

Code Amendment Proposal Petition

NH Department of Safety
Office of the State Fire Marshal
Board of Fire Control
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www.nh.gov/safety/divisions/firesafety

EXHIBIT #: RE-20-01-15

PETITIONER INFORMATION

Name: Joseph Mercieri, Fire Chief		Date: 1/16/2020
Representing: Littleton Fire Rescue		Phone: 603-444-2218
Address: 230 West Main St		Fax:
City: Littleton	State: NH	Zip: 03561
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PROPOSED CODE LANGUAGE

This proposed code amendment (check one):

- Amends (code, edition, section)
- Adopts a new code section (code, edition)
- Repeals (code, edition, section)

Code, Edition, and/or section affected:

2015 NFPA 1

You must provide language for review by the Board of Fire Control. Failure to provide language will invalidate the petition. Please use the following format to show additions and deletions from the code: Strike through = deleted text. Underline and bold = **New Text**

Proposed Language

Amend NFPA 1 Section 2.2 to include NFPA 855, Standard for the Installation of Stationary Energy Storage Systems, 2020 edition.

PETITION CRITERIA

Attach to this petition written responses to the following questions. If needed, include in the response an explanation as to why a question does not apply to your proposed code petition. The Board may reject an incomplete petition.

Questions:

1. Is your proposed code amendment necessary to correct any unforeseen or probable outcomes resulting from the application of a code section, and if so, why?
2. Is your proposed code amendment needed to protect the health, safety, welfare, comfort and/or security of occupants and the public, and if so, why?
3. Does your proposed code amendment correct inadequate application by a code section to a method, material, or design, and if so, why?
4. Is your proposed code amendment necessary to correct unique geographic or climatic conditions within New Hampshire, and if so, why?
5. Is your proposed code amendment needed to eliminate conflicting, obsolete, or duplicative code provisions or standards among New Hampshire-adopted codes, statutes, or regulations, and if so, why?
6. Does your proposed code amendment provide for the use of unique or emerging technologies or promote advances in construction methods, devices, materials and techniques, and if so, how?
7. Does your proposed code amendment create any adverse fiscal impact or cost savings for the general public, the construction industry, local and state governments, or small businesses? If so, please describe the added or reduced cost of the proposed code amendment, the adverse fiscal impact or cost savings in relation to the current NH State Fire Code, and any standards-of-measure used to arrive at the result given.

PETITIONER'S SIGNATURE

Signature: _____

Date: 1/28/2020

Copyright Notice: By signing this proposed code amendment petition, I understand and acknowledge that the work contained in this petition is original, or if not original, I have the right to copy the work. By signing this work, I understand that any rights I may have in this work, including any form of derivative works and compilations, are assigned to the N.H. Board of Fire Control. I also understand that I do not retain or acquire any rights once this work is used in an NH Board of Fire Control publication.

APPLICATION PROCESSING

The Office of the State Fire Marshal reviews all applications and will determine if the application is in conflict with any existing law or rule. The division will return any application found to be in conflict with any existing statute or rule along with the specific reasons for the returned application.

Not Approved: Approved: Approved with Modifications:

Hearing Date: 7-15-2020 Voting Date: 9-16-2020

Chair's Signature: Norman W. Skarftze Date: 9-21-2020

Printed Name: NORMAN W. SKARFTZE

Fire Marshal's Signature: [Signature] Date: 9-22-2020

Printed Name: PAUL D. PRISI

Commissioner's Signature: [Signature] Date: 9-23-2020

Printed Name: Robert [Signature]

Code Amendment Proposal Petition

Fire Chief Joseph Mercleri – Petitioner

Question Responses:

1. The code amendment request the addition of NFPA 855 Standard for the Installation of Stationary Energy Storage Systems, 2020 edition to the current State Fire code. Currently the installation of battery energy storage systems is not fully addressed within the fire code which makes it difficult to oversee such projects.
2. The proposed code amendment is needed to protect the health, safety and welfare of the public, the fires responders, the employees and contractors who would reside near and / or respond to the battery energy storage system facility. Of the most recent incidents involving battery storage energy system incidents, I refer you the incident in Surprise Arizona. The incident involved a failure of one of the battery storage containers. During the incident and in proximity of the burning container, several firefighters were injured when the connex box style container exploded. As a result of this incident the City of Phoenix has drafted an amendment to the IFC and NFPA 855 to create a stricter code in an effort to prevent a similar occurrence with these facilities. In addition to this incident, the lithium-ion battery technology used to storage electric energy is a new and growing technology. Lithium batteries have the potential breakdown when heated. This breakdown will cause a failure of the internal battery components. Once the battery starts to fail, the membrane separating the chemicals in the battery fails causing an irreversible vent known as "thermal-runaway". Thermal runaway is the catastrophic failure of the lithium-ion battery which, in a battery storage energy system container, can cause adjacent batteries to fail, causing a "domino" effect.
To give you a better understanding of the hazards posed by lithium-ion battery technology, I refer you to an incident that took place near downtown Houston Texas where a railcar transporting lithium-ion batteries exploded. The explosion was so strong it broke windows in nearby homes. The train car was carrying a load of lithium-ion batteries which were to be delivered to a recycling center.
Adopting NFPA 855 would serve to enable both local and State fire code officials the ability to ensure that battery energy storage systems are installed, maintained, stored and recycled in a safe manner.
3. Since the battery energy storage systems technology is relatively new, the technology has far outpaced fire and building code development. The proposed code amendment will integrate NFPA 855 into code references which can then be used by code enforcement officials.
4. No, the code amendment is not necessary to correct unique geographic or climate conditions within New Hampshire.
5. No, the code amendment is not needed to eliminate conflicting, obsolete or duplicate code provisions.
6. Yes, the code amendment addresses the installation and use of new emerging technologies as well as the use of new lithium-battery technology. The code amendment will address the installation of the emerging battery energy storage systems.

7. I do not believe that the proposed code amendment will create an adverse fiscal impact or savings for the general public, the construction industry, local and state governments.

Exhibit RE 20-01-15 Revision #1

September 14, 2020

Proposed language:

Amend NFPA 1 Section 2.2 to include NFPA 855, Standard for the Installation of Stationary Energy Storage Systems, 2020 edition.

Amend NFPA 1 Chapter 52 to include a new section as follows:

Section 52.1.1

The design, installation, operation, inspection, and maintenance of all stationary energy storage systems shall comply with this chapter and NFPA 855, Standard for the Installation of Stationary Energy Storage Systems, 2020 edition.