

CODE INFORMATION Proposed change to:

Code section(s):

# DEPARTMENT OF ADMINISTRATIVE SERVICES

# PROPOSED CHANGE OF THE CONNECTICUT STATE BUILDING CODE AND FIRE SAFETY CODE

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		DATE SUBMITTED: 3-20-21
Building Code	Fire Safety Code	
Table 1207.6		

### PROPONENT INFORMATION

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## PROPOSAL INFORMATION

Description of change and reason for change (attach additional information as needed):

Delete footnote e in Table 1207.6. See Attached.

Proposed text change, addition or deletion (attach additional information as needed):

Delete footnote e in Table 1207.6. See Attached.

Supporting data and documents (attach additional information as needed)

This Proposal is original material. (Note: Original material is considered to be the submitter's own idea based on or as a result of his/her own experience, thought or research and, to the best of his/her knowledge, is not copied from another source.)

□ This Comment is not original material, its source (if known) is as follows: (such as material / code development proposal from a prior development cycle or proposal submitted to model code committee etc.)

□ I would like to make an in-person presentation of my proposal.

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**Proponent's Signature** 

Scott Lang Printed Name

PLEASE EMAIL (PREFERRED) TO DAS.CodesStandards@CT.GOV OR MAIL OR FAX (SEE BELOW)

Department of Administrative Services Office of the State Building Inspector 450 Columbus Boulevard, Suite 1303 Hartford, CT 06103 Tel: 860-713-5900 Fax: 860-713-7410 Affirmative Action/Equal Opportunity Employer

## Description of change and reason for change (attach additional information as needed):

Section 1207.6.5 requires "a listed device or other approved method to prevent, detect and minimize the impact of thermal runaway." The exception in the footnotes of Table 1207.6 allows for the BMS to perform this function. However, UL 1973 lacks specific requirements for thermal runaway protection in the BMS that would provide the needed granularity in voltage, current, or temperature sensing to detect the early indicators of an abuse condition. Sensors and systems outside of the BMS (but which interface with the BMS) are better suited for detecting the off-gas condition of even a single cell. The off-gassing of electrolyte solvent vapors is a pre-cursor condition that can be detected and then used to isolate the module and prevent thermal runaway.

# Proposed text change, addition or deletion (attach additional information as needed):

Table 1207.6

a. Not required for lead-acid and nickel cadmium batteries at facilities under the exclusive control of communications utilities that comply with NFPA 76 and operate at less than 50 VAC and 60 VDC.

b. Protection shall be provided unless documentation acceptable to the fire code official is provided in accordance with Section 104.7.2 that provides justification why the protection is not necessary based on the technology used.

c. Applicable to vented (i.e. flooded) type nickel cadmium and lead acid batteries.

d. Not required for vented (i.e. flooded) type lead acid batteries.

e. The thermal runaway protection is permitted to be part of a battery management system that has been evaluated with the battery as part of the evaluation to UL 1973.

## Supporting data and documents (attach additional information as needed)

The lithium-ion energy storage system incident at the site owned by the utility APS in Surprise, AZ is a good example of how earlier intervention during the initial stage of lithium-ion cell venting could prevent a greater tragedy. No one was alerted until the smoke detection system detected the battery rack in thermal runaway.