800-2026 [New Section after 3.3.33]	

Submitter Information Verification

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Public Input No. 2-NFPA 800-2025 [Section No. A.8.2.1]

A.8.2.1



Threshold quantities and maximum allow quantities (MAQs) should comply with Table A.8.2.1.

Threshold quantities are those levels of energy above which the code is applicable. MAQs are the action levels that require additional protective measures or evaluation when an aggregation of the BPE exceeds these levels. The MAQs are defined as the name plate ratings of the devices, as the assumption is that BPE is at 100 percent state of charge.

Some examples of ranges of BPE devices include the following:

A typical 4 Ah tool battery would be 72 Wh. Therefore, the threshold limit of 2 kWh would cover about 28 batteries.

E-bikes are 250 to 750 Wh, or about 3 bikes on the high end with a MAQ of 40 kWh.

EVs can be between 60–100kWh, so a MAQ of 600 kWh would allow about 6 EVs in a charging or staging area.

NFPA building and life safety codes (e.g., NFPA 101) classify occupancies based on how a building or space is used. These occupancy classifications are the foundation for determining fire protection, egress, and construction requirements.

Multiple staging and charging areas can be used with appropriate separation to limit the risk and the requirements of an hazard mitigation analysis (HMA). Fire resistance-rated barriers can also provide effective mitigation strategies. The charging and staging areas being moved outside is one of the most effective mitigation measures.

Table A.8.2.1 Occupancy Ratings^a Applicable to Staging and ~~Charing~~ Charging Areas of BPE

Occupancy Class^{a,c,d}	Applicable Threshold	MAQ^b	Other Notes
Assembly	8 kWh	40 kWh	
Assembly — Transportation — Bus depots, trains, air terminals	8 kWh	40 kWh	
Educational	8 kWh	40 kWh	
Day-Care	1 kWh	20 kWh	
Health Care	2 kWh	20 kWh	
Ambulatory Health Care	2 kWh	20 kWh	
Detention and Correctional	8 kWh	40 kWh	Only allowed outside with adequate separation and outside of confinement areas
Residential — One- and two-family dwellings	Not allowed	-	Owner and single use per section 8.2.2.18
Residential — Lodging or rooming houses	2 kWh	30 kWh	
Residential — Hotels	2 kWh	300 kWh	
Residential — Dormitories	2 kWh	30 kWh	
Residential — Apartment buildings	2 kWh	30 kWh	
Mercantile — general	5 kWh	300 kWh	
Mercantile (retail) — EV charging station	5 kWh	300 kWh	
Business (office) — General	5 kWh	300 kWh	
Business — IT/telecom	20 kWh	50 kWh	
Industrial — General	20 kWh	600 kWh	
Industrial — Motor vehicle service and repair	20 kWh	600 kWh	
Storage — Warehouses	20 kWh	600 kWh	

<u>Occupancy Class^{a,c,d}</u>	<u>Applicable Threshold</u>	<u>MAQ^b</u>	<u>Other Notes</u>
Storage — Parking garages — Enclosed	20 kWh	600 kWh	
Storage — Parking garages — Open	20 kWh	1000 kWh	
Manufacturing	20 kWh	600 kWh	
Other Mission-Critical Infrastructure	20 kWh	600 kWh	
Outdoor Locations	20 kWh	1000 kWh	
High Rise Below 75 ft (22.9 m)	2 kWh	300 kWh	
High Rise Above 75 ft (22.9 m)	2 kWh	20 kWh	
Special Structures — Tunnels	Reserved	-	
Special Structures — Piers	Reserved	-	
Special Structures — Tents	Reserved	-	
Special Structures — Aircraft hangars	Reserved	-	
Special Structures — Barns	Reserved	-	

Notes:

- a. If an occupancy is not included, then an HMA is required.
- c. Mixed use occupancies should meet the most stringent use.
- d. Occupancy should be classified in accordance with NFPA 101.

Statement of Problem and Substantiation for Public Input

Corrected typo in table title.

NFPA 101 terminology for "mixed use occupancy" is "mixed occupancy".

General Comment on section. I am not familiar with the committee's intent, so making suggested changes is not appropriate. However, the applicability statement in chapter 8 is vague, but it leads you to a very detailed table in the Annex. Since the annex language isn't enforceable, but chapter 8 is, why is the MAQ information buried in the annex? This seems counterintuitive for actual applicability and enforcement.

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Submittal Date: Tue Dec 16 09:20:54 EST 2025

Committee: BAT-AAA



Public Input No. 249-NFPA 800-2026 [Section No. A.8.2.1]

A.8.2.1



Threshold ~~qualities and quantities and~~ maximum ~~allow~~ allowable quantities (MAQs) should comply with Table A.8.2.1.

Threshold quantities are those levels of energy above which the code is applicable. MAQs are the action levels that require additional protective measures or evaluation when an aggregation of the BPE exceeds these levels. The MAQs are defined as the name plate ratings of the devices, as the assumption is that BPE is at 100 percent state of charge.

Some examples of ranges of BPE devices include the following:

A typical 4 Ah tool battery would be 72 Wh. Therefore, the threshold limit of 2 kWh would cover about 28 batteries.

E-bikes are 250 to 750 Wh, or ~~about 3 bikes on the high end~~ between 53 to 160 bikes with a MAQ of 40 kWh.

EVs can be between 60–100kWh, so a MAQ of 600 kWh would allow about 6 EVs in a charging or staging area.

NFPA building and life safety codes (e.g., NFPA 101) classify occupancies based on how a building or space is used. These occupancy classifications are the foundation for determining fire protection, egress, and construction requirements.

Multiple staging and charging areas can be used with appropriate separation to limit the risk and the requirements of a hazard mitigation analysis (HMA). Fire resistance-rated barriers can also provide effective mitigation strategies. The charging and staging areas being moved outside is one of the most effective mitigation measures.

Table A.8.2.1 Occupancy Ratings^a Applicable to Staging and Charing Areas of BPE

Occupancy Class^{a,c,d}	Applicable Threshold	MAQ^b	Other Notes
Assembly	8 KWh	40 kWh	
Assembly — Transportation — Bus depots, trains, air terminals	8 kWh	40 kWh	
Educational	8 kWh	40 kWh	
Day-Care	1 kWh	20 kWh	
Health Care	2 kWh	20 kWh	
Ambulatory Health Care	2 kWh	20 kWh	
Detention and Correctional	8 kWh	40 kWh	Only allowed outside with adequate separation and outside of confinement areas
Residential — One- and two-family dwellings	Not allowed	-	Owner and single use per section 8.2.2.18
Residential — Lodging or rooming houses	2 kWh	30 kWh	
Residential — Hotels	2 kWh	300 kWh	
Residential — Dormitories	2 kWh	30 kWh	
Residential — Apartment buildings	2 kWh	30 kWh	
Mercantile — general	5 kWh	300 kWh	
Mercantile (retail) — EV charging station	5 kWh	300 kWh	
Business (office) — General	5 kWh	300 kWh	
Business — IT/telecom	20 kWh	50 kWh	
Industrial — General	20 kWh	600 kWh	
Industrial — Motor vehicle service and repair	20 kWh	600 kWh	

<u>Occupancy Class^{a,c,d}</u>	<u>Applicable Threshold</u>	<u>MAQ^b</u>	<u>Other Notes</u>
Storage — Warehouses	20 kWh	600 kWh	
Storage — Parking garages — Enclosed	20 kWh	600 kWh	
Storage — Parking garages — Open	20 kWh	1000 kWh	
Manufacturing	20 kWh	600 kWh	
Other Mission-Critical Infrastructure	20 kWh	600 kWh	
Outdoor Locations	20 kWh	1000 kWh	
High Rise Below 75 ft (22.9 m)	2 kWh	300 kWh	
High Rise Above 75 ft (22.9 m)	2 kWh	20 kWh	
Special Structures — Tunnels	Reserved	-	
Special Structures — Piers	Reserved	-	
Special Structures — Tents	Reserved	-	
Special Structures — Aircraft hangars	Reserved	-	
Special Structures — Barns	Reserved	-	

Notes:

- a. If an occupancy is not included, then an HMA is required.
- c. Mixed use occupancies should meet the most stringent use.
- d. Occupancy should be classified in accordance with NFPA 101.

Statement of Problem and Substantiation for Public Input

Two typos in first sentence. Also, math error noted in original text in the computation of the number of e-bikes for 40 kWh MAQ.

Submitter Information Verification

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Submittal Date: Mon Jan 26 13:13:15 EST 2026

Committee: BAT-AAA



Public Input No. 345-NFPA 800-2026 [Section No. A.8.2.1]

A.8.2.1



Threshold quantities and maximum allow quantities (MAQs) should comply with Table A.8.2.1.

Threshold quantities are those levels of energy above which the code is applicable. MAQs are the action levels that require additional protective measures or evaluation when an aggregation of the BPE exceeds these levels. The MAQs are defined as the name plate ratings of the devices, as the assumption is that BPE is at 100 percent state of charge.

Some examples of ranges of BPE devices include the following:

A typical 4 Ah tool battery would be 72 Wh. Therefore, the threshold limit of 2 kWh would cover about 28 batteries.

E-bikes are 250 to 750 Wh, or about 3 bikes on the high end with a MAQ of 40 kWh.

EVs can be between 60–100kWh, so a MAQ of 600 kWh would allow about 6 EVs in a charging or staging area.

NFPA building and life safety codes (e.g., NFPA 101) classify occupancies based on how a building or space is used. These occupancy classifications are the foundation for determining fire protection, egress, and construction requirements.

Multiple staging and charging areas can be used with appropriate separation to limit the risk and the requirements of an hazard mitigation analysis (HMA). Fire resistance-rated barriers can also provide effective mitigation strategies. The charging and staging areas being moved outside is one of the most effective mitigation measures.

Table A.8.2.1 Occupancy Ratings^a Applicable to Staging and Charing Areas of BPE

Occupancy Class^{a,c,d}	Applicable Threshold	MAQ^b	Other Notes
Assembly	8 kWh	40 kWh	
Assembly — Transportation — Bus depots, trains, air terminals	8 kWh	40 kWh	
Educational	8 kWh	40 kWh	
Day-Care	1 kWh	20 kWh	
Health Care	2 kWh	20 kWh	
Ambulatory Health Care	2 kWh	20 kWh	
Detention and Correctional	8 kWh	40 kWh	Only allowed outside with adequate separation and outside of confinement areas
Residential — One- and two-family dwellings	Not allowed	-	Owner and single use per section 8.2.2.18
Residential — Lodging or rooming houses	2 kWh	30 kWh	
Residential — Hotels	2 kWh	300 kWh	
Residential — Dormitories	2 kWh	30 kWh	
Residential — Apartment buildings	2 kWh	30 kWh	
Mercantile — general	5 kWh	300 kWh	
Mercantile (retail) — EV charging station	5 kWh	300 kWh	
Business (office) — General	5 kWh	300 kWh	
Business — IT/telecom	20 kWh 50	600 kWh	
Industrial — General	20 kWh	600 kWh	
Industrial — Motor vehicle service and repair	20 kWh	600 kWh	

<u>Occupancy Class^{a,c,d}</u>	<u>Applicable Threshold</u>	<u>MAQ^b</u>	<u>Other Notes</u>
Storage — Warehouses	20 kWh	600 kWh	
Storage — Parking garages — Enclosed	20 kWh	600 kWh	
Storage — Parking garages — Open	20 kWh	1000 kWh	
Manufacturing	20 kWh	600 kWh	
Other Mission-Critical Infrastructure	20 kWh	600 kWh	
Outdoor Locations	20 kWh	1000 kWh	
High Rise Below 75 ft (22.9 m)	2 kWh	300 kWh	
High Rise Above 75 ft (22.9 m)	2 kWh	20 kWh	
Special Structures — Tunnels	Reserved	-	
Special Structures — Piers	Reserved	-	
Special Structures — Tents	Reserved	-	
Special Structures — Aircraft hangars	Reserved	-	
Special Structures — Barns	Reserved	-	

Notes:

- a. If an occupancy is not included, then an HMA is required.
- c. Mixed use occupancies should meet the most stringent use.
- d. Occupancy should be classified in accordance with NFPA 101.

Statement of Problem and Substantiation for Public Input

The IT/Telecom MAQ seems very low. It should be the same as other mission critical or industrial.

Submitter Information Verification

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Submission Date: Tue Jan 27 18:39:09 EST 2026

Committee: BAT-AAA



Public Input No. 346-NFPA 800-2026 [Section No. A.8.2.1]

A.8.2.1



Threshold quantities and maximum allow quantities (MAQs) should comply with Table A.8.2.1.

Threshold quantities are those levels of energy above which the code is applicable. MAQs are the action levels that require additional protective measures or evaluation when an aggregation of the BPE exceeds these levels. The MAQs are defined as the name plate ratings of the devices, as the assumption is that BPE is at 100 percent state of charge.

Some examples of ranges of BPE devices include the following:

A typical 4 Ah tool battery would be 72 Wh. Therefore, the threshold limit of 2 kWh would cover about 28 batteries.

E-bikes are 250 to 750 Wh, or about 3 bikes on the high end with a MAQ of 40 kWh.

EVs can be between 60–100kWh, so a MAQ of 600 kWh would allow about 6 EVs in a charging or staging area.

NFPA building and life safety codes (e.g., NFPA 101) classify occupancies based on how a building or space is used. These occupancy classifications are the foundation for determining fire protection, egress, and construction requirements.

Multiple staging and charging areas can be used with appropriate separation to limit the risk and the requirements of an hazard mitigation analysis (HMA). Fire resistance-rated barriers can also provide effective mitigation strategies. The charging and staging areas being moved outside is one of the most effective mitigation measures.

Table A.8.2.1 Occupancy Ratings^a Applicable to Staging and Charing Areas of BPE

Occupancy Class^{a,c,d}	Applicable Threshold	MAQ^b	Other Notes
Assembly	8 kWh	40 kWh	
Assembly — Transportation — Bus depots, trains, air terminals	8 kWh	40 kWh	
Educational	8 kWh	40 kWh	
Day-Care	1 kWh	20 kWh	
Health Care	2 kWh	20 kWh	
Ambulatory Health Care	2 kWh	20 kWh	
Detention and Correctional	8 kWh	40 kWh	Only allowed outside with adequate separation and outside of confinement areas
Residential — One- and two-family dwellings	Not allowed	-	Owner and single use per section 8.2.2.18
Residential — Lodging or rooming houses	2 kWh	30 kWh	
Residential — Hotels	2 kWh	300 kWh	
Residential — Dormitories	2 kWh	30 kWh	
Residential — Apartment buildings	2 kWh	30 kWh	
Mercantile — general	5-8 kWh	300 kWh	
Mercantile (retail) — EV charging station	5-8 kWh	300 kWh	
Business (office) — General	5-8 kWh	300 kWh	
Business — IT/telecom	20 kWh	50 kWh	
Industrial — General	20 kWh	600 kWh	
Industrial — Motor vehicle service and repair	20 kWh	600 kWh	
Storage — Warehouses	20 kWh	600 kWh	
Storage — Parking garages — Enclosed	20 kWh	600 kWh	

<u>Occupancy Class</u> ^{a,c,d}	<u>Applicable Threshold</u>	<u>MAQ</u> ^b	<u>Other Notes</u>
Storage — Parking garages — Open	20 kWh	1000 kWh	
Manufacturing	20 kWh	600 kWh	
Other Mission-Critical Infrastructure	20 kWh	600 kWh	
Outdoor Locations	20 kWh	1000 kWh	
High Rise Below 75 ft (22.9 m)	2 kWh	300 kWh	
High Rise Above 75 ft (22.9 m)	2 kWh	20 kWh	
Special Structures — Tunnels	Reserved	-	
Special Structures — Piers	Reserved	-	
Special Structures — Tents	Reserved	-	
Special Structures — Aircraft hangars	Reserved	-	
Special Structures — Barns	Reserved	-	

Notes:

- a. If an occupancy is not included, then an HMA is required.
- c. Mixed use occupancies should meet the most stringent use.
- d. Occupancy should be classified in accordance with NFPA 101.

Statement of Problem and Substantiation for Public Input

The referenced section 8.2.2.18 does exist in the current draft. Also - consider increasing the applicability thresholds for Mercantile and Business. There is no reason for these to be less than Assembly and Educational.

Submitter Information Verification

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Submittal Date: Tue Jan 27 19:56:18 EST 2026

Committee: BAT-AAA



A.8.2.1

Threshold quantities and maximum allow quantities (MAQs) should comply with Table A.8.2.1 :

Threshold quantities are those levels of energy above which the code is applicable. MAQs are the action levels that require additional protective measures or evaluation when an aggregation of the BPE exceeds these levels. The MAQs are defined as the name plate ratings of the devices, as the assumption is that BPE is at 100 percent state of charge.

Some examples of ranges of BPE devices include the following:

A typical 4 Ah tool battery would be 72 Wh. Therefore, the threshold limit of 2 kWh would cover about 28 batteries.

E-bikes are 250 to 750 Wh, or about 3 bikes on the high end with a MAQ of 40 kWh.

EVs can be between 60–100kWh, so a MAQ of 600 kWh would allow about 6 EVs in a charging or staging area.

NFPA building and life safety codes (e.g., NFPA 101) classify occupancies based on how a building or space is used. These occupancy classifications are the foundation for determining fire protection, egress, and construction requirements.

Multiple staging and charging areas can be used with appropriate separation to limit the risk and the requirements of an hazard mitigation analysis (HMA). Fire resistance-rated barriers can also provide effective mitigation strategies. The charging and staging areas being moved outside is one of the most effective mitigation measures.

Table A.8.2.1 Occupancy Ratings ^a -Applicable to Staging and Charing Areas of BPE

Occupancy Class ^{a,c,d}	Applicable Threshold MAQ ^b	Other Notes
Assembly — Bus depots, trains, air terminals	8 kWh 40 kWh	Assembly —
Transportation —	8 kWh 40 kWh	Educational 8 kWh 40 kWh - Day-Care 1 kWh 20 kWh - Health Care 2 kWh 20 kWh - Ambulatory Health Care 2 kWh 20 kWh - Detention and Correctional 8 kWh 40 kWh
Residential — One- and two-family dwellings	Not allowed	Only allowed outside with adequate separation and outside of confinement areas
Residential — Lodging or rooming houses	2 kWh 30 kWh	Residential — Hotels 2 kWh 300 kWh - Residential — Apartment buildings 2 kWh 30 kWh - Mercantile — general 5 kWh 300 kWh - Mercantile (retail) — EV charging station 5 kWh 300 kWh - Business (office) — General 5 kWh 300 kWh - Business — IT/telecom 20 kWh 50 kWh - Industrial — General 20 kWh 600 kWh - Industrial — Motor vehicle service and repair 20 kWh 600 kWh - Storage — Warehouses 20 kWh 600 kWh - Storage — Parking garages — Enclosed 20 kWh 600 kWh - Storage — Parking garages — Open 20 kWh 1000 kWh - Manufacturing 20 kWh 600 kWh - Other Mission-Critical Infrastructure 20 kWh 600 kWh - Outdoor Locations 20 kWh 1000 kWh - High Rise Below 75 ft (22.9 m) 2 kWh 300 kWh - High Rise Above 75 ft (22.9 m) 2 kWh 20 kWh - Special Structures — Tunnels Reserved -- Special Structures — Piers Reserved -- Special Structures — Tents Reserved -- Special Structures — Aircraft hangars Reserved -- Special Structures — Barns Reserved --

Notes:

a. If an occupancy is not included, then an HMA is required.

e. Mixed use occupancies should meet the most stringent use.

d. Occupancy should be classified in accordance with NFPA 101.

Statement of Problem and Substantiation for Public Input

Table A.8.2.1 is not appropriate for inclusion or consideration within the provisional standard per ANSI provisional guidelines and NFPA rules and regulations governing standard development. The table is not based on scientific rigor, technical merit, or an evidenced loss history. Furthermore, it undermines the product safety standards to which the individual battery powered equipment are to be evaluated. Although annex material is informative and not normative, NFPA rules and regulations require the same due diligence and rigor be applied to the development of annex material.

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Committee: BAT-AAA



Public Input No. 391-NFPA 800-2026 [Section No. A.8.2.1.3]

A.8.2.1.3



The following is a list of available standards that can be used to provide listings for batteries and battery-operated products.

Mobility/Transportation Applications:

UL 583, *Electric-Battery-Powered Industrial Trucks [& Commercial Floor Cleaners]*

UL 2271, *Batteries for Use in Light Electric Vehicle (LEV) Applications*

UL 2272, *Electrical Systems for Personal E-Mobility Devices*

UL 2580, *Batteries for Use in Electric Vehicles*

UL 2849, *Electrical Systems for eBikes*

UL 2850, *Outline of Investigation for Vehicle Systems of Electric Scooters and Motorcycles*

UL 3030, *Unmanned Aircraft Systems*

UL 3100, *Automated Mobile Platforms (AMPs)*

UL 3300, *Service, Communication, Information, Education and Entertainment Robots — SCIEE Robots*

UL 5840, *Electrical Systems of Battery Powered Aviation Ground Support Equipment*

UL 4900, *Micromobility Charging Equipment*

Stationary/Transportable Applications:

UL 1973, *Batteries for Use in Stationary and Motive Auxiliary Power Applications*

UL 1989, *Valve Regulated or Vented Batteries with Aqueous Electrolytes*

UL 2743, *Portable Power Packs*

UL 1741, *Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources*

Tool/Lighting/Appliance Applications:

UL 1017, *Vacuum Cleaners, Blower Cleaners, and Household Floor Finishing Machines [Including Battery-Powered]*

UL 2317, *Subject for Electric-Battery-Powered Cleaning Machines*

UL 2595, *General Requirements for Battery-Powered Appliances*

UL 2753, *Outline of Investigation for Battery Operated Ride-On Lawn Mowers*

UL 60335, *Standard for Safety of Household and Similar Appliances*

UL 62841, *Electric Motor-Operated Hand-Held Tools, Transportable Tools and Lawn and Garden Machinery — Safety*

Portable/Wearable Applications:

UL 2054, *Household and Commercial Batteries*

UL 2056, *Power Banks*

UL 1642, *Lithium Batteries*

UL 60086-4, Primary Batteries - Part 4: Safety of Lithium Batteries

UL 62133-2, Secondary Cells and Batteries Containing Alkaline or Other Non-Acid Electrolytes - Safety Requirements for Portable Sealed Secondary Cells, and for Batteries Made from Them, for Use in Portable Applications - Part 2: Lithium Systems

Other Applicable Battery Related, Battery-operated Product, and Battery Charger Standards:

UL 1012, Power Units Other Than Class 2

UL 1310, Class 2 Power Units

UL 1236, Battery Chargers for Charging Engine-Starter Batteries

UL 1487, *Battery Containment Enclosures*

UL 2436, *Outline of Investigation for Spill Containment for Stationary Acid and Alkaline Electrolyte Battery Systems*

UL 3120, *Outline of Investigation for Battery Operated Exoskeletons for Industrial Applications*

UL 3202, *Mobile Electric Vehicle Charging Systems Integrated with Energy Storage Systems*

UL 3456, *Outline of Investigation for Electric-Battery-Powered Carts for Commercial Use*

UL 5800, *Battery Fire Containment Products*

UL 8139, *Electrical Systems of Electronic Cigarettes and Vaping Devices (FKIF)*

UL 8400, *Virtual Reality, Augmented Reality and Mixed Reality Technology Equipment (ARVR)*

UL 60335-2-29, Household and Similar Electrical Appliances – Safety – Part 2-29: Particular Requirements for Battery Chargers

UL 62368-1, Audio/Video, Information and Communication Technology Equipment — Part 1: Safety Requirements (such as laptops, speakers, and other consumer electronics)

UL 62841-2 series, Electric Motor-Operated Hand-Held Tools, Transportable Tools and Lawn and Garden Machinery - Safety

Statement of Problem and Substantiation for Public Input

Expand the list to include additional applicable options.

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Submittal Date: Wed Jan 28 14:20:18 EST 2026

Committee: BAT-AAA



Public Input No. 406-NFPA 800-2026 [Section No. A.8.2.1.3]

A.8.2.1.3

The following is a list of available standards that can be used to provide listings for batteries and battery-operated products.

Mobility/Transportation Applications:

UL 583, *Electric-Battery-Powered Industrial Trucks [& Commercial Floor Cleaners]*

UL 2271, *Batteries for Use in Light Electric Vehicle (LEV) Applications*

UL 2272, *Electrical Systems for Personal E-Mobility Devices*

UL 2580, ~~*Batteries for Use in Electric Vehicles*~~ UL 2849, *Electrical Systems for eBikes*

UL 2850, *Outline of Investigation for Vehicle Systems of Electric Scooters and Motorcycles*

UL 3030, *Unmanned Aircraft Systems*

UL 3100, *Automated Mobile Platforms (AMPs)*

UL 3300, *Service, Communication, Information, Education and Entertainment Robots — SCIEE Robots*

UL 5840, *Electrical Systems of Battery Powered Aviation Ground Support Equipment*

UL 4900, *Micromobility Charging Equipment*

Stationary/Transportable Applications:

UL 1973, *Batteries for Use in Stationary and Motive Auxiliary Power Applications*

UL 1989, *Valve Regulated or Vented Batteries with Aqueous Electrolytes*

UL 2743, *Portable Power Packs*

UL 1741, *Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources*

Tool/Lighting/Appliance Applications:

UL 1017, *Vacuum Cleaners, Blower Cleaners, and Household Floor Finishing Machines [Including Battery-Powered]*

UL 2317, *Subject for Electric-Battery-Powered Cleaning Machines*

UL 2595, *General Requirements for Battery-Powered Appliances*

UL 2753, *Outline of Investigation for Battery Operated Ride-On Lawn Mowers*

UL 60335, *Standard for Safety of Household and Similar Appliances*

UL 62841, *Electric Motor-Operated Hand-Held Tools, Transportable Tools and Lawn and Garden Machinery — Safety*

Portable/Wearable Applications:

UL 2054, *Household and Commercial Batteries*

UL 2056, *Power Banks*

UL 1642, *Lithium Batteries*

Other Applicable Battery Standards:

UL 1236, *Battery Chargers for Charging Engine-Starter Batteries*

UL 1487, *Battery Containment Enclosures*

UL 2436, *Outline of Investigation for Spill Containment for Stationary Acid and Alkaline Electrolyte Battery Systems*

UL 3120, *Outline of Investigation for Battery Operated Exoskeletons for Industrial Applications*

UL 3202, *Mobile Electric Vehicle Charging Systems Integrated with Energy Storage Systems*

UL 3456, *Outline of Investigation for Electric-Battery-Powered Carts for Commercial Use*

UL 5800, *Battery Fire Containment Products*

UL 8139, *Electrical Systems of Electronic Cigarettes and Vaping Devices (FKIF)*

UL 8400, *Virtual Reality, Augmented Reality and Mixed Reality Technology Equipment (ARVR)*

UL 62368-1, *Audio/Video, Information and Communication Technology Equipment — Part 1: Safety Requirements (such as laptops, speakers, and other consumer electronics)*

Statement of Problem and Substantiation for Public Input

The UL standard for electric vehicles should not be included in this list as it implies that EVs are subject to the requirements. EVs are regulated by NHTSA and including them here would be redundant and potentially create conflicts.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 404-NFPA 800-2026 [Section No. 3.3.29.10]</u>	Relates to changes to clarify that EVs are not included.
<u>Public Input No. 405-NFPA 800-2026 [Section No. 8.2.1.2]</u>	Relates to changes to clarify that EVs are not included.

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Public Input No. 347-NFPA 800-2026 [Section No. A.8.2.1.12]

A.8.2.1.12 [🔗](#)

Reactive metal and reactive ion BPEs should be cross-listed with the charging equipment._

Statement of Problem and Substantiation for Public Input

The annex statement should be restricted to certain battery types. Lead-acid batteries are not cross-listed to chargers and in the case for flooded lead-acid, the batteries themselves are not typically listed at all.

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Committee: BAT-AAA



Public Input No. 348-NFPA 800-2026 [Section No. A.8.4.3.1]

A.8.4.3.1 [🔗](#)

The main hazard associated with lead-acid batteries is an electrical fire caused by a hydrogen release explosion of hydrogen released during charging during normal conditions under normal operation if the area is not properly ventilated . When charging is stopped for lead-acid batteries, they stop producing hydrogen. The ~~fire~~ hazard is ~~not predominant compared to lithium~~ more controllable than those associated with lithium -ion batteries but is still present.

Statement of Problem and Substantiation for Public Input

Suggested clarification of the explosion hazard for lead-acid batteries. Hydrogen explosion might not be an electrical fire. Emphasis added on the need for ventilation.

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Committee: BAT-AAA



Public Input No. 168-NFPA 800-2026 [Section No. A.9.2.2.1]

A.9.2.2.1 [🔗](#)

~~See Annex C for the description of and Annex B for hazards associated with different battery. B for information related to battery hazards. See Annex C for an overview of current and emerging battery chemistries and technologies.~~

Statement of Problem and Substantiation for Public Input

The references to Annex B and C are revised for clarity and to align with the content and scope of each Annex. The paragraph is separated into two sentences to avoid one long, run-on sentence.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 140-NFPA 800-2026 [New Section after 3.3.33]	

Submitter Information Verification

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Submittal Date: Fri Jan 16 12:02:28 EST 2026

Committee: BAT-AAA



A.9.4.1.1

Fires at materials recovery facilities (MRFs), transfer stations, waste-to-energy facilities, and landfills are increasingly linked to discarded batteries in the municipal solid waste stream. Although improper disposal of batteries is prohibited under existing regulations, experience has shown that batteries often enter these facilities and present unique ignition and suppression challenges.

Where there is a ~~risk~~ possibility that discarded batteries could be received, facilities are encouraged to apply the hazard mitigation analysis required by 9.2.2 to ~~evaluate these hazards~~ identify the hazards and assess the associated risk. The analysis can help determine whether existing detection, suppression, and operational features are adequate or if additional measures are warranted. Examples include early detection technologies (radiant-energy or thermal imaging), suppression strategies capable of cooling lithium-ion battery fires, and operational protocols for isolation and handling of waste loads suspected to contain batteries.

By incorporating these considerations into the HMA, facilities can better align their fire protection features with the actual hazards present and reduce the frequency and severity of battery-related fire incidents.

Statement of Problem and Substantiation for Public Input

1. Use of the word “risk.” In safety documents such as this one the word “risk” should be reserved for and used only when the intended meaning is “the combination of the probability of occurrence of an adverse event and the potential consequences of that event.”

The phrase “risk that” in this type of document generally refers to a “possibility that” regardless of the potential consequence.

Based on the context of this sentence, the phrase “risk that discarded batteries could” should be replaced with the phrase “the possibility that discarded batteries could...”.

2. Re: “evaluate these hazards...”: Hazards are a source of harm, and as such it better to refer to them as being “identified”. Risk is assessed, analyzed and evaluated. The proposed revision will ensure that the concepts of “hazard” and “risk” are not confused.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 140-NFPA 800-2026 [New Section after 3.3.33]	

Submitter Information Verification

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Submission Date: Fri Jan 16 11:44:47 EST 2026
Committee: BAT-AAA



A.9.4.1.1 [🔗](#)

Fires at materials recovery facilities (MRFs), transfer stations, waste-to-energy facilities, and landfills are increasingly linked to discarded lithium-ion cells and batteries in the municipal solid waste stream. Although improper disposal of cells and batteries is prohibited under existing regulations, experience has shown that batteries often enter these facilities and present unique ignition and suppression challenges.

Where there is a risk that discarded lithium-ion cells batteries could be received, facilities are encouraged to apply the hazard mitigation analysis required by 9.2.2 to evaluate these hazards. The analysis can help determine whether existing detection, suppression, and operational features are adequate or if additional measures are warranted. Examples include early detection technologies (radiant-energy or thermal imaging), suppression strategies capable of cooling lithium-ion battery fires, and operational protocols for isolation and handling of waste loads suspected to contain batteries.

By incorporating these considerations into the HMA, facilities can better align their fire protection features with the actual hazards present and reduce the frequency and severity of battery-related fire incidents.

Statement of Problem and Substantiation for Public Input

Some batteries such as those comprised of primary zinc-carbon cells, (at least in my municipality) are intended to be put into the waste stream and are not a hazard. The concerns noted are in large part a disposal problem with lithium-ion chemistries so the discussion should be restricted to those types and similar. It is not correct to indicate every battery in the waste stream is a hazard.

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Submittal Date: Mon Jan 26 20:23:12 EST 2026

Committee: BAT-AAA



B.3.3 Electrical Hazards.

Under normal operating conditions, some battery systems might have electrical hazards that need to be addressed as part of operation and maintenance. Technicians should follow accepted maintenance and installation procedures (for example, see NFPA 70B; IEEE 450, *Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications*; IEEE 484, *Recommended Practice for Installation Design and Installation of Vented Lead-Acid Batteries for Stationary Applications*; IEEE 1187, *Recommended Practice for Installation Design and Installation of Valve-Regulated Lead-Acid Batteries for Stationary Applications*; and IEEE 188, *Standard Test Code for Resistance Measurement*) when working on or near battery systems.

Electrical hazards that can occur during normal operating conditions follow:

- (1) Electrical shock: Batteries with voltages above 50 V (in accordance with NFPA 70E limits for electrical shock) can pose hazards to trained workers who might come in contact with live parts during operation and servicing of the systems. It is necessary that appropriate labeling and procedures and protective equipment are utilized by workers when servicing these systems.
- (2) Arc flash: Batteries that have an incident energy level greater than 1.2 cal/cm^2 (5 J/cm^2) should have the arc flash boundaries calculated, identified through markings, and proper procedures and equipment in place to prevent worker injury from arc flash during normal operation and servicing. In some battery designs it is possible to cause an arc flash accident or fire by easily miswiring parts of the battery as a loop short circuit or connecting the terminals to same busbar if it is not prevented by design. Such hazard should be identified and warned about by labelling and work instructions.
- (3) Stranded or stored energy hazards: Energy that can be accumulated and reserved for future use, generally in the form of electricity, is stranded or stored energy. An example of a stranded or stored energy hazard is worker exposure to batteries that are not discharged sufficiently or that are damaged, and where the potential exists for electric shock and arc flash issues. For normal operating conditions, sites housing batteries should maintain on-site instructions for isolation of hazardous voltage and energy for maintenance and discharging batteries for safe replacement and disposal. Residential and smaller commercial systems should have information provided and access to trained technicians to perform these duties to ensure that stranded and stored energy does not represent a hazard under normal operating conditions.

Statement of Problem and Substantiation for Public Input

While this is not a product safety standard, I hope that the standard covers one typical hazard when designing, assembling and especially servicing/repairing large batteries and battery systems.

There has been several accidents where miswiring has caused a short-circuit and arc flash accident and/or fire. These articles are in Norwegian and Finnish but are readable with Google Translate:

<https://www.nrk.no/vestland/batteri-i-buss-eksploederte---en-person-sendt-til-sykehus-1.16873496> (Norwegian)
<https://www.sil.fi/uutiset/sahkobussi-valokaari-2025/> (Finnish)
<https://doi.org/10.1109/MIAS.2024.3387142> (English)

I have heard about similar accidents happened in the United States too, they are probably discussed in the IEEE Electrical Safety Workshop 2026 in March, I'm unfortunately unable to attend this year.

The number one prevention method is to prevent this kind of accidents in design phase: using connectors which fit only desired receptacles or at least color coding for the connectors. If this is not done, there shall be at least warning in the repair instructions and preferably also a label or sticker in the battery pack warning on this hazard.

One significant risk factor is that in many designs it is possible to make the short circuit before the overcurrent protection device, as it happened in the Finnish accident listed above.

Related Public Inputs for This Document

Related Input

Relationship

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Submittal Date: Thu Jan 29 13:52:21 EST 2026

Committee: BAT-AAA



Sections B.4.1, B.4.2

New section: B4.X -- Hazards associated with abnormal conditions (i.e. Thermal Runaway) must be clearly called out in the Hazard Mitigation Assessment (HMA). An official test document that sampled chemistries (such as UL 9540A for cells, modules) shall accompany the HMA.

(Rationale for NFPA 800 committee: Hospitals and fire departments have no clue what they chemicals they/the people they protect might be exposed to. They need a list! If Safety Data Sheets (SDS) won't do it, it needs to be picked up and mandated by the AHJs during permitting. Would love it if an AHJ codes mandated that chemicals must be put into the SDS so more readily available. Right now they are largely missing.)

B.4.1 Fire and Explosion Hazards.

First responders in emergency situations need to be aware of potential fire and explosion hazards from batteries, use appropriate caution around them, and use proper PPE.

Fire and explosion hazards can include the following:

- (1) Combustible/flammable concentrations due to overheating and venting of flammable gases near sources of ignition can occur during emergency/abnormal conditions. If concentrations of vented gases, such as hydrogen, are sufficient to create combustible/flammable concentrations in the presence of hot parts, there will be ignition resulting in either a fire or an explosion. All batteries, with the exception of hermetically sealed types such as sodium beta, have means to relieve internal pressure when overheated to prevent explosions of the battery cell from overpressurization.
- (2) There can be fires due to overheating electrical parts under abnormal conditions such as short circuits.

B.4.2 Chemical Hazards.

First responders in emergency situations need to be aware of potential chemical hazards from batteries should cell containers be damaged, use appropriate caution around these batteries, and use proper PPE.

Examples of chemical hazards are as follows:

- (1) Liquid hazards, such as the following:
 - (2) Corrosive spills: A liquid with a pH ≤ 2 or ≥ 11.5 is considered corrosive and hazard level 3 and can cause serious or permanent eye injury for someone who comes in direct contact with it per Table B.1 in NFPA 704. With some systems that contain corrosive liquids, there can be the possibility of leaks or spills from the system under emergency/abnormal conditions. Batteries containing corrosive liquids are to be marked health hazard level 3 in the NFPA 704 hazard diamond.
 - (3) Toxic liquid vapor exposure: There are different levels of toxicity from liquid vapors that can occur under emergency conditions such as fires and hazardous leaks and spills. There is a range of hazard levels outlined in NFPA 704 as follows:
 - (4) Level 4: Is lethal under emergency conditions; any liquid whose saturated vapor concentration at 68°F (20°C) is equal to or greater than 10 times its LC50 for acute inhalation toxicity, if its LC50 is less than or equal to 1000 ppm
 - (5) Level 3: Can cause serious or permanent injury; any liquid whose saturated vapor concentration at 68°F (20°C) is equal to or greater than its LC50 for acute inhalation toxicity, if its LC50 is less than or equal to 3000 ppm, and that does not meet the criteria for degree of hazard 4
 - (6) Level 2: Can cause temporary incapacitation or residual injury under emergency conditions; any liquid whose saturated vapor concentration at 68°F (20°C) is equal to or greater than one-fifth its LC50 for acute inhalation toxicity, if its LC50 is less than or equal to 5000 ppm, and that does not meet the criteria for either degree of hazard 3 or degree of hazard 4
 - (7) Level 1: Can cause significant irritation under emergency conditions; mists whose LC50 for acute inhalation toxicity is greater than 10 mg/L but less than or equal to 200 mg/L
- (8) Oxidizers: The potential exists for oxidizers to be present within the battery systems. An oxidizer will increase the intensity of a fire of other materials. Annex G in NFPA 400 provides information on tests to classify an oxidizer material and identifies known oxidizing materials under their classifications. Annex G in NFPA 400 also provides guidance on safety measures to use when there are exposed quantities of known oxidizers, which can occur during abnormal conditions of certain battery technologies that contain them. Batteries containing oxidizers are to be marked in the special hazard section of the NFPA 704 hazard diamond.
- (9) Solids: Some battery technologies contain water-reactive material that can react violently when in contact with moisture, including moisture in the air. Although not exposed under normal operating conditions, these materials could be exposed under abnormal conditions. Batteries containing water-reactive substances should be marked as such in the NFPA 704 hazard diamond.
- (10) Gases — toxic gases: Similar to toxic vapors emanating from liquids. The following are the different levels of hazards associated with toxic gases from level 4 to level 1:
 - (11) Level 4: Gases that can be lethal under emergency conditions; gases whose LC50 for acute inhalation toxicity is less than or equal to 1000 ppm
 - (12) Level 3: Gases that can cause serious or permanent injury under emergency conditions; gases whose LC50 for acute inhalation toxicity is greater than 1000 ppm but less than or equal to 3000 ppm
 - (13) Level 2: Gases that can cause temporary incapacitation or residual injury under emergency conditions; gases whose LC50 for acute inhalation toxicity is greater than 3000 ppm but less than or equal to 5000 ppm
 - (14) Level 1: Gases that can cause significant irritation under emergency conditions; gases and vapors whose LC50 for acute inhalation toxicity is greater than 5000 ppm but less than or equal to 10,000 ppm

Note: As outlined in NFPA 704, LC50 for acute toxicity on inhalation is that concentration of vapor, mist, or dust, which, when administered by continuous inhalation to both male and female young adult albino rats for 1 hour, is most likely to cause death within 14 days in one half of the animals tested. The criteria for inhalation toxicity of vapors are based on LC50 data relating to 1-hour exposures.

Statement of Problem and Substantiation for Public Input

Rationale for NFPA 800 committee: Hospitals and fire departments have no clue what chemicals they/the people they protect might be exposed to during thermal runaway. They need a list! If Safety Data Sheets (SDS) won't do it, it needs to be picked up and mandated by the AHJs during permitting. Would love it if an AHJ codes mandated that chemicals must be put into the SDS so more readily available. Right now they are largely missing

Submitter Information Verification

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Submittal Date: Tue Jan 27 10:12:27 EST 2026

Committee: BAT-AAA



B.5.2 Lead-Acid Batteries.

Hazard considerations for vented lead-acid batteries under normal operating conditions are as follows:

- (1) Fire and explosion hazards: Lead-acid battery containers typically use fire-resistant polymers and the electrolyte, posts, and plates are not flammable. There is the potential for concentrations of hydrogen, particularly from vented lead-acid batteries, if the area where the batteries are located is not properly ventilated.
- (2) Chemical hazards: There is the potential for contact with the corrosive electrolyte, but this is ~~only~~ a risk ~~when~~ hazard only when workers are handling electrolyte or servicing vented-lead acid batteries
- (3) Electrical hazards: There are electrical hazards associated with routine maintenance of these batteries (see NFPA 70E). These include thermal burns (typically to the hands) from accidental shorting, shock concerns above 100 VDC or 40 mA through the body when the body is wet or sweaty, and potential arc flash hazards above 150 VDC.
- (4) Stranded or stored energy hazards: There can be potential for stranded or stored energy hazards during maintenance
- (5) Physical hazards: As lead-acid batteries can be heavy, there are lifting hazards that are an issue during installation, replacement, or removal

Hazard considerations for lead-acid batteries under emergency/abnormal conditions are as follows:

- (1) Fire and explosion hazards: There is the potential for off-gassing of hydrogen under abnormal conditions when lead-acid batteries overheat while charging. Besides producing hydrogen, valve-regulated lead-acid (VRLA) batteries can undergo destructive self-heating if improperly charged at elevated temperatures or too high of a voltage for too long, or if charged past their useful life. Also, there can be small fire hazards due to overheating of lead-acid cells from an external short-circuit.
- (2) Chemical hazards: There is the potential for contact with the corrosive electrolyte during abnormal conditions should the electrolyte leak
- (3) Electrical hazards: Electrical hazards might be present if the system is at hazardous voltage and energy levels
- (4) Stranded or stored energy hazards: There can be the potential for stored or stranded energy hazards if batteries are subject to abnormal conditions
- (5) Physical hazards: The potential exists for overheating from high current discharges due to an external short-circuit

Statement of Problem and Substantiation for Public Input

Use of the word "risk" in the phrase "is only a risk when...". In safety documents such as this one the word "risk" should be reserved for and used only when the intended meaning is "the combination of the probability of occurrence of an adverse event and the potential consequences of that event." In this context "risk" is a "hazard." Further, the conditional word "only" should be relocated for grammatical accuracy. The phrase "is only a risk when..." should be replaced with the phrase "is a hazard only when..."

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 140-NFPA 800-2026 [New Section after 3.3.33]	

Submitter Information Verification

Submitter Full Name: Daniel Roberts
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Committee: BAT-AAA



B.5.5.1 Nickel-Cadmium (Ni-Cd) and Nickel-Zinc (Ni-Zn) Batteries.

Hazard considerations for Ni-Cd and Ni-Zn batteries under normal operating conditions are as follows:

- (1) Fire and explosion hazards: There is the potential for concentrations of hydrogen from vented Ni-Cd and Ni-Zn batteries if the area where the batteries are located is not properly ventilated
- (2) Chemical hazards: There is the potential for contact with the corrosive/caustic potassium hydroxide electrolyte, but this ~~is~~ is a hazard ~~only a risk~~ when workers are handling electrolyte
- (3) Electrical hazards: There are electrical hazards associated with routine maintenance of these batteries if they are at hazardous voltage and energy levels
- (4) Stranded or stored energy hazards: There can be the potential for stranded or stored energy hazards during maintenance if the batteries cannot be isolated for maintenance or replacement
- (5) Physical hazards: There are lifting hazards due to the weight of the battery that are only an issue during installation replacement or removal

Hazard considerations for Ni-Cd and Ni-Zn batteries under emergency/abnormal conditions are as follows:

- (1) Fire and explosion hazards: There is the potential for concentrations of hydrogen from vented Ni-Cd and Ni-Zn batteries due to overheating from abnormal conditions if the area where the batteries are located is not properly ventilated. Another area that might create problems during abnormal conditions would be the potential for shorting of high-current circuits.
- (2) Chemical hazards: There is the potential for contact with the corrosive/caustic potassium hydroxide electrolyte during abnormal conditions should electrolyte leak. First responders, in an emergency situation, need to be aware of potential caustic spills that can occur and take appropriate caution around these batteries. Ni-Cd batteries contain cadmium, which is toxic and a hazardous waste. Although not exposed under normal conditions, there might be potential for cadmium in vapors of burning batteries during abnormal conditions.
- (3) Electrical hazards: Electrical hazards might be present under abnormal conditions if the system is at hazardous voltage and energy levels
- (4) Stranded or stored energy hazards: There can be the potential for stranded or stored energy hazards if the batteries are exposed to abnormal conditions where they could still contain hazardous levels of energy. Damaged batteries might contain stored energy that can be a hazard during disposal if care is not taken.
- (5) Physical hazards: The potential exists for overheating

Statement of Problem and Substantiation for Public Input

Substantiation

Use of the word “risk” in the phrase “is only a risk when...”. In safety documents such as this one the word “risk” should be reserved for and used only when the intended meaning is “the combination of the probability of occurrence of an adverse event and the potential consequences of that event.” In this context “risk” is a “hazard.” Further, the conditional word “only” should be relocated for grammatical accuracy. The phrase “is only a risk when...” should be replaced with the phrase “is a hazard only when...”.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 140-NFPA 800-2026 [New Section after 3.3.33]</u>	

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B.5.7.2 Liquid Metal Battery.

Hazard considerations for liquid metal batteries under normal operating conditions are as follows:

- (1) Fire and explosion hazards: Due to a high operating temperature, cells are operated inside a thermally insulated container with nonflammable materials of construction, thereby minimizing potential fire hazards. Other possible failure modes, including overcharging, undercharging, high rate operation, and rupturing the cell container do not create fire hazards.
- (2) Chemical hazards: Not applicable
- (3) Electrical hazards: There are electrical hazards associated with routine maintenance of these batteries if they are at hazardous voltage and energy levels while the system is at operating temperature. When cooled, the dc-system voltage drops to zero and is unable to pass or accept current.
- (4) Stranded or stored energy hazards: The potential exists for stranded or stored energy hazards during maintenance if the batteries cannot be isolated for maintenance while the system is at operating temperature. However, when the battery is solidified [below 932°F (500°C)], there is no stranded energy hazard.
- (5) Physical hazards: There should be no physical hazards associated with these batteries if the designs have sufficient insulation to prevent exposure to hot surfaces because these batteries run at high temperatures under normal operating conditions. There might be a lifting hazard due to the weight of the battery, which is only an issue during installation, replacement, or removal.

Hazard considerations for liquid metal batteries under emergency/abnormal conditions are as follows:

- (1) Fire and explosion hazards: The potential exists for a large amount of heat generation if an abnormal event occurs, such as system short-circuiting; however, even if a large amount of heat is generated, it is not expected to result in fire hazards due to the lack of combustible materials around the cells. The flammability of calcium metal inside the cell is lower than metals used in other high-temperature batteries, such as sodium metal, further reducing the risk-possibility of fires compared to other high-temperature battery technologies. Cells tested individually ~~are not at risk of~~ do not have the potential for thermal runaway or generating a fire event if breached and exposed to air; additional testing is required at a systems level to confirm that full-scale systems are also not subject to thermal runaway events or fire.
- (2) Chemical hazards: The potential exists for exposure to hazardous water-reactive materials if the cell container or seal is broken and the calcium alloy is exposed to the atmosphere
- (3) Electrical hazards: Electrical hazards might be present under abnormal conditions if the system is at hazardous voltage and energy levels
- (4) Stranded or stored energy hazards: The potential exists for stranded or stored energy hazards if the batteries are exposed to abnormal conditions where they could still contain hazardous levels of energy
- (5) Physical hazards: Depending on the design of the system, the potential exists for physical hazards under abnormal conditions if accessible parts are overheating

Statement of Problem and Substantiation for Public Input

In safety documents such as this one the word "risk" should be reserved for and used only when the intended meaning is "the combination of the probability of occurrence of an adverse event and the potential consequences of that event."

The phrase "risk of" in this type of document generally refers to a "possibility of" or "the potential for" regardless of the potential consequence.

1. Use of the word "risk" in the phrase "the risk of fires...".

Based on the context of this sentence, the phrase "the risk of fire..." should be replaced with the phrase "the possibility of fire...".

2. Use of the word "risk" in the phrase "are not at risk of thermal runaway...".

Based on the context of this sentence, the phrase "not at risk of thermal runaway" should be replaced with the phrase "do not have the potential for thermal runaway...".

Related Public Inputs for This Document

Related Input

Relationship

Public Input No. 140-NFPA 800-2026 [New Section after 3.3.33]

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Committee: BAT-AAA



B.6.2 Hybrid Supercapacitors

Hazard conditions for HSCs under normal operating conditions are as follows:

- 1) Fire & Explosion Hazards: Not applicable
- 2) Chemical Hazards: Not applicable
- 3) Electrical Hazards: Not applicable
- 4) Stranded or Stored Energy Hazards: Since there is a chemical mechanism within the HSC it gradually deteriorates even when it is not used. It is necessary to monitor the temperature of the HSC to ensure expedited degradation doesn't occur.
- 5) Physical Hazards: Not applicable

Hazard conditions for HSCs under emergency/abnormal conditions are as follows:

- 1) Fire & Explosion Hazards: When a safety vent within the capacitor is opened, the cell components encounter moisture and deteriorate causing electrolyte leakage or fire in the worst-case scenario.
- 2) Chemical Hazards: There is potential for off-gassing of toxic vapors under abnormal conditions so protective gloves, clothing, eye protection, face protection and respiratory apparatus are all recommended. Electrolyte leakage can cause skin or eye irritation; care is required for damaged HSCs & emergency medical care is recommended.
- 3) Electrical Hazards: If the protective film of the HSC is damaged the body could come in contact with metal parts possibly causing an electrical short.
- 4) Stranded or Stored Energy Hazards: Since there is a chemical mechanism within the HSC it gradually deteriorates even when it is not used. Under abnormal conditions cell degradation can expedite when temperature reaches elevated levels. It is important to monitor cell temperature, and the inside of the cell can be estimated from the surface temperature and thermal resistance.
- 5) Physical Hazards: If the HSCs are under abnormal conditions including overheating, short circuiting, overcharging, or high currents the potential for physical hazards may be present.

...

Statement of Problem and Substantiation for Public Input

Including a section on Hybrid Supercapacitors (HSCs) and the guidance necessary in normal & abnormal conditions

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Committee: BAT-AAA



Public Input No. 412-NFPA 800-2026 [New Section after B.6.1]

TITLE OF NEW CONTENT

Hybrid Supercapacitors

"Hybrid capacitors" or pseudocapacitors have Faradaic reactions taking place on one electrode and charge stored electrostatically on the other electrode. As these devices have characteristics of batteries, most of the risks and hazards associated with secondary batteries apply to hybrid supercapacitors as well depending on the active materials used in their battery-like electrodes.

Statement of Problem and Substantiation for Public Input

hybrid capacitors have different risks from EDLC or supercapacitors due to the fact that they incorporate one electrode with Faradaic reactions utilizing battery materials.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 411-NFPA 800-2026 [Section No. B.6.1]	PI 411 removes hybrid supercapacitors.
Public Input No. 411-NFPA 800-2026 [Section No. B.6.1]	

Submitter Information Verification

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Submittal Date: Wed Jan 28 18:10:40 EST 2026

Committee: BAT-AAA



B.6.1 Electrochemical Double-Layer Capacitors.

There are devices falling under the “~~ultra-~~ ultracapacitor or supercapacitor” ~~grouping referred to as “pseudo capacitors” where grouping where~~ there are non- Faradaic reactions- charge transfers taking place and “~~hybrid capacitors” where there are Faradaic reactions taking place on one electrode and charge stored electrostatically typical of most electrochemical double-layer capacitors (EDLCs) on the other electrode charge is stored electrostatically on both electrodes~~ .

Hazard considerations for EDLCs under normal operating conditions are as follows:

- (1) Fire and explosion hazards: ~~EDLCs often contain flammable electrolyte such as acetonitrile and can present a fire hazard if voltages are not controlled to specified levels during charging~~ Not applicable
- (2) Chemical hazards: Not applicable
- (3) Electrical hazards: There are electrical hazards associated with routine maintenance of these EDLCs if they are installed into modules and strings at hazardous voltage and energy levels
- (4) Stranded or stored energy hazards: Although not as energy dense as batteries, there is the potential for some level of stranded energy in these devices. Care should be taken to discharge and short them prior to handling, storage or disposal.
- (5) Physical hazards: Not applicable

Hazard considerations for EDLCs under emergency/abnormal conditions are as follows:

- (1) Fire and explosion hazards: If ~~overcharged or overheated~~ exposed to an external source of fire or heat , there could be the potential for flammable off-gassing that could result in a fire. As these devices are often used in locations where they will sustain high-current discharge or inrush, there is the potential for electrical fires downstream if adequate protection is not provided.
- (2) Chemical hazards: There is the potential for off-gassing of toxic vapors under abnormal conditions, so protective breathing apparatus should be used ~~around venting capacitors~~ around capacitors that have vented . The electrolyte exposure can present skin or eye irritation, so care needs to be taken when handling any damaged or vented capacitors.
- (3) Electrical hazards: Electrical hazards might be present under abnormal conditions if the system is at hazardous voltage and energy levels
- (4) Stranded or stored energy hazards: Although not as energy dense as batteries, there is the potential for some level of stranded energy in these devices if they are exposed to abnormal conditions. Damaged capacitors might contain stored energy that can be a hazard during disposal if care is not taken.
- (5) Physical hazards: Depending on the design of the system, the potential exists for physical hazards under abnormal conditions if accessible parts are overheating- ~~or if there is exposure to moving hazardous parts such as fans where guards might be missing~~ .

Statement of Problem and Substantiation for Public Input

This has been updated to remove inaccuracies and to separate EDLC capacitors from hybrid capacitors or pseudocapacitors because they have different risks.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 412-NFPA 800-2026 [New Section after B.6.1]</u>	This PI removes hybrid supercapacitors
<u>Public Input No. 412-NFPA 800-2026 [New Section after B.6.1]</u>	

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C.2.2 Classification of Batteries.

Batteries are classified as primary (non-rechargeable) or secondary (rechargeable). Table C.2.2 provides information on various battery chemistries including classification, chemistry type, specific energy and nominal voltage that are references in all the chapters of this code.

Table C.2.2 Battery Types and Specifications

<u>Primary (P)/Secondary (S)^{a,c,d}</u>	<u>Chemistry</u>	<u>Nominal Cell Voltage (V)</u>	<u>Specific Energy (MJ/ kg)</u>	<u>Applications</u>	<u>Chemistry Type/Electrolyte Type</u>
P/S	Alkaline	1.5	0.4–0.59	Portable devices	Aqueous electrolyte
P	Zinc-Carbon	1.5	0.13	Low drain applications such as sensors, clocks, etc.	Aqueous electrolyte
P/S	Zinc-Air	1.35–1.65	1.59	Portable devices, medical equipment	Aqueous electrolyte
P	Aluminum-Air	1.2–1.6	4.68	Military	Aqueous electrolyte
P	Silver Oxide	1.55	0.47	Low power and stable voltage applications such as hearing aids, medical devices, etc.	Aqueous electrolyte
P	Lithium Thionyl Chloride	3.6	2.3	Medical device, aerospace, military	Reactive metal/flammable electrolyte
P	Lithium Iron Di Sulfide	1.5	1.08	High drain applications like flashlights, toys, etc.	Reactive metal/flammable electrolyte
S	Sodium-ion (Na-ion)	1.5–3.6	0.07–0.30	UPS, ESS, EV, engine starting	Reactive ion/ flammable electrolyte
S	Lithium-ion (Li-ion)	2.3–3.7	0.46–0.72	Smartphones, EVs, power tools, eVTOLS, etc.	Reactive ion/ flammable electrolyte
S	Nickel Metal Hydride (NiMH)	1.2	0.36	Consumer electronics, industrial and solar lighting	Aqueous electrolyte
S	Nickel-Cadmium (NiCd)	1.2	0.14	Emergency power, UPS, power tools, etc.	Aqueous electrolyte
S	Nickel-Zinc (NiZn)	1.65	0.25	UPS	Aqueous electrolyte
S	Nickel-Iron (NiFe)	1.2	0.11	Cycling applications	Aqueous electrolyte
S	Lead-Acid	2.0	0.14	Automotive starters, UPS, golf carts, etc.	Aqueous electrolyte
S	Sodium-Sulfur	1.7–2.5	0.72	Stationary energy storage	Reactive metal/ flammable electrolyte
S	Sodium Metal Chloride	2.35–2.58	0.36	Industrial backup power, industrial equipment	Reactive metal
S	Lithium Polymer (LiPo)	3.2–3.7	0.36–0.95	Portable electronics, medical devices, robotics, etc.	Reactive ion/ flammable electrolyte
S	Lithium-ion Capacitor	3.2–3.8	0.34–0.48 0.0612	Fast charging applications such	Reactive ion (in abnormal condition when the SEI layer

<u>Primary (P)/Secondary (S)^{a,c,d}</u>	<u>Chemistry</u>	<u>Nominal Cell Voltage (V)</u>	<u>Specific Energy (MJ/ kg)</u>	<u>Applications</u>	<u>Chemistry Type/Electrolyte Type</u>
	(LiC or HSC)			as UPS, energy recovery systems, EVs, etc.	<u>decomposes</u>)/ flammable electrolyte (<u>The electrolyte solution is considered flammable when the electrolyte salt is dissolved in organic carbonates</u>)
S	Nickel-Hydrogen (Ni-H ₂)	1.25	0.22–0.23	Energy storage in satellite and space applications	Aqueous electrolyte
S	Saltwater battery	1.5–1.7	1.8–1.9	Stationary storage, industrial backup power, etc.	Aqueous electrolyte
S	Lithium Vanadium	3	0.28–0.72	Stationary storage	Reactive metal
S	Aqueous Iron-Air	1.28	0.47	Stationary storage	Aqueous electrolyte
S	Vanadium Redox	1.26	0.07	Stationary storage	Aqueous electrolyte
S	Zinc-Bromine hybrid flow	1.85	0.14	Stationary storage	Aqueous electrolyte

C.2.2.1 Primary Batteries.

Primary batteries convert chemical energy to electrical energy irreversibly and include Lithium-Air, Carbon-Zinc, and some alkaline types. The chemical processes are not easily reversible, and the active components do not return to their original form after complete discharge and cannot be recharged. These batteries have higher energy densities compared to rechargeable or secondary batteries and might have limiting factors, such as speed of discharge.

C.2.2.2 Secondary Batteries.

Secondary batteries or rechargeable batteries are usually built with active components. The chemical processes inside the battery after a discharge can be reversed during charging with electric current. They also offer higher specific energy but might have higher internal resistance. Secondary batteries such as lead-acid, Nickel-Cadmium, Nickel Metal Hydride, and lithium-ion can be recharged.

Statement of Problem and Substantiation for Public Input

Changes made to the technical data for a Li-Ion Capacitor or Hybrid Supercapacitor (HSC) for both operating voltage range & the specific energy values. Additionally, clarifications regarding the chemistry type/electrolyte for the LiC/HSC were commented.

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Public Input No. 253-NFPA 800-2026 [Section No. C.2.3.1.1.6]

C.2.3.1.1.6 Lithium Iron Disulfide Battery (Li-FeS₂).

A Li-FeS₂ battery is a type of cell that uses lithium metal as an anode and Iron disulfide as cathode with electrolyte lithium salt mixed in organic solvent such as ethers or cyclic ethers. These batteries possess a nominal voltage of 1.5 V and they are light in weight and possess wide temperature ranges along ~~with excellent storage~~ with storage life of up to 15 years.

Statement of Problem and Substantiation for Public Input

removed the word excellent, doesn't match the wording used in other descriptors

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Public Input No. 243-NFPA 800-2026 [Section No. C.2.3.1.2.3]

C.2.3.1.2.3 High Temperature Sodium Batteries.

High temperature secondary Sodium batteries like Sodium Sulfur (NaS) and Sodium-Metal Chloride (ZEBRA) batteries function at temperatures greater than 250°C (also called molten-salt temperatures). These batteries constitute molten Sodium, Sulfur, ~~Nickel,~~ or ~~Nickel Chloride~~ Iron Chloride electrodes and solid Sodium ion conducting electrolyte. They offer high energy density, low cost and longer life cycles making them suitable for grid scale applications with a nominal voltage of 1.7 to 2.58V.

Statement of Problem and Substantiation for Public Input

Inlyte Energy has adapted the sodium nickel chloride chemistry to use iron instead of nickel.

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Submittal Date: Fri Jan 23 15:38:59 EST 2026

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C.2.3.2.2 Solid State Batteries — Lithium-Ion and Lithium Metal.

Solid-state Li-ion or lithium-metal batteries use a solid electrolyte instead of liquid electrolyte. This improves safety by removing the flammable liquid electrolyte (although lithium-metal as a plate type is still a fuel in and of itself), a higher temperature range of operation and higher structural stability. There are usually three main solid-state electrolytes (SSE), Oxide based, sulfide bases and polymer based each possessing limitations and advantages depending on the applications. These solid-state batteries can potentially operate between -40°F to 302°F (-40°C to 150°C) depending on the electrolyte type. Solid-state batteries are often referred to by the abbreviation SSB, or ASSB (the A meaning "all"). To improve conductivity for higher power applications, sometimes a small amount of liquid electrolyte is added (typically 10 percent or less) ~~of liquid electrolyte is added~~, which only slightly increases the potential for fire- risk . These are typically referred to as semi-solid-state batteries (SSSB).

Statement of Problem and Substantiation for Public Input

In safety documents such as this one the word "risk" should be reserved for and used only when the intended meaning is "the combination of the probability of occurrence of an adverse event and the potential consequences of that event."

The sentence using the phrase "fire risk" is referring to the potential for the battery to cause fire. The parenthetical expression in that sentence is relocated for grammatical accuracy.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 140-NFPA 800-2026 [New Section after 3.3.33]</u>	

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Committee: BAT-AAA

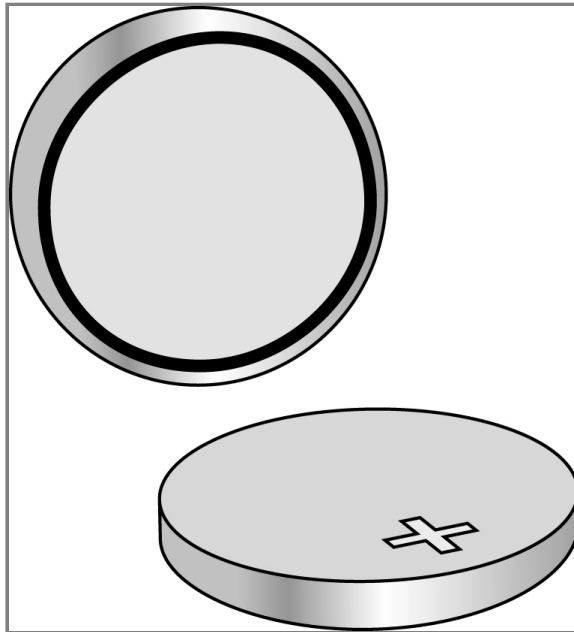


C.3.1 Coin Cells.

Coin cells or button cells are small disc shaped batteries used in lower powered devices with dimensions of 5–25 mm in diameter and 1-6mm in height, see Figure C.3.1. These cells are made of an anode, separator and cathode in layered form in a stainless-steel casing. The most used chemistry is lithium manganese oxide, zinc manganese oxide (alkaline) and silver oxide for primary applications providing 1.5 V and lithium ion for secondary rechargeable application providing 3 V. Chemistry is determined based on the application for required voltage and energy density. The size and shape of these cells can lead to ~~ingestion risks, that can~~ the possibility of ingestion that can cause internal burns and tissue damage if swallowed.

These coin cells are also used for testing new materials for their electrochemical performance, which is also called a half coin cell. The material to be tested is assembled against lithium metal with a separator in between and electrolyte filled. Even though it is not predictor of full cell performance, the isolated evaluation of the specific electrode provides repeatable and efficient data.

Figure C.3.1 Coin Cell.



Statement of Problem and Substantiation for Public Input

Use of the word “risk” in the phrase “ingestion risks...”.

In safety documents such as this one the word “risk” should be reserved for and used only when the intended meaning is “the combination of the probability of occurrence of an adverse event and the potential consequences of that event.”

The phrase “risk of” in this type of document generally refers to a “possibility of” or “the potential for” regardless of the potential consequence.

Based on the context of this sentence, the first clause “The size and shape of these cells lead to ingestion risks,...” should be revised as “The size and shape of these cells can lead to the possibility of ingestion,.....”.

Related Public Inputs for This Document

Related Input

[Public Input No. 140-NFPA 800-2026 \[New Section after 3.3.33\]](#)

Relationship

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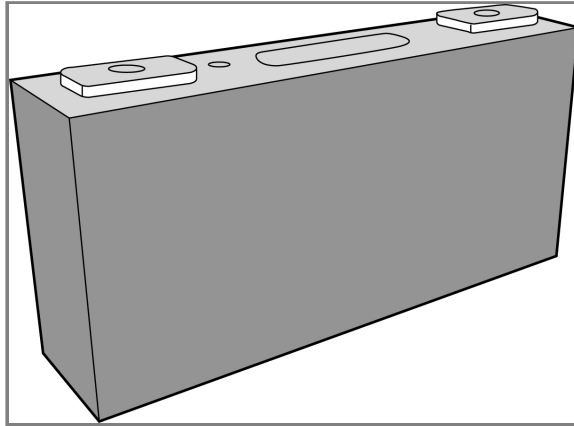
Committee: BAT-AAA



C.3.3 Prismatic Cells.

Prismatic cells consist of a flat electrode stack or a flattened jelly roll placed in a rectangular case. This case type makes them more space-efficient than cylindrical cells for pack design, see Figure C.3.3. They also typically have larger individual cell capacities than cylindrical cells. In prismatic cells it is harder to manage swelling, and an internal heat gradient is possible in large cells. For reactive metal chemistries, the larger cell volume increases stored energy, and thus the size of a fire from an individual cell thermal runaway, as well as the ~~risk~~ possibility of propagation from that thermal runaway. A case rupture of a prismatic cell can eject or spill a significant amount of electrolyte.

Figure C.3.3 Prismatic Cell.



Statement of Problem and Substantiation for Public Input

The phrase “risk of” in this type of document generally refers to a “possibility of” or “the potential for” regardless of the potential consequence.

Based on the context of this paragraph the phrase “risk of...” should be revised to “possibility of...”.

Related Public Inputs for This Document

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Submitter Information Verification

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C.6.4 Portable Consumer Electronics — Mobile and Stationary.

Portable mobile and stationary electronics such as laptops, phones, cameras, etc., utilize lithium-ion or lithium polymer chemistries as energy resource ~~for~~ due to their higher energy densities, low self-discharge, long cycle life and light weight. Nickel-Cadmium and Nickel Metal Hydrides are ~~also~~ used in ~~certain~~ applications ~~based on~~ where the ambient conditions ~~where~~ could cause lithium-ion batteries ~~are to be~~ prone to thermal ~~risks~~ hazards. The capacities of these batteries range from 200 mAh to over 7000 mAh based on the application.

Alkaline batteries and other primary batteries are commonly used in applications such as toys, remote controls and other low power devices that might not require regular recharging.

Statement of Problem and Substantiation for Public Input

In safety documents such as this one the word "risk" should be reserved for and used only when the intended meaning is "the combination of the probability of occurrence of an adverse event and the potential consequences of that event."

The word "risks" in this type of document generally refers to "hazards."

Based on the context of this sentence, the word "risks" should be replaced with the term "hazards."

The structure of the first and second sentences are revised for clarity.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
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Committee: BAT-AAA



C.6.11 Medical.

Various medical devices like pumps, pacemakers, hearing aids, ventilators and defibrillators, etc. use batteries to operate. Lithium-ion, Nickel Metal Hydride, Alkaline, Silver-Oxide, Zinc-Air and primary lithium batteries are typically used as these applications require long life, higher safety features and fast charging, higher energy density sometimes. ~~Medical device~~ Due to the life sustaining nature and the potential consequence to humans associated with failure of battery powered medical devices, medical device batteries adhere to ~~the strict regulations~~ requirements found in standards such as

(1) ANSI/IECEE TRF 60601-1, *Medical electrical Equipment Part 1: General Requirements for Basic Safety and Essential Performance*;

(2) IEC 62133-2, *Secondary cells and batteries containing alkaline or other non-acid electrolytes — Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications — Part 2: Lithium systems*;

(3) UL 1642, *Lithium Batteries*;

(4) ISO 14971, *Medical devices — Application of risk management to medical devices*, ~~due to the life sustaining nature of the devices and potential risks associated with failures to humans~~ .

Statement of Problem and Substantiation for Public Input

In safety documents such as this one the word "risk" should be reserved for and used only when the intended meaning is "the combination of the probability of occurrence of an adverse event and the potential consequences of that event."

Based on the context of this sentence, the word "risks" should be replaced with the word "consequence."

The structure of the long last sentence is revised for clarity as follows:

- The statement at the end of the sentence is revised and moved to the beginning of the sentence.
- The statement regarding "strict regulations" is revised to "the strict requirements found in standards" as the referenced documents are not regulations, they are standards.
- The cited standards are reformatted into a list to facilitate identification.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 140-NFPA 800-2026 [New Section after 3.3.33]</u>	

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Submittal Date: Fri Jan 16 16:35:02 EST 2026

Committee: BAT-AAA



Public Input No. 190-NFPA 800-2026 [Section No. D.3.2]

D.3.2 Hazard Considerations.

Emergency responder preparedness, planning and training should anticipate the diverse and potentially dynamic effects of battery failure events commensurate with the industry or response area. Responder preparedness considerations should include the following fundamental hazards and how they can influence an emergency (see Annex B of NFPA 800 for more details):

- (1) Thermal
- (2) Fire
- (3) Over pressurization and/or explosion
- (4) Release — gas, liquids, solids
- (5) Electrical (see NFPA 70E and CSA Z460, *Control of hazardous energy* — Lockout and other methods)
- (6) Corrosive liquids
- (7) Water reactive

Statement of Problem and Substantiation for Public Input

Corrosive liquids should be added because firefighter will be wearing Structural firefighter gear when responding to these incidents. If there a battery with free flowing electrolyte that is corrosive they should be aware of it. Water reactivity is huge concern for the fire service when they are responding to fire with water reactive materials involved.

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Submission Date: Mon Jan 19 10:37:21 EST 2026

Committee: BAT-AAA



Public Input No. 181-NFPA 800-2026 [Section No. D.3.3]

D.3.3 Enclosure Considerations.

Emergency response preparedness should anticipate challenges specific to battery failures that occur within an enclosure versus those that occur outside of enclosures. Containment ~~and/~~ or confinement of hazardous products might represent an ~~elevated overall risk of~~ increased possibility for the emergency to include ~~an possible~~ over pressurization hazards or deflagration potential. (See NFPA 921.)

Statement of Problem and Substantiation for Public Input

In safety documents such as this one the word "risk" should be reserved for and used only when the intended meaning is "the combination of the probability of occurrence of an adverse event and the potential consequences of that event."

Based on the context of this sentence, the phrase "an elevated overall risk of..." should be replaced with the phrase "an increased consequence for...".

The phrase "an possible" should be deleted as it is redundant.

The phrase "and/or" is ambiguous and should be avoided. Use of the conjunction "or" is sufficient to imply one or both conditions could apply.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 140-NFPA 800-2026 [New Section after 3.3.33]</u>	

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Committee: BAT-AAA



Public Input No. 191-NFPA 800-2026 [Section No. D.4 [Excluding any Sub-Sections]]

The emergency response conclusion of an event should be determined based upon the stability management of the following:

- (1) Imminent life-safety hazards have been addressed
- (2) Imminent thermal and gas hazards have been stabilized

Statement of Problem and Substantiation for Public Input

editorial for consideration. Fire service will manage an incident

Submitter Information Verification

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Committee: BAT-AAA



Public Input No. 186-NFPA 800-2026 [Section No. E.2.2]

E.2.2 Inspection.

Where those responsible for inspection of the batteries/products containing batteries find the scope of work to be in conformity with this standard, the authority having jurisdiction should issue to the owner of the batteries/products containing batteries a certificate of approval. When the approval has a specific date of expiration, as in the case of a temporary approval, the certificate of approval should be issued to expire at the time to be stated therein and should be revocable by the authority having jurisdiction for cause. Inspections should be performed annually for compliance to this standard by the AHJ or their designee.

Statement of Problem and Substantiation for Public Input

small municipalities do not have the expertise or ability to perform inspections so there is a concern that these systems will be place in areas with no oversight after the initial inspection. This has been observed in locations where there was over grown briush and signage that was damaged or missing .

Submitter Information Verification

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Submittal Date: Mon Jan 19 10:11:15 EST 2026

Committee: BAT-AAA



Annex F Informational References

F.1 Referenced Publications.

The documents or portions thereof listed in this annex are referenced within the informational sections of this code and are not part of the requirements of this document unless also listed in Chapter 2 for other reasons.

F.1.1 NFPA Publications.

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 1, *Fire Code*, 2024 edition.

NFPA 10, *Standard for Portable Fire Extinguishers*, 2022 edition.

NFPA 13, *Standard for the Installation of Sprinkler Systems*, 2025 edition.

NFPA 14, *Standard for the Installation of Standpipe and Hose Systems*, 2024 edition.

NFPA 17, *Standard for Dry Chemical Extinguishing Systems*, 2024 edition.

NFPA 30, *Flammable and Combustible Liquids Code*, 2024 edition.

NFPA 45, *Standard on Fire Protection for Laboratories Using Chemicals*, 2024 edition.

NFPA 68, *Standard on Explosion Protection by Deflagration Venting*, 2023 edition.

NFPA 69, *Standard on Explosion Prevention Systems*, 2024 edition.

NFPA 70[®], *National Electrical Code*[®], 2026 edition.

NFPA 70B, *Recommended Practice for Electrical Equipment Maintenance*, 2023 edition.

NFPA 70E[®], *Standard for Electrical Safety in the Workplace*[®], 2024 edition.

NFPA 72[®], *National Fire Alarm and Signaling Code*[®], 2025 edition.

NFPA 77, *Recommended Practice on Static Electricity*, 2024 edition.

NFPA 91, *Standard for Exhaust Systems for Air Conveying of Vapors, Gases, Mists, and Particulate Solids*, 2026 edition.

NFPA 101[®], *Life Safety Code*[®], 2024 edition.

NFPA 318, *Standard for the Protection of Semiconductor Fabrication Facilities*, 2025 edition.

NFPA 400, *Hazardous Materials Code*, 2025 edition.

NFPA 401, *Recommended Practice for the Prevention of Fires and Uncontrolled Chemical Reactions Associated with the Handling of Hazardous Waste*, 2024 edition.

NFPA 440, *Guide for Aircraft Rescue and Firefighting Operations and Airport/Community Emergency Planning*, 2024 edition.

NFPA 460, *Standard for Aircraft Rescue and Firefighting Services at Airports*, 2024 edition.

NFPA 470, *Hazardous Materials/Weapons of Mass Destruction (WMD) Standard for Responders*, 2022 edition.

NFPA 497, *Recommended Practice for the Classification of Flammable Liquids, Gases, or Vapors and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas*, 2024 edition.

NFPA 600, *Standard on Facility Fire Brigades*, 2025 edition.

NFPA 660, *Standard for Combustible Dusts and Particulate Solids*, 2025 edition.

NFPA 704, *Standard System for the Identification of the Hazards of Materials for Emergency Response*, 2022 edition.

NFPA 750, *Standard on Water Mist Fire Protection Systems*, 2023 edition.

NFPA 850, *Recommended Practice for Fire Protection for Electric Generating Plants and High Voltage Direct Current Converter Stations*, 2020 edition.

NFPA 855, *Standard for the Installation of Stationary Energy Storage Systems*, 2026 edition.

NFPA 921, *Guide for Fire and Explosion Investigations*, 2024 edition.

NFPA 1005, *Standard for Professional Qualifications for Marine Fire Fighting for Land-Based Fire Fighters*, 2019 edition.

NFPA 1010, *Standard on Professional Qualifications for Firefighters*, 2024 edition.

NFPA 1081, *Standard for Facility Fire Brigade Member Professional Qualifications*, 2024 edition.

NFPA 1142, *Standard for Facility Fire Brigade Member Professional Qualifications*, 2022 edition.

NFPA 1404, *Standard for Fire Service Respiratory Protection Training*, 2018 edition.

NFPA 1561, *Standard on Emergency Services Incident Management System and Command Safety*, 2020 edition.

NFPA 1620, *Standard for Pre-Incident Planning*, 2020 edition.

NFPA 1660, *Standard for Emergency, Continuity, and Crisis Management: Preparedness, Response, and Recovery*, 2024 edition.

NFPA 1700, *Guide for Structural Fire Fighting*, 2021 edition.

NFPA 1851, *Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting*, 2020 edition.

NFPA 1970, *Standard on Protective Ensembles for Structural and Proximity Firefighting, Work Apparel, Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services, and Personal Alert Safety Systems (PASS)*, 2025 edition.

NFPA 2001, *Standard on Clean Agent Fire Extinguishing Systems*, 2025 edition.

NFPA 5000[®], *Building Construction and Safety Code*[®], 2024 edition.

Fire Protection Guide to Hazardous Materials, 2010 edition.

F.1.2 Other Publications.

F.1.2.1 ANSI Publications.

American National Standards Institute, Inc., 1180 Avenue of the Americas, 10th Floor, New York, NY 10036.

ANSI/ASSP Z244.1, *The Control of Hazardous Energy — Lockout, Tagout, and Alternative Methods*, 2024.

ANSI/IECEE TRF 60601-1, *Medical electrical Equipment Part 1: General Requirements for Basic Safety and Essential Performance*, 2023.

ANSI/TIA-607, *Generic Telecommunications Bonding and Grounding (Earthing) for Customer Premises*, 2024.

F.1.2.2 ASTM Publications.

ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959.

ASTM F3353, *Generic Telecommunications Bonding and Grounding (Earthing) for Customer Premises*, 2025.

F.1.2.3 CSA Group Publications.

CSA Group [corporate office:] 178 Rexdale Blvd., Toronto, ON M9W 1R3, Canada.

CSA C22.1, *Canadian Electrical Code, Part I (26th Edition), Safety Standard for Electrical Installations*, 2024.

CSA Z460, *Control of hazardous energy — Lockout and other methods*, 2020.

CSA Z462, *Workplace Electrical Safety*, 2024.

CSA Z1600, *Emergency and Continuity Management Program*, 2017.

F.1.2.4 FM Publications.

FM Approvals LLC, 1151 Boston-Providence Turnpike, P.O. Box 9102, Norwood, MA 02062.

FM Approvals 6320, *Combustible Gas Detectors*, 2018

FM Approvals 6340, *Examination Standard for Toxic Gas and Oxygen Depletion Detectors*, 2022.

FM Data Sheet 1-56, *Cleanrooms*, 2020.

FM Data Sheet 3-26, *Fire Protection for Nonstorage Occupancies*, 2025.

FM Data Sheet 5-33, *Lithium-Ion Battery Energy Storage Systems*, 2025.

FM Data Sheet 7-14, *Fire Protection for Chemical Plants*, 2019

FM Data Sheet 7-112, *Lithium-Ion Battery Manufacturing and Storage*, 2024.

FM Data Sheet 8-1, *Commodity Classification*, 2024.

F.1.2.5 ICC Publications.

International Code Council, 500 New Jersey Avenue, NW, 6th Floor, Washington, DC 20001.

International Building Code, 2024

International Fire Code, 2024

International Mechanical Code, 2025.

F.1.2.6 IEC Publications.

International Electrotechnical Commission, 3 rue de Varembé, P.O. Box 131, CH-1211, Geneva 20, Switzerland.

IEC 60079-29-1, *Explosive atmospheres - Part 29-1: Gas detectors - Performance requirements of detectors for flammable gases*, 2020.

IEC 62990-2, *Workplace atmospheres - Part 2: Gas detectors - Selection, installation, use and maintenance of detectors for toxic gases and vapours*, 2021.

IEC 62133-2, *Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications - Part 2: Lithium systems*, 2017.

F.1.2.7 IEEE Publications.

IEEE Operations Center, 445 Hoes Lane, Piscataway, NJ 08854-4141.

IEEE 450, *Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications*, 2020.

IEEE 484, *Recommended Practice for Installation Design and Installation of Vented Lead-Acid Batteries for Stationary Applications*, 2020.

IEEE 1184, *Guide for Batteries for Uninterruptible Power Supply Systems*, 2022.

IEEE 1187, *Recommended Practice for Installation Design and Installation of Valve-Regulated Lead-Acid Batteries for Stationary Applications*, 2013.

IEEE 1547, *Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces*, 2018.

IEEE 1578, *Recommended Practice for Stationary Battery Electrolyte Spill Containment and Management*, 2018.

IEEE/ASHRAE 1635, *Guide for the Ventilation and Thermal Management of Batteries for Stationary Applications*, 2018.

F.1.2.8 ISO Publications.

International Organization for Standardization, ISO Central Secretariat, BIBC II, Chemin de Blandonnet 8, CP 401, 1214 Vernier, Geneva, Switzerland.

ISO 14644-1, *Classification of air cleanliness by particle concentration Part 1*, 2015.

ISO 14971, *Medical devices — Application of risk management to medical devices*, 2019.

ISO 45001, *Occupational health and safety management systems — Requirements with guidance for use*, 2018.

F.1.2.9 Military Specifications.

US Department of Defense Single Stock Point, Document Automation and Production Service, Building 4/D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

MIL-B-5087B, *Bonding, Electrical, and Lighting Protection for Aerospace Systems*, 1964.

MIL-HDBK-2036, *General Guidelines for Electronic Equipment*, 1995.

MIL-STD-464C, *Electromagnetic Environmental Effects Requirements for Systems*, 2010.

F.1.2.10 UL Publications.

Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

UL 583, *Electric-Battery-Powered Industrial Trucks*, 2025.

UL 1017, *Vacuum Cleaners, Blower Cleaners, and Household Floor Finishing Machines*, 2025.

UL 1236, *Battery Chargers for Charging Engine-Starter Batteries*, 2021.

UL 1487, *Battery Containment Enclosures*, 2025.

UL 1642, *Lithium Batteries*, 2022.

UL 1741, *Inverters, Converters, Controllers and Interconnection System Equipment for Use With Distributed Energy Resources*, 2025.

UL 1973, *Batteries for Use in Stationary and Motive Auxiliary Power Applications*, 2022.

UL 1974, *Evaluation for Repurposing or Remanufacturing Batteries*, 2023.

UL 1989, *Valve Regulated or Vented Batteries with Aqueous Electrolytes*, 2023.

UL 2054, *Household and Commercial Batteries*, 2022.

UL 2056, *Power Banks*, 2025.

UL 2075, *Gas and Vapor Detectors and Sensors*, 2025.

UL 2271, *Batteries for Use in Light Electric Vehicle (LEV) Applications*, 2023.

UL 2272, *Electrical Systems for Personal E-Mobility Devices*, 2024.

UL 2317, *Subject for Electric-Battery-Powered Cleaning Machines*, 2002.

UL 2436, *Outline of Investigation for Spill Containment for Stationary Acid and Alkaline Electrolyte Battery Systems*, 2020.

UL 2580, *Batteries for Use in Electric Vehicles*, 2022.

UL 2595, *General Requirements for Battery-Powered Appliances*, 2015.

UL 2743, *Portable Power Packs*, 2025.

UL 2753, *Outline of Investigation for Battery Operated Ride-On Lawn Mowers*, 2018.

UL 2849, *Electrical Systems for eBikes*, 2022.

UL 2850, *Outline of Investigation for Vehicle Systems of Electric Scooters and Motorcycles*, 2025.

UL 3030, *Unmanned Aircraft Systems*, 2024.

UL 3100, *Automated Mobile Platforms (AMPs)*, 2025.

UL 3120, *Outline of Investigation for Battery Operated Exoskeletons for Industrial Applications*, 2023.

UL 3202, *Mobile Electric Vehicle Charging Systems Integrated with Energy Storage Systems*, 2025.

UL 3300, *Service, Communication, Information, Education and Entertainment Robots — SCIEE Robots*, 2024.

UL 3456, *Outline of Investigation for Electric-Battery-Powered Carts For Commercial Use*, 2014.

UL 3601, *Measuring and Reporting Circularity of Li-ion and Other Secondary Batteries*, 2025.

UL 4900, *Micromobility Charging Equipment*, 2025.

UL 5800, *Battery Fire Containment Products*, 2025.

UL 5840, *Electrical Systems of Battery Powered Aviation Ground Support Equipment*, 2022.

UL 8139, *Electrical Systems of Electronic Cigarettes and Vaping Devices*, 2024.

UL 8400, *Virtual Reality, Augmented Reality and Mixed Reality Technology Equipment*, 2025.

UL 60086-4, *Primary Batteries — Part 4: Safety of Lithium Batteries*, 2015.

UL 60335, *Standard for Safety of Household and Similar Appliances*, 2016.

UL 62368-1, *Audio/Video, Information and Communication Technology Equipment - Part 1: Safety Requirements*, 2025.

UL 62841, *Electric Motor-Operated Hand-Held Tools, Transportable Tools and Lawn and Garden Machinery — Safety*, 2022.

UL 9540A, *Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems*, 2025.

F.1.2.11 US Government Publications.

US Government Publishing Office, 732 North Capitol Street, NW, Washington, DC 20401.

Title 29, Code of Federal Regulations, Part 1910.120, "Hazardous Waste Operations and Emergency Response (HAZWOPER)."

Title 29, Code of Federal Regulations, Part 1910.147, "Hazardous Waste Operations and Emergency Response."

Title 29, Code of Federal Regulations, Part 1910.156, "Fire brigades."

Title 29, Code of Federal Regulations, Part 1910.1200, "Hazard Communication."

Title 40, Code of Federal Regulations, Part 261, "Identification and Listing of Hazardous Waste."

Title 40, Code of Federal Regulations, Part 262, "Standards Applicable to Generators of Hazardous Waste."

Title 40, Code of Federal Regulations, Part 263, "Standards for Universal Waste Management."

Title 49, Code of Federal Regulations, Part 173.185, "Lithium Cells and Batteries."

F.1. 2.12 SAE Specifications

J2464_202108, Electric and Hybrid Electric Vehicle Rechargeable Energy Storage System (RESS) Safety and Abuse Testing

J2929_201302, Safety Standard for Electric and Hybrid Vehicle Propulsion Battery Systems Utilizing Lithium-based Rechargeable Cells

J3073_201605, Battery Thermal Management

J2950_202006, Recommended Practices for Shipping Transport and Handling of Automotive-Type Battery System - Lithium Ion

J3235_202303, Best Practices for Storage of Lithium-Ion Batteries

J3303_202510, Lithium and Lithium-Ion Cell and Battery Containment Performance Recommended Practice

J2801_201805, Comprehensive Life Test for 12 V Automotive Storage Batteries

J3325_202503, Battery Pack Venting

J3400/1_202504, Electric Vehicle Charging Adapter Safety and OEM-Qualified Device Designation

J3400/2_202505, Connectors and Inlets for the North American Charging System (NACS) for Electric Vehicles

J3271_202503, SAE Megawatt Charging System for Electric Vehicles

J2974_201902, Technical Information Report on Automotive Battery Recycling

J2984_202109, Chemical Identification of Transportation Batteries for Recycling

J3071_201604, Automotive Battery Recycling Identification and Cross Contamination Prevention

J3108/1_202412, Standard Coding as an Identification Method for Alternative Fuel Vehicles

J3400_202409, North American Charging System (NACS) for Electric Vehicles

J1772_202401, SAE Electric Vehicle and Plug-in Hybrid Electric Vehicle, Conductive Charge Coupler

J2990/2_202011, Hybrid and Electric Vehicle Safety Systems Information Report

J2344_202010, Guidelines for Electric Vehicle Safety

J2990_201907, Hybrid and EV First and Second Responder Recommended Practice

J3108_201703, xEV Labels to Assist First and Second Responders, and Others

J1715/2_202108, Battery Terminology

J3277_202404, Liquid Leak Tightness Evaluation Methodology for EV Battery Packs, Informational Report

J3277/1_202501, Liquid Leak Tightness Standards for Propulsion Battery Packs Recommended Practice

J3178_202005, Adhesives, Sealants, and Heat Transfer Materials in Battery Systems: A Primer on Materials, Applications, and End-Use Performance Requirements

J2936_202505, SAE Electrical Energy Storage Device Labeling Recommended Practice

J1797_201608, Recommended Practice for Packaging of Electric Vehicle Battery Modules

J3124_201806, Industry Review of xEV Battery Size Standards

J1495_201811, Test Procedure for Battery Flame Retardant Venting Systems

J2185_201801, Life Test for Heavy-Duty Storage Batteries (Lead Acid Type Only)

J240_201212, Life Test for Automotive Storage Batteries

J2981_201605, Starter Battery Identification and Classification

J3060_201604, Automotive and Heavy Duty Storage Battery Vibration

J537_201604, Storage Batteries

J930_201605, Storage Batteries for Off-Road Self-Propelled Work Machines

J2847/3_202311, Communication for Plug-in Vehicles as a Distributed Energy Source

J3105_202305, Electric Vehicle Power Transfer System Using Conductive Automated Connection Devices

J3105/2_202305, Electric Vehicle Power Transfer System Using Conductive Automated Connection Devices, Vehicle-Mounted Pantograph (Bus-Up)

J3105/1_202305, Electric Vehicle Power Transfer System Using Conductive Automated Connection Devices, Infrastructure-Mounted Pantograph (Cross-Rail) Connection

J2908_202301, Vehicle Power and Rated System Power Test for Electrified Powertrains

J1715_202209, Hybrid Electric Vehicle (HEV) and Electric Vehicle (EV) Terminology

J2894/1_202504_Power Quality Requirements for Plug-in Electric Vehicle Chargers

J2836/1_202505_Use Cases for Communication Between Plug-in Vehicles and the Utility Grid

F.2 Informational References.

Sun, P., Huang, X., Bisschop, R., Niu, H., "A Review of Battery Fires in Electric Vehicles," *Fire Technology* 2020, 56, 1361-1410.

Hynynen, J., Willstrand, O., Blomqvist, P., Andersson, P., "Analysis of combustion gases from large-scale electric vehicle fire tests," *Fire Safety Journal* 2023, 139, 103829.

Maria Quant, Ola Willstrand, Tove Mallin, and Jonna Hynynen, "Ecotoxicity Evaluation of Fire-Extinguishing Water from Large-Scale Battery and Battery Electric Vehicle Fire Tests," *Environmental Science & Technology* 2023, 57, 4821-4830.

Funk, E., Flecknoe-Brown, K. W., Wijesekere, T., Husted, B. P., Andres, B., "Fire extinguishment tests of electric vehicles in an open sided enclosure," *Fire Safety Journal* 2023, 141, 103920

Ditch, B., Zeng, D., "Fire Hazard of Lithium-ion Battery Energy Storage Systems: 1. Module to Rack-scale Fire Tests," *Fire Technology* 2023, 59, 3049-3075.

Sturm, P., Fossleitner, P., Fruhwirt, D., Galler, R., Wenighofer, R., Heindl, S. F., Krausbar, S., Heger, O., "Fire tests with lithium-ion battery electric vehicles in road tunnels," *Fire Safety Journal* 2022, 134, 103695.

Bisschop, R., Willstrand, O., Rosengren, M., "Handling Lithium-Ion Batteries in Electric Vehicles: Preventing and Recovering from Hazardous Events," *Fire Technology* 2020, 56, 2671-2694.

Ribiere, P., Grugeon, S.; Morcerette, M., Boyanov, S., Laruelle, S., Marlair, G., "Investigation on the fire-induced hazards of lithium-ion battery cells by fire calorimetry," *Energy & Environmental Science* 2012, 5, 5271.

Mellert, L. D., Welte, U., Tuchschnid, M., Held, M., Hermann, M., Kompatscher, M., Tesson, M.; Nacheff, L., "Risk minimization of electric vehicle fires in underground traffic infrastructures," https://amstein-walthert.ch/media/files/2021/01/AGT_2018_006_EMob_RiskMin_Undergr_Infrastr_Final_Report_V1.0.pdf

Nagourney, T., Jordan J., Marsh, L., Scardino, D., May, B. M., "The Implications of Post-Fire Physical Features of Cylindrical 18650 Lithium-Ion Battery Cells," *Fire Technology* 2021, 57, 1707-1722.

F.3 References for Extracts in Mandatory Sections.

NFPA 855, *Standard for the Installation of Stationary Energy Storage Systems*, 2026 edition.

Statement of Problem and Substantiation for Public Input

If the goal of NFPA 800 is to link the ecosystem of standards and provide a comprehensive list of battery standards, SAE standards should be referenced. SAE has some of the most developed battery standards in the industry and has been working to develop them since before 2010. They define technical standards for performance, rating, testing, and compliance to ensure compatibility, safety, and reliability, not only in vehicles but in battery product development across industries.

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Submission Date: Thu Jan 29 10:11:21 EST 2026

Committee: BAT-AAA



Public Input No. 327-NFPA 800-2026 [New Section after F.1.2.5]

SAE DOCUMENTS

There are many SAE documents that will help create safer battery systems and should be cited here. Would recommend you contact Alyssia Bolstrom (your SAE liason for the NFPA 800 team).

Suggest we add the following references as additional aids:

J2464_202108 Electric and Hybrid Electric Vehicle Rechargeable Energy Storage System (RESS) Safety and Abuse Testing

J2929_201302 Safety Standard for Electric and Hybrid Vehicle Propulsion Battery Systems Utilizing Lithium-based Rechargeable Cells

J3073_201605 Battery Thermal Management

J2950_202006 Recommended Practices for Shipping Transport and Handling of Automotive-Type Battery System - Lithium Ion

J3235_202303 Best Practices for Storage of Lithium-Ion Batteries

J3303_202510 Lithium and Lithium-Ion Cell and Battery Containment Performance Recommended Practice

J2801_201805 Comprehensive Life Test for 12 V Automotive Storage Batteries

J3325_202503 Battery Pack Venting

J3400/1_202504 Electric Vehicle Charging Adapter Safety and OEM-Qualified Device Designation

J3400/2_202505 Connectors and Inlets for the North American Charging System (NACS) for Electric Vehicles

J3271_202503 SAE Megawatt Charging System for Electric Vehicles

J2974_201902 Technical Information Report on Automotive Battery Recycling

J2984_202109 Chemical Identification of Transportation Batteries for Recycling

J3071_201604 Automotive Battery Recycling Identification and Cross Contamination Prevention

J3108/1_202412 Standard Coding as an Identification Method for Alternative Fuel Vehicles

J3400_202409 North American Charging System (NACS) for Electric Vehicles

J1772_202401 SAE Electric Vehicle and Plug-in Hybrid Electric Vehicle, Conductive Charge Coupler

J2990/2_202011 Hybrid and Electric Vehicle Safety Systems Information Report

J2344_202010 Guidelines for Electric Vehicle Safety

J2990_201907 Hybrid and EV First and Second Responder Recommended Practice

J3108_201703 xEV Labels to Assist First and Second Responders, and Others

-

These standards could also be useful:

-

J1715/2_202108 Battery Terminology

J3277_202404 Liquid Leak Tightness Evaluation Methodology for EV Battery Packs, Informational Report

[J3277/1_202501](#) [Liquid Leak Tightness Standards for Propulsion Battery Packs Recommended Practice](#)

[J3178_202005](#) [Adhesives, Sealants, and Heat Transfer Materials in Battery Systems: A Primer on Materials, Applications, and End-Use Performance Requirements](#)

[J2936_202505](#) [SAE Electrical Energy Storage Device Labeling Recommended Practice](#)

[J1797_201608](#) [Recommended Practice for Packaging of Electric Vehicle Battery Modules](#)

[J3124_201806](#) [Industry Review of xEV Battery Size Standards](#)

[J1495_201811](#) [Test Procedure for Battery Flame Retardant Venting Systems](#)

[J2185_201801](#) [Life Test for Heavy-Duty Storage Batteries \(Lead Acid Type Only\)](#)

[J240_201212](#) [Life Test for Automotive Storage Batteries](#)

[J2981_201605](#) [Starter Battery Identification and Classification](#)

[J3060_201604](#) [Automotive and Heavy Duty Storage Battery Vibration](#)

[J537_201604](#) [Storage Batteries](#)

[J930_201605](#) [Storage Batteries for Off-Road Self-Propelled Work Machines](#)

[J2847/3_202311](#) [Communication for Plug-in Vehicles as a Distributed Energy Source](#)

[J3105_202305](#) [Electric Vehicle Power Transfer System Using Conductive Automated Connection Devices](#)

[J3105/2_202305](#) [Electric Vehicle Power Transfer System Using Conductive Automated Connection Devices, Vehicle-Mounted Pantograph \(Bus-Up\)](#)

[J3105/1_202305](#) [Electric Vehicle Power Transfer System Using Conductive Automated Connection Devices, Infrastructure-Mounted Pantograph \(Cross-Rail\) Connection](#)

[J2908_202301](#) [Vehicle Power and Rated System Power Test for Electrified Powertrains](#)

[J1715_202209](#) [Hybrid Electric Vehicle \(HEV\) and Electric Vehicle \(EV\) Terminology](#)

[J2894/1_202504](#) [Power Quality Requirements for Plug-in Electric Vehicle Chargers](#)

[J2836/1_202505](#) [Use Cases for Communication Between Plug-in Vehicles and the Utility Grid](#)

Statement of Problem and Substantiation for Public Input

Check SAE documents to see if they should be referenced.

Issue: BMS, cells, modules, shipping/handling -- very similar for all batteries, especially lithium ion. SAE has some specs - especially in shipping that could be helpful.

Submitter Information Verification

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Committee: BAT-AAA