MEMORANDUM

To: NFPA Technical Committee on Fire Service Occupational Safety and Health
From: Yvonne Smith, Project Administrator
Date: May 14, 2014
Subject: NFPA 1584 Second Draft TC FINAL Ballot Results (F2014)

According to the final ballot results, all ballot items received the necessary affirmative votes to pass ballot.

31 Members Eligible to Vote
8 Not Returned (Finkelman, Harms, Lackore, Metheny, Schwartz, Stewart, Vorlander, Wann)
22 Affirmative on All Revisions
0 Affirmative with Comment on one or more Revisions
1 Negative on one or more Revisions (Prezant, D.)
0 Abstentions on one or more Revisions

The attached report shows the number of affirmative, negative, and abstaining votes as well as the explanation of the vote for each first/second revision.

There are two criteria necessary for each second revision to pass ballot: (1) simple majority and (2) affirmative 2/3 vote. The mock examples below show how the calculations are determined.

(1) Example for Simple Majority: Assuming there are 20 vote eligible committee members, 11 affirmative votes are required to pass ballot. (Sample calculation: 20 members eligible to vote ÷ 2 = 10 + 1 = 11)

(2) Example for Affirmative 2/3: Assuming there are 20 vote eligible committee members and 1 member did not return their ballot and 2 members abstained, the number of affirmative votes required would be 12. (Sample calculation: 20 members eligible to vote – 1 not returned – 2 abstentions = 17 x 0.66 = 11.22 = 12)

As always please feel free to contact me if you have any questions.
2.4 References for Extracts in Mandatory Sections.

Submitter Information Verification

Submitter Full Name: Kendall Holland
Organization: National Fire Protection Assoc
Street Address:
City:
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Submittal Date: Thu Mar 27 12:13:03 EDT 2014

Committee Statement

Committee Statement: These changes are editorial in nature in order to reflect a document title change and a change in the edition date of that document.
Response Message:

Ballot Results

✓ This item has passed ballot

31 Eligible Voters
8 Not Returned
23 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned
Finkelman, Michael L.
Harms, Todd A.
Lackore, J. Roger
Metheny, Jarett
Affirmative All
Bennett, Lawrence T.
Bernzweig, David T.
Bogucki, Sandy
Brinkley, James E.
Childress, Dennis R.
Cuff, Jr., Thomas J.
Czarnecki, Fabrice
Garrett, Christopher A.
Hillenbrand, Thomas
Kerwood, Scott D.
Krause, Randy J.
Laton, Michael A.
Lopes, Tamara DiAnda
McLeod, III, Robert L.
Prezant, David J.
Raynis, Stephen
Rueda, Mario D.
Smith, Denise L.
Stittleburg, Philip C.
Tamme, Susan
Terryn, Fred C.
Young, Michael L.
Zagaris, Kim D.
6.1.4*
Members shall undergo rehabilitation following the use of a second 30-minute or 45-minute self-contained breathing apparatus (SCBA) cylinder, a single 60-minute SCBA cylinder, or 40 minutes of intense work without SCBA. A supervisor shall be permitted to adjust the time frames depending upon work or environmental conditions.

6.1.4.1
A supervisor shall be permitted to adjust the time frames depending upon work or environmental conditions.

Submitter Information Verification

Submitter Full Name: Kendall Holland
Organization: National Fire Protection Assoc
Street Address:
City:
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Submittal Date: Tue Mar 11 13:07:11 EDT 2014

Committee Statement

Committee Statement: The committee has made this change for clarity and consistency with 6.2.2.2.
Response Message: Public Comment No. 1-NFPA 1584-2013 [Section No. 6.1.4]

Ballot Results

✔ This item has passed ballot

31 Eligible Voters
8 Not Returned
22 Affirmative All
0 Affirmative with Comments
1 Negative with Comments
0 Abstention

Not Returned
Finkelman, Michael L.
Harms, Todd A.
Lackore, J. Roger
Metheny, Jarett
Schwartz, Andrew G.
Stewart, Donald F.
Vorlander, Phillip C.
Wann, Teresa

**Affirmative All**
Bennett, Lawrence T.
Bernzweig, David T.
Bogucki, Sandy
Brinkley, James E.
Childress, Dennis R.
Cuff, Jr., Thomas J.
Czarnecki, Fabrice
Garrett, Christopher A.
Hillenbrand, Thomas
Kerwood, Scott D.
Krause, Randy J.
Laton, Michael A.
Lopes, Tamara DiAnda
McLeod, III, Robert L.
Raynis, Stephen
Rueda, Mario D.
Smith, Denise L.
Stittleburg, Philip C.
Tamme, Susan
Terryn, Fred C.
Young, Michael L.
Zagaris, Kim D.

**Negative with Comment**
Prezant, David J.

1. Strong consideration should be given to one bottle of any size both from a physical endurance as well as an operational prospective. 2. Also, section 6.2.6.3.1 "shall" should be changed to should. It is an undue burden to require all of these vital signs, especially temperature and blood pressure. Especially in their meaning on the fire ground is of unclear significance.
6.2.4.1*
Members shall avoid overhydration, which can lead to hyponatremia.

Submitter Information Verification

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Submittal Date: Tue Mar 11 15:57:40 EDT 2014

Committee Statement

Committee Statement: The committee has added the new section of text based on the submitted public comment.
Response Message: Public Comment No. 2-NFPA 1584-2013 [Section No. 6.2.4]

Ballot Results

✔ This item has passed ballot

31 Eligible Voters
8 Not Returned
23 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned
Finkelman, Michael L.
Harms, Todd A.
Lackore, J. Roger
Metheny, Jarett
Schwartz, Andrew G.
Stewart, Donald F.
Vorlander, Phillip C.
Wann, Teresa

Affirmative All
Bennett, Lawrence T.
Bernzweig, David T.
Bogucki, Sandy
Brinkley, James E.
Childress, Dennis R.
Cuff, Jr., Thomas J.
Czarnecki, Fabrice
Garrett, Christopher A.
Hillenbrand, Thomas
Kerwood, Scott D.
Krause, Randy J.
Laton, Michael A.
Lopes, Tamara DiAnda
McLeod, III, Robert L.
Prezant, David J.
Raynis, Stephen
Rueda, Mario D.
Smith, Denise L.
Stittleburg, Philip C.
Tamme, Susan
Terryn, Fred C.
Young, Michael L.
Zagaris, Kim D.
A.6.2.4
During emergency incidents and training exercises, the goal should be to match the volume of fluid intake with the volume of sweat output. Humans can easily exceed a sweat rate of 64 oz (2 L) per hour in hot and humid conditions. (See Sawka and Pandolf, "Effects of Body Water Loss on Physiological Function and Exercise Performance.") It is important to remember that fire-fighting gear interferes with heat dissipation and traps moisture next to the skin; hence, as soon as fire fighters don their gear the skin experiences a hot and humid environment and sweating begins. Furthermore, sweating continues even after a fire fighter stops working and enters rehabilitation.

Nausea and loss of thirst can be early signs of dehydration and heat stress. Therefore, all members should demonstrate the ability to consume some fluids. If members cannot demonstrate the ability to take in some fluid, they should be medically evaluated.

It is important to consider all of this fluid loss through sweat when trying to match sweat loss with fluid intake. Fire fighters can easily lose 32 oz (1 L) of water in less than 20 minutes of strenuous fire-fighting activity. (See Smith and Petruzzello, "Selected Physiological and Psychological Responses to Live-Fire Drills in Different Configurations of Firefighting Gear.")

Dehydration has several detrimental effects on the body, including the following:

1. Impairs Impairment of the body's ability to maintain core temperature
2. Decreases Decreased strength
3. Shortens Shortened endurance time
4. Decreases Decreased blood volume, which increases cardiovascular strain

A 15 percent reduction in plasma volume and a 40 percent reduction in stroke volume have been reported following less than 20 minutes of strenuous fire-fighting activity. (See Smith et al., “Effects of Strenuous Live-Fire Firefighting Drills on Hematological, Blood Chemistry, and Psychological Measures”; and Smith, Petruzzello, and Manning, “The Effect of Strenuous Live-Fire Drills on Cardiovascular and Psychological Responses of Recruit Firefighters.”)

The gastric emptying capacity of an exhausted, warm, and dehydrated fire fighter is likely about 32 oz (1 L) per hour. Forcing large amounts of fluids in a period of as little as 20 minutes during rehabilitation could overwhelm the stomach's ability to handle such fluid and result in nausea and vomiting due to too great a volume of fluid being forced upon the upper GI system.

Overhydration (drinking too much, too fast) during operations can cause gastric discomfort or gastric distention, which can cause vomiting. During high intensity, long-duration activity (longer than 1 hour), the following precautions are recommended:

- Ingest 30 g/hr to 60 g/hr of carbohydrate.
- Drink 8 oz (¼ L) of sports drink containing approximately 15 g of carbohydrate.
- Consume other readily available carbohydrate sources, such as fruit and meal replacement bars.
In rare instances, overhydration can lead to serious health problems. Drinking too much water can lead to a condition known as hyponatremia (sometimes called water intoxication).

Members who are fighting wildland fires should carry fluids and foods that can be easily transported and maintained (energy bars, fruit, sports drinks, and water bottles).

A.6.2.4.1

Overhydration (drinking too much, too fast) during operations can cause gastric discomfort or gastric distention, which can cause vomiting. During high-intensity, long-duration activity (longer than 1 hour), the following precautions are recommended:

1. Ingest 30 g/hr to 60 g/hr of carbohydrate.
2. Drink 8 oz (¼ L) of sports drink containing approximately 15 g of carbohydrate.
3. Consume other readily available carbohydrate sources, such as fruit and meal replacement bars.

In rare instances, overhydration can lead to serious health problems. Drinking too much water can lead to a condition known as hyponatremia (sometimes called water intoxication).

Members who are fighting wildland fires should carry fluids and foods that can be easily transported and maintained (energy bars, fruit, sports drinks, and water bottles).

Submitter Information Verification

Submitter Full Name: Kendall Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
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Submittal Date: Tue Mar 11 13:36:26 EDT 2014

Committee Statement

Committee Statement: The committee has made this change to be consistent with changes in the related section in the main body of the document.
Response Message:

Ballot Results

☑ This item has passed ballot
31 Eligible Voters
8 Not Returned
23 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned
Finkelman, Michael L.
Harms, Todd A.
Lackore, J. Roger
Metheny, Jarett
Schwartz, Andrew G.
Stewart, Donald F.
Vorlander, Phillip C.
Wann, Teresa

Affirmative All
Bennett, Lawrence T.
Bernzweig, David T.
Bogucki, Sandy
Brinkley, James E.
Childress, Dennis R.
Cuff, Jr., Thomas J.
Czarnecki, Fabrice
Garrett, Christopher A.
Hillenbrand, Thomas
Kerwood, Scott D.
Krause, Randy J.
Laton, Michael A.
Lopes, Tamara DiAnda
McLeod, III, Robert L.
Prezant, David J.
Raynis, Stephen
Rueda, Mario D.
Smith, Denise L.
Stittleburg, Philip C.
Tamme, Susan
Terryn, Fred C.
Young, Michael L.
Zagaris, Kim D.
C.1.2 Other Publications.


National Oceanic and Atmospheric Administration, National Weather Service Wind Chill–Temperature (WCT) Index.


Submitter Information Verification

Submitter Full Name: Kendall Holland
Organization: National Fire Protection Assoc
Street Address:
City:
State:
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Submittal Date: Thu Mar 27 12:25:08 EDT 2014

Committee Statement
Committee Statement: This addition is editorial in nature.

Response Message:

Ballot Results

✔ This item has passed ballot

31 Eligible Voters
8 Not Returned
23 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned
Finkelman, Michael L.
Harms, Todd A.
Lackore, J. Roger
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Schwartz, Andrew G.
Stewart, Donald F.
Vorlander, Phillip C.
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Affirmative All
Bennett, Lawrence T.
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Brinkley, James E.
Childress, Dennis R.
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Zagaris, Kim D.