



National Fire Protection Association

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MEMORANDUM

TO: NFPA Technical Committee on Sprinkler System Discharge Criteria
FROM: Joanne Goyette
DATE: March 25, 2011
SUBJECT: NFPA 13 (AUI-SSD) ROP TC **FINAL** Ballot Results (A2012)

The Final Results of the NFPA 13 ROP Letter Ballot are as follows:

- 25** Members Eligible to Vote
- 3** Not Returned (T. Brown, A. Hogan, and T. McNamara)
- 15** Affirmative on All
- 6** Negatives (W. Baker, T. Bellamy, J. Denhardt, R. Huggins, S. Javeri, and G. Stanley)
(on one or more proposals as noted in the attached report)
- 1** Abstention (L. Keeping) (on one or more proposals as noted in the attached report)

There are two criteria necessary to pass ballot [(1) affirmative $\frac{2}{3}$ vote and (2) simple majority].

- (1) The number of affirmative votes needed for the proposal to pass is **14**.
 $25 \text{ eligible to vote} - 3 \text{ not returned} - 1 \text{ abstentions} = 21 \times 0.66 = 13.86$
- (2) In all cases, an affirmative vote of at least a simple majority of the total membership eligible to vote is required. This is the calculation for simple majority:
 $[25 \text{ eligible} \div 2 = 12.5 + 1 = \mathbf{(13)}]$

Reasons for negative votes, etc. from alternate members are not included unless the ballot from the principal member was not received.

According to the final ballot results, all ballot items received the necessary $\frac{2}{3}$ required affirmative votes to pass ballot.

13-48 3.9.1.6 Clearance to Ceiling, 12.1.3.4, 12.12.1.2, 15.1.2, 15.2.3, 15.2.7.16.1.5.3.2, Table 16.3.1.1, (Log # 266)

Affirmative with Comment

Javeri, S. 12.3.4.1.1. Is acceptable for when the upper and lower web widths are about the same. In Europe the web depth can be 76mm but the upper web width is ten times larger than the lower web width. Heat accumulation will be in the upper web channel.

13-225 8.11 (Log # 4)

Negative

Keeping, L. I do not think that this proposal should have been accepted at this time, because the instructions that it contains is contrary to 8.11.1.1 which says that pendent CMSA sprinklers are to be installed as per the manufacturers installation instructions. Currently there are three such pendent CMSA sprinklers on the market and the other two versions each have very different installation criteria. Until we can put the rules for all pendent CMSA sprinkler into the standard, it would be better to exclude all three. To have to go to the standard for one type and then to have to go the manufacturer's literature for the others can only lead to confusion and misapplication.

Further to the above, I must point out that the referenced supporting material was not distributed to all of the members of the TC and this omission needs to be rectified prior to the Comment Closing date.

Also, I am not sure that this matter should have been sent to the SSD TC. I believe that this is an installation matter and that by rights the proposal should have been sent to the SSI TC.

Affirmative with Comment

Baker, Jr., W. I agree with the Accept vote, however I feel that we could shorten it up by simply having it basically follow the guidelines currently in place for the other CMSA sprinklers.

Isman, K. You can't have a Table 8.11.2.2.2 without a section 8.11.2.2.2 that goes with it. Current section 8.11.2.2.2 has nothing to do with spacing of k-19.6 sprinklers. Was the intent to renumber the existing section or lose it? What text is going to be in 8.11.2.2.2 that will reference the table? Instead, section 8.11.2.2.1 should be changed to reference Table 8.11.2.2.1(a) and 8.11.2.2.1(b).

13-369 11.1.6.1 and 11.1.6.3 (Log # 346)

Affirmative with Comment

Huggins, R. We need to retain the essence of the last sentence from 11.1.6.3. as a reminder that even when the pump does not supply the hose demand that the evaluation of the water supply to the pumps must still address it.

13-370 11.2.3.1.1(4) (Log # 343)

Negative

Denhardt, J. This proposal is not needed. Paragraph 11.1.1 which states, "A building or portion thereof shall be permitted to be protected in accordance with any applicable design basis at the discretion of the designer.", already allows the designer to use any method which by default allows the design to be in accordance with Section 11.3. We should reject this proposal.

Huggins, R. There are two problems with accepting this proposal. The first one is that 11.3 is a totally separate and nonrelated section from 11.2 so such a reference in 11.2 is inappropriate. It's like having something in 8.6 on SSU&P sprinklers addressing sidewall sprinklers. The second point is that it is unnecessary. The general criteria of 11.1 covers all hydraulically calculated systems. If there is no legal way to currently use 11.3 without this change then there is no legal way to use any of the storage chapters. This is not the case since they AND 11.3 are covered by 11.1.

13-377 11.2.3.2.7 (Log # 271)

Affirmative with Comment

Bellamy, T. The original intention of the submission as indicated in the substantiation was to correct the allowance for a 25% reduction for storage applications covered by Chapter 13. The change should have been more appropriately made to the Chapter 13 reference back to Chapter 11.

13-389 12.6.7(1) (New) (Log # 449)

Negative

Keeping, L. I do not agree with the Committee Action taken here by the SSD TC, because it is in conflict with the Action taken by the SSI TC on Proposal 13-181 (Log #315), where it was decided that quick response CMSA sprinklers can be used to protect light hazard and ordinary hazard occupancies while standard response CMSA sprinklers can only be used for ordinary hazard. These matters need to be reconsidered and coordinated by the two Committees.

13-391 12.9.1 (Log # 125)

Negative

Keeping, L. I believe that the committee should reconsider this matter and revise it to correspond with Proposal 13-372, (Log #123), where it was decided to Accept in Principle and add the text describing “adjacent” in an Annex item A.11.2.3.1.4(3). Similarly, this matter should be added to the Annex as A.12.9.1.

Affirmative with Comment

Huggins, R. We need to add the new annex material from 13-372 (Log #123) and 13-383 (Log #124) on the same issue.

13-397 Table 12.12.1.2(c), 12.12.2.1, 14.4.1, 15.4.1, 16.2.3.1, 17.2.3.1, 17.3.3.1, 18.4(d), 19.1.2.3 (Log # CP319)

Negative

Javeri, S. This proposal does not address the issue. It seems from the data that a clearance of 6m and above is an issue but not the ceiling height. These sprinklers have had successful tests in 12.2m ceiling with 10.6m storage (clearance 1.6m) why are we now removing this scenario from being protected with K14 ESFR? The issue to address is to limit the clearance not the building height.

Abstain

Keeping, L. I feel I must abstain on this issue, because I have not yet seen the data that was supposed to be provided. It was not distributed to all of the members of the TC and this omission needs to be rectified prior to the Comment Closing date.

Affirmative with Comment

Baker, Jr., W. Certainly this is one for the committee to follow-up on as it was a single sprinkler that failed the test as opposed to more than one currently listed for this application. The substantiation indicates that data was provided to limit the application to a maximum ceiling height of 35 ft. which I don't remember being the case. Was test data submitted for a 35 ft high ceiling that would allow it to be limited to it?

Bellamy, T. While the test data provides basis for removal of the allowance, it is suggested that advisory language might be in order within the Annex to provide guidance for existing installations that utilized such criteria to avoid high clearance storage configurations.

13-407 13.3.4 (Log # 349)

Affirmative with Comment

Keeping, L. While I agree with this action, I would offer an editorial comment, that instead of using the Table 13.3.3.4.2 (copied from the current Table 16.2.4.2.1) as presented in this proposal, the new version of Table 16.2.4.2.1 as found in Proposal 13-444, (Log #286) should be copied instead.

13-408 Chapter 14 (Log # 539)

Negative

Baker, Jr., W. The substantiation indicates there is a need to have flexibility for the various different commodity classifications of Class 1, 2 and 3. I would agree with this 10 years ago but between changes in commodities over the past 10 years as well as changes in ceiling-level sprinkler technology has made the gaps that once existed to be much closer compared to 40 years ago. The committee is assuming that what was acceptable protection based on testing, which there is none for Class 1, back in the late 1960's still is applicable today, which is not the case. Not only do we have better sprinklers available to us for ceiling level protection, but Class 2 commodities now behave more like Class 3 commodities due to the manufacturing process used by companies that make corrugated cardboard.

13-409 Chapter 14 and 15 (Log # 540)**Negative**

Baker, Jr., W. Class IV protection does not require the same level of protection as cartoned nonexpanded plastics in NFPA 13, but based on testing I have witnessed the differences between what is needed for Class IV and cartoned nonexpanded plastics is small enough that with today's sprinklers that can be installed at ceiling level there is no need to separate them anymore.

13-410 Chapter 14 through 17 (Log # 542)**Affirmative with Comment**

Multer, T. Table 12.8.6 Hose Stream Allowance and Water Duration should be changed for the extended coverage sprinklers. For the 250 gpm allowance: up to 6 sprinklers for 196 square feet maximum area spacing and up to 8 sprinklers having a maximum 144 square feet area spacing.

13-411 Chapter 14 through 17 (Log # 545)**Affirmative with Comment**

Multer, T. Table 21.4.1 Hose Stream Allowance and Water Duration should be changed for the extended coverage sprinklers. For the 250 gpm allowance: up to 6 sprinklers for 196 square feet maximum area spacing and up to 8 sprinklers having a maximum 144 square feet area spacing.

13-414 14.2.4.1 and Figure 14.2.4.2 (Log # 541)**Negative**

Baker, Jr., W. The information is technically correct, adds very little text to the section and helps avoid the potential for someone overlooking this guidance that is located in a different chapter.

13-416 14.2.4.6 (Log # CP309)**Negative**

Denhardt, J. This paragraph needs to be deleted in its entirety. As the submitter's substantiation states, this is old criteria that previously applied to storage less than 12 feet. As such, that height of storage is covered by Chapter 13. By keeping it applicable to heights greater than 12 feet, we now have a conflict with paragraph 12.2.4.5 (minimum density of .15 gpm/sf). Also this paragraph effectively eliminates 75% of the Class III curve for Figure 14.2.4.2. We need to reject this proposal and make a committee action to delete this paragraph.

Huggins, R. This section needs to be deleted in its entirety. As the Substantiation states, it is old criteria that previously applied to storage less than 12 ft. As such, that height of storage is covered by Ch 13. By keeping it as applicable to heights greater than 12 ft, we now have a conflict with 12.2.4.5 (minimum density of 0.15 gpm/sf). A final note is that this section effectively eliminates applying 75% of the Class III curve for Figure 14.2.4.2 which seems to be an unintentional consequence.

13-417 14.2.4.7 (Log # 350)

Abstain

Keeping, L. I feel I must abstain on this issue, because I do not understand why the intent is to only allow densities from Figure 14.2.4.1 for ordinary temperature rated sprinklers. The Committee Statement did not clarify why the curves for high temperature rated sprinklers could not be used.

13-430 Chapter 16 (Log # 352)

Affirmative with Comment

Bellamy, T. Should this technically be an Accept in Part since the change was only made for ESFR protection?

13-431 Chapter 16 (Log # 544)

Affirmative with Comment

Baker, Jr., W. I agree that sufficient test data was not included with this submittal and will hopefully provide the data needed to convince the committee that the current guidelines are based on insufficient data and not representative of what the current sprinklers on the market can protect.

13-433 Chapter 16 and 17 (Log # 543)

Affirmative with Comment

Baker, Jr., W. I agree that sufficient test data was not included with this submittal and will hopefully provide the data needed to convince the committee that the current guidelines are based on insufficient data and not representative of what the current sprinklers on the market can protect.

13-434 16.1.6 (Log # 509)

Abstain

Keeping, L. I feel I must abstain on this issue, because I have not yet seen the referenced supporting material. It was not distributed to all of the members of the TC and this omission needs to be rectified prior to the Comment Closing date.

13-437 16.1.6.6 (New) (Log # 368)

Negative

Keeping, L. The Action reported here is not in accordance with the final discussion on the subject. Initially, the reported Action was agreed to, but later in the meeting the issue was reopened and it was decided that instead of the deletion of Note 1, text would be added to Note 1 to clarify that ESFR sprinklers cannot be used to protect racks with solid shelves unless in-rack sprinklers are installed as well.

Affirmative with Comment

Baker, Jr., W. I am unclear why this was an Accept in Principle where the submitter is trying to indicate that CMSA and ESFR are not compatible with the presence of solid shelves yet the committee appears to be saying just the opposite. I agree that CMSA and ESFR sprinklers can be compatible with solid shelves if an acceptable level of in-rack sprinklers are provided.

13-449 Chapter 17 (Log # 138)

Negative

Javeri, S. While I like most of this rewrite I cannot accept protection schemes based on the risk analyses of an insurance company as being equivalent to scientific test data. We have NO data to indicate exposed expanded plastic can be protected in this way. The protection criteria for exposed expanded plastic should be removed from this rewrite until we have data from the Fire Protection Research Foundation if they are able to establish a research project.

13-453 17.1.5.5 (New) (Log # 370)

Negative

Keeping, L. The Action reported here is not in accordance with the final discussion on the subject. Initially, the reported Action was agreed to, but later in the meeting the issue was reopened and it was decided that instead of the deletion of Note 1, text would be added to Note 1 to clarify that ESFR sprinklers cannot be used to protect racks with solid shelves unless in-rack sprinklers are installed as well.

Affirmative with Comment

Baker, Jr., W. I am unclear why this was an Accept in Principle where the submitter is trying to indicate that CMSA and ESFR are not compatible with the presence of solid shelves yet the committee appears to be saying just the opposite. I agree that CMSA and ESFR sprinklers can be compatible with solid shelves if an acceptable level of in-rack sprinklers are provided.

13-456 17.2.1.2.1 and 17.3.1.1 (Log # 293)

Negative

Bellamy, T. The committee statement indicates that "Recent testing has shown that Unexpanded Exposed Group A plastic is more difficult to control than was discussed in the 1998 code revision cycle." I am not aware of any testing that was presented to the Committee nor for public review that substantiates a removal of all allowable protection criteria for CMDA applications that was originally accepted during the 1998 code revision cycle. Without submission of such testing I find it difficult to support such a wide reaching change. Additionally, the use of such a high challenge test commodity as idle plastic pallets to represent an Unexpanded Exposed plastic is not appropriate. This would be the same as having idle wood pallets represent a Class III commodity.

13-457 17.2.1.5 (Log # 432)

Negative

Bellamy, T. The inclusion of a whole new set of protection criteria for Unexpanded Exposed Group A plastic without the submission and review of a single full scale fire test is contrary previous and ongoing actions taken by the Committee.

13-460 17.2.5.1.2 (Log # 224)

Negative

Bellamy, T. The inclusion of multi-row racks within the allowance for the use of the provisions of 17.2.5.1.2 presents an issue with the requirement that a minimum aisle width of 7-¹/₂ ft be maintained as provided by 17.2.5.1.2(7) which is contrary to the definition of a multi-row rack.

Affirmative with Comment

Multer, T. Add K-22.4 (320) ESFR

13-467 20.8 (Log # 208)

Abstain

Keeping, L. I feel I must abstain on this issue, because I have not yet seen the referenced supporting material. It was not distributed to all of the members of the TC. This omission needs to be rectified prior to the Comment Closing date.

13-477 22.4.2.4.3, 22.4.2.5.1, and 22.4.2.6.1 (Log # 260)

Affirmative with Comment

Baker, Jr., W. The equation is wrong - p should be raised to the "0.5" exponential and "p" is missing from the definition.

13-479 22.4.4.1.1.4 (New) (Log # 298)

Negative

Bellamy, T. The issue presented is not one simply involving the application of the room design method. It is one that involves situations where in order to obtain the full design area one must complete a "straddle" design calculation. A "straddle" design calculation involves having the design area situated partially within the design area in question and partially within adjacent design areas surrounding such areas. When the design area in question is of sufficient size to accommodate the full design area this is not an issue; however, when the area in question is too small then an issue arises with having to include more adjacent sprinklers within the design calculation that would create a design demand far greater than either of the design areas considered individually given that a full design area was available. It is simply not appropriate to have design requirements that result in excessive design demands simply because the hazard area is too small.

13-483 22.4.4.2.1 (Log # 452)

Affirmative with Comment

Koffel, W. Consideration should be given to providing additional clarity to the text being proposed. The intent of the proposed language was finally understood during the Committee meeting, only after considerable discussion.

13-485 22.4.4.5.1, A.22.4.4.5.1, Figure A.22.4.4.5.1, and Table A.22.4.4.5.1 (Log # 300)

Affirmative with Comment

Baker, Jr., W. The "E" symbol needs to be added.

Keeping, L. While I agree with this action, I would offer an editorial comment that, in Table A.22.4.4.7.2 (formerly Table A.22.4.4.5.1), the symbol for the factor for the aged pipe is ϵ (epsilon).

13-490 Table 22.4.4.7 (Log # 240)

Affirmative with Comment

Keeping, L. While I agree with the Committee Action, I must point out that the referenced supporting material has still not been distributed to all of the members of the TC. This omission needs to be rectified prior to the Comment Closing date.

13-497 23.1.5.1(5) (Log # 39)

Affirmative with Comment

Keeping, L. While I agree with the Committee Action, I must point out that the referenced supporting material was not distributed to all of the members of the TC. This omission needs to be rectified prior to the Comment Closing date.

13-498 23.1.5.2 (Log # 40)

Affirmative with Comment

Keeping, L. While I agree with the Committee Action, I must point out that the referenced supporting material was not distributed to all of the members of the TC. This omission needs to be rectified prior to the Comment Closing date.

13-499 23.1.5.3 (Log # 118)

Affirmative with Comment

Keeping, L. While I agree with the Committee Action, there is a typographical error in the Committee Statement. I believe that the referenced Committee Action should be Proposal 13-500, (Log #302) rather than Proposal 13-189.

13-500 23.1.5.3 (Log # 302)

Affirmative with Comment

Deegan, T. While I agree with the committee's action, I believe that the issue is far more complicated. There are a variety of substances that may be introduced into a sprinkler system (biocides, biostats, cutting oils, lubricants, dopes, etc.) and there may be more than two at a time. Is it the committee's intent to have all combinations and permutations listed? The intent is good but I'm not sure that it is practical.

13-530 Table A.5.6.3 (Log # 546)

Negative

Baker, Jr., W. NFPA 13 and FM Global need to reconcile what the differences are between what the test results were that originally allowed for the current guidance and why the new test data indicates otherwise. Just because it is not in NFPA 30 does not mean we ignore test data.

Keeping, L. I do not believe that the Action reported here is in accordance with the final discussion on the subject. According to my notes, the Committee voted to Accept in Principal, and intended to delete the information from Table A.5.6.3, and then add it to Table A.5.6 as commodities that are not addressed by the classifications in Section 5.6.

13-581 A.11.2.3.1.4(1) (Log # 171)

Negative

Stanley, G. I agree with submitter that the standard needs to give better guidance on how to deal with these small sub-systems.

13-584 Figure A.11.3.1.1 (Log # 149)

Affirmative with Comment

Huggins, R. a. Figure A.11.3.1.1(a) The 14 ft. 6 in. and 20 ft. 8 in. is suppose to stop at the solid line representing the actual dimensions of the room. There should be a 16 ft. and 22 ft. assigned to the dotted lines representing the assigned area of coverage for the sprinkler.

b. Figure A.11.3.1.1(a) should be (b) and vice versa

Keeping, L. While I basically agree with the Committee Action, I believe there is a typographical error in the second sentence of A.11.3.1.1. Currently the text, which says "... maximum square area for pendent sprinklers or a square or rectangular area", is incomplete. These words should be revised to say either "... maximum square area or rectangular area" or "... maximum square area for pendent sprinklers or a square or rectangular area for sidewall sprinklers".

13-587 A.12.12 (Log # CP306)

Affirmative with Comment

Bell, K. As noted in the substantiation for the TC action on this proposal, this Annex material was added to support a revision to Table 12.12.1.2(a) to eliminate the sprinkler temperature rating columns. Unfortunately, the TC action to revise Table 12.12.1.2 (a) in this regard was omitted from this ballot. However, I understand that a supplemental ROP ballot to address this revision will be sent to the TC shortly.

13-591 A.22.4.4.5.1 (Log # 156)

Negative

Denhardt, J. The technical committee should provide the details on how to perform this calculation with all supporting data and formulas.

Huggins, R. If the TC elects to retain partial criteria, it seems the TC should be responsible for doing the work to tell the users of NFPA 13 how to determine the Reynolds number.

13-593 A.23.1.3.2 (Log # 429)

Negative

Keeping, L. Mr. Denhardt is right, there are items that need to be clarified. Until it has been determined how the domestic demand is to be calculated, this material should remain as just a guidance item in the Annex.

Affirmative with Comment

Denhardt, J. Three points need to be stated or clarified.

- Section 23.1.3 needs to be reviewed in detail. When we accept this proposal, we are violating paragraphs 23.1.3.1 and 23.1.3.2 since domestic demands are not allowed on pipes less than 6".

- No guidance is given on how to calculate the domestic demand

- What is domestic demand? Is it just the normal plumbing fixtures in a typical "housing unit" or does include commercial loads? Is the intent to allow commercial water flow demands to be added in a common private service main?

These questions need to answered before this proposal moves forward.