



# NATIONAL FIRE PROTECTION ASSOCIATION

The leading information and knowledge resource on fire, electrical and related hazards

## NFPA Technical Committee on Liquefied Petroleum Gases

### NFPA 58 SECOND DRAFT MEETING AGENDA

Embassy Suites by Hilton Baltimore Inner Harbor  
222 St. Paul Place  
Baltimore, MD 21202

With Web/Teleconference Option

**Monday, September 24 - Wednesday, September 26, 2018**

8:00 a.m. to 5:00 p.m. (Eastern) each day

*Continental Breakfast provided. Lunch and dinner on own.  
Business Casual*

1. Call to order. Call meeting to order by Chair Richard Hoffman at 8:00 a.m. (Eastern) on Monday, September 24, 2018.
2. Roll Call and Introduction of Members and Guests, **see page 3**.
3. Opening Remarks – Chairman Dick Hoffmann.
4. NFPA Staff Liaison report – Alex Ing/Chris Tolentino, **see page 8**.
5. Review and Approval of the October 17-19, 2018 First Draft Meeting Minutes, **see page 12**.
6. Review Public Comments (102) and Committee Inputs (4), **see page 16**.
  - a. Task Groups will report when the committee reviews their public comment(s), **see page 144**.
  - b. TG Presentations:
    - i. TG: Fire Resistance Testing
      - Leslie Woodward
    - ii. TG: Portable Fire Extinguishers
      - David Meyer
    - iii. TG: Schedule 10 Pipe and Fittings
      - Leslie Woodward
    - iv. TG: Dielectric Fittings
      - Jean McDowell

v.TG: Electrical Requirements (Ch. 12) - No Report Attached

- Bruce Swiecicki
- Guest Presentation (limited to 15 minutes or less)
  - o David Kennedy – Speaking on Chapter 12 generally

7. Review NFPA Editorial Notes

8. New Business (TIAs)

9. Schedule Next Meeting: Pre-First Draft in 2019

10. Adjourn

# Address List No Phone

09/05/2018

Lisa Hartman

LPG-AAA

## Liquefied Petroleum Gases

<b>Richard A. Hoffmann</b> <b>Chair</b> Hoffmann & Feige Croton River Executive Park 3 Fallsview Lane Brewster, NY 10509	<b>SE 1/1/1990</b> <b>LPG-AAA</b>	<b>Donald Barber</b> <b>Principal</b> Enmat International (UK) 3, Hunters Close Chesham, Bucks HP5 2RJ United Kingdom <b>Alternate: Jose Antonio Morales</b>	<b>SE 4/3/2003</b> <b>LPG-AAA</b>
<b>James C. Belke</b> <b>Principal</b> US Environmental Protection Agency 1200 Pennsylvania Avenue NW William J. Clinton Building, Room 6450D Washington, DC 20460	<b>E 7/22/1999</b> <b>LPG-AAA</b>	<b>Joseph M. Bloom</b> <b>Principal</b> Bloom Fire Investigation PO Box 207 Grants Pass, OR 97528 <b>Alternate: Christopher J. Bloom</b>	<b>SE 8/5/2009</b> <b>LPG-AAA</b>
<b>David T. Burnell</b> <b>Principal</b> New Hampshire Public Utilities Commission 21 South Fruit Street, Suite 10 Concord, NH 03301 <b>US Department of Transportation</b> Enforcement	<b>E 3/2/2010</b> <b>LPG-AAA</b>	<b>Kody N. Daniel</b> <b>Principal</b> EMC Insurance Companies 717 Mulberry Street Des Moines, IA 50309-3810 <b>Property Casualty Insurers Association of America</b> <b>Alternate: Frank J. Mortimer</b>	<b>I 04/08/2015</b> <b>LPG-AAA</b>
<b>Thomas B. Dunn</b> <b>Principal</b> Iowa Propane Gas Association 1400 Metro East Drive Pleasant Hill, IA 50327 <b>Alternate: Jerry Kowalski</b>	<b>IM 07/29/2013</b> <b>LPG-AAA</b>	<b>Mark Fasel</b> <b>Principal</b> Viega LLC 7338 Jackie Court Indianapolis, IN 46221	<b>M 12/08/2015</b> <b>LPG-AAA</b>
<b>Alberto Jose Fossa</b> <b>Principal</b> NEWEN Creative Engineering Rua Caropá 72 Vila Madalena, SP 05447-000 Brazil <b>NFPA Latin American Section</b>	<b>SE 7/12/2001</b> <b>LPG-AAA</b>	<b>Richard G. Fredenburg</b> <b>Principal</b> State of North Carolina Department of Agriculture & Consumer Services 2 West Edenton Street (27601) 1050 Mail Service Center Raleigh, NC 27699-1050	<b>E 1/15/1999</b> <b>LPG-AAA</b>
<b>Cesar E. Garza-Obregon</b> <b>Principal</b> Gas Campanita 3101 Santa Susana Cr. Mission, TX 78572 <b>Asociación Mexicana de Distribuidores de Gas</b>	<b>IM 7/28/2006</b> <b>LPG-AAA</b>	<b>Steven T. Gentry</b> <b>Principal</b> Worthington Industries 200 Old Wilson Bridge Road Columbus, OH 43085-2247 <b>Compressed Gas Association</b> <b>Alternate: Erich Wolf</b>	<b>M 10/6/2000</b> <b>LPG-AAA</b>

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## Liquefied Petroleum Gases

<b>Richard L. Gilbert</b> <b>Principal</b> Texas Propane Gas Association 705 North Jackson Street Livingston, TX 77351 <b>Alternate: Robert E. McKinney</b>	<b>IM</b> 1/10/2002 <b>LPG-AAA</b>	<b>James Kendzel</b> <b>Principal</b> American Supply Association 1200 N. Arlington Heights Road, #150 Itasca, IL 60143 <b>American Supply Association</b>	<b>U</b> 04/11/2018 <b>LPG-AAA</b>
<b>John W. King</b> <b>Principal</b> Federated Mutual Insurance Company 121 East Park Square Owatonna, MN 55060	<b>I</b> 1/16/2003 <b>LPG-AAA</b>	<b>Richard S. Kraus</b> <b>Principal</b> API/Petroleum Safety Consultants 210 East Fairfax Street, Apt. 600 Falls Church, VA 22046-2909	<b>U</b> 08/03/2016 <b>LPG-AAA</b>
<b>Joseph Labonte</b> <b>Principal</b> Navistar Corporation 2322 North Mingo Road Tulsa, OK 74116-1218	<b>M</b> 10/28/2014 <b>LPG-AAA</b>	<b>Theodore C. Lemoff</b> <b>Principal</b> 13821 Callisto Avenue Naples, FL 34109-0574 <b>Alternate: Thomas R. Crane</b>	<b>SE</b> 03/03/2014 <b>LPG-AAA</b>
<b>Jean L. McDowell</b> <b>Principal</b> McDowell Owens Engineering Inc. 740 East 13th Street Houston, TX 77008 <b>Alternate: Eric M. Benstock</b>	<b>SE</b> 11/30/2016 <b>LPG-AAA</b>	<b>David W. Meyer</b> <b>Principal</b> Gas Training & Development LLC 352 Westwood Drive Aitkin, MN 56431	<b>SE</b> 10/20/2010 <b>LPG-AAA</b>
<b>Gerry E. Misel, Jr.</b> <b>Principal</b> Georgia Gas Distributors, Inc. 6065 Roswell Road, Suite 910 Sandy Springs, GA 30328 <b>National Propane Gas Association</b> Transportation <b>Alternate: James R. Freeman, III</b>	<b>IM</b> 1/12/2000 <b>LPG-AAA</b>	<b>Sam Newman</b> <b>Principal</b> Flame King 14111 South Kingsley Drive Gardena, CA 90249	<b>M</b> 08/17/2017 <b>LPG-AAA</b>
<b>Phillip H. Ribbs</b> <b>Principal</b> PHR Consultants 206 Cypress Park Santa Cruz, CA 95060 <b>California State Pipe Trades Council</b>	<b>L</b> 10/23/2003 <b>LPG-AAA</b>	<b>April Dawn Richardson</b> <b>Principal</b> Railroad Commission of Texas 1701 North Congress Avenue PO Box 12967 Austin, TX 78711	<b>E</b> 08/17/2015 <b>LPG-AAA</b>
<b>Eric C. Smith</b> <b>Principal</b> State of Nevada Nevada LP-Gas Board PO Box 338 Carson City, NV 89702	<b>E</b> 03/04/2009 <b>LPG-AAA</b>	<b>David J. Stainbrook</b> <b>Principal</b> Engineered Controls International, LLC 100 RegO Drive Elon, NC 27244	<b>M</b> 3/15/2007 <b>LPG-AAA</b>

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## Liquefied Petroleum Gases

<b>Bruce J. Swiecicki</b> <b>Principal</b> National Propane Gas Association 21200 South LaGrange Road, Suite 353 Frankfort, IL 60423 <b>National Propane Gas Association</b> Production <b>Alternate: Carlton S. Revere</b>	<b>IM 1/1/1994</b> <b>LPG-AAA</b>	<b>Randy D. Warner</b> <b>Principal</b> Ferrellgas LP One Liberty Plaza Mail Drop 5 Liberty, MO 64068-2970 <b>National Propane Gas Association</b> <b>Alternate: Robert S. Blackwell</b>	<b>IM 08/03/2016</b> <b>LPG-AAA</b>
<b>Edgar Wolff-Klammer</b> <b>Principal</b> Underwriters Laboratories LLC 333 Pfingsten Road Northbrook, IL 60062-2096 <b>Alternate: Joseph M. Bablo</b>	<b>RT 03/07/2013</b> <b>LPG-AAA</b>	<b>Leslie Woodward</b> <b>Principal</b> Fairview Fittings & Manufacturing Inc. 3777 Commerce Court Wheatfield, NY 14120 <b>Canadian Propane Association</b>	<b>IM 7/14/2004</b> <b>LPG-AAA</b>
<b>William J. Young</b> <b>Principal</b> Superior Energy Systems, Ltd. 13660 North Station Road Columbia Station, OH 44028-9538 <b>Alternate: Steven D. Ruffcorn</b>	<b>M 1/1/1991</b> <b>LPG-AAA</b>	<b>Steven E. Younis</b> <b>Principal</b> Steven E. Younis PE, Inc. 47 Stone Ridge Road Franklin, MA 02038-3166	<b>SE 7/29/2005</b> <b>LPG-AAA</b>
<b>Swapan Kumar Hazra</b> <b>Voting Alternate</b> GF Natural Gas LNG Ltd/CNG Technology Ltd. BG-172, Sector 2, Salt Lake PO: Bidhan Nagar Kolkata, West Bengal, 700091 India	<b>U 4/16/1999</b> <b>LPG-AAA</b>	<b>Joseph M. Bablo</b> <b>Alternate</b> UL LLC 333 Pfingsten Road Northbrook, IL 60062-2096 <b>Principal: Edgar Wolff-Klammer</b>	<b>RT 03/07/2013</b> <b>LPG-AAA</b>
<b>Eric M. Benstock</b> <b>Alternate</b> McDowell Owens Engineering, Inc. 740 East 13th Street Houston, TX 77008 <b>Principal: Jean L. McDowell</b>	<b>SE 08/17/2017</b> <b>LPG-AAA</b>	<b>Robert S. Blackwell</b> <b>Alternate</b> Action Gas Incorporated 67302 Us Hwy 285 PO Box 300 Pine, CO 80470 <b>National Propane Gas Association</b> <b>Principal: Randy D. Warner</b>	<b>IM 04/04/2017</b> <b>LPG-AAA</b>
<b>Christopher J. Bloom</b> <b>Alternate</b> CJB Fire Consultants 2654 East Gregory Road White City, OR 97503 <b>Principal: Joseph M. Bloom</b>	<b>SE 12/08/2015</b> <b>LPG-AAA</b>	<b>Thomas R. Crane</b> <b>Alternate</b> Crane Engineering 2355 Polaris Lane North, Suite 120 Plymouth, MN 55447 <b>Principal: Theodore C. Lemoff</b>	<b>SE 08/17/2017</b> <b>LPG-AAA</b>

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## Liquefied Petroleum Gases

<b>James R. Freeman, III</b> <b>Alternate</b> Freeman Gas & Electric, Inc. PO Box 4366 Spartanburg, SC 29305-4366 <b>National Propane Gas Association</b> Transportation <b>Principal: Gerry E. Misel, Jr.</b>	<b>IM 4/28/2000</b> <b>LPG-AAA</b>	<b>Jerry Kowalski</b> <b>Alternate</b> Protech Resources 13552 Maxwell Road Chisago City, MN 55013 <b>Principal: Thomas B. Dunn</b>	<b>IM 04/11/2018</b> <b>LPG-AAA</b>
<b>Robert E. McKinney</b> <b>Alternate</b> AMC/Fairmont Insurance Company 7709 Broadway Street, Unit 114 San Antonio, TX 78209 <b>Texas Propane Gas Association</b> <b>Principal: Richard L. Gilbert</b>	<b>IM 07/29/2013</b> <b>LPG-AAA</b>	<b>Jose Antonio Morales</b> <b>Alternate</b> Admiral LPG Services, Inc. 2250 NW 114th Avenue, Unit 1P Pty 9076 Miami, FL 33172 <b>Principal: Donald Barber</b>	<b>SE 08/17/2018</b> <b>LPG-AAA</b>
<b>Frank J. Mortimer</b> <b>Alternate</b> EMC Insurance Company 717 Mulberry Street PO Box 712 Des Moines, IA 50303-0712 <b>Property Casualty Insurers Association of America</b> <b>Principal: Kody N. Daniel</b>	<b>I 4/4/1997</b> <b>LPG-AAA</b>	<b>Carlton S. Revere</b> <b>Alternate</b> Revere Gas & Appliance, Inc. PO Box 100 Hartfield, VA 23071 <b>National Propane Gas Association</b> Production <b>Principal: Bruce J. Swiecicki</b>	<b>IM 7/26/2007</b> <b>LPG-AAA</b>
<b>Steven D. Ruffcorn</b> <b>Alternate</b> Standby Systems, Inc. 1313 Plymouth Avenue North Minneapolis, MN 55411 <b>Principal: William J. Young</b>	<b>M 1/14/2005</b> <b>LPG-AAA</b>	<b>Erich Wolf</b> <b>Alternate</b> Cavagna North America 572 Birchlawn Boulevard Mansfield, OH 44907 <b>Compressed Gas Association</b> <b>Principal: Steven T. Gentry</b>	<b>M 8/9/2011</b> <b>LPG-AAA</b>
<b>Bernardo Bohorquez</b> <b>Nonvoting Member</b> Saena de Colombia S.A. Cra 71C No. 116-40 Bogota, DC Colombia	<b>IM 7/29/2005</b> <b>LPG-AAA</b>	<b>William R. Hamilton</b> <b>Nonvoting Member</b> US Department of Labor Occupational Safety & Health Administration 200 Constitution Ave. NW, Room N3609 Washington, DC 20210	<b>E 3/4/2009</b> <b>LPG-AAA</b>
<b>Kenneth Lun</b> <b>Nonvoting Member</b> KL Consulting Engineers Ltd. 22A Flourish Court 30 Conduit Road Mid-Levels, Hong Kong China	<b>SE 1/14/2005</b> <b>LPG-AAA</b>	<b>Al Linder</b> <b>Member Emeritus</b> 532 Tuttle Avenue Watsonville, CA 95076	<b>SE 1/1/1986</b> <b>LPG-AAA</b>

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## Liquefied Petroleum Gases

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<b>Lisa Hartman</b>	10/23/2017
<b>Staff Liaison</b>	<b>LPG-AAA</b>

National Fire Protection Association  
One Batterymarch Park  
Quincy, MA 02169



## Technical Committee Meeting Guide

### Making Motions

Technical Committee meetings are run in order of precedence in accordance with NFPA’s *Regulations Governing Development of NFPA Standards, applicable Supplemental Operating Procedures, and Robert’s Rules of Order*. Actions taken by the Technical Committee must be done via motions. The two tables below outline common motions made at Technical Committee meetings.

Table 1: Common Motions Made at Meetings

Motion	Phraseology	Notes	Vote
Main Motion	I move to [state motion]	Second needed prior to debate.	MAJ
Motion by a Task Group	The task group moves to [state motion]	Made by task group rep, no second needed.	MAJ
Amend a motion	I move to [state amendment]	Second needed to debate amendment, returns to main motion after vote.	MAJ
End Debate/Call the Question	I move to end debate / I move to call the question	Must make motion upon recognition by the Chair. Not debatable.	2/3
Table	I move to table the motion	Second needed. Not debatable. Suspends consideration of the motion.	MAJ
Reconsider	I move to reconsider [state motion]	Can only be made by member on winning side of original motion. Reconsideration portion of the motion is debatable. Returns to main motion if successful by meeting vote.	MAJ

Table 2: First and Second Draft Meeting Actions

First Draft Meeting		Second Draft Meeting	
Motion	Action	Motion	Action
Create a First Revision	TC creates a new change to a standard	Create a Second Revision	TC creates a revision to the standard
Resolve a Public Input with a First Revision	TC creates a new change based on a Public Input	Accept a Public Comment	Creates a Second Revision <u>exactly</u> as submitted by the public
		Reject but See Second Revision	Creates a Second Revision <u>based</u> on a Public Comment
Resolve Public Input with a Statement	TC does not revise the standard based on a public input, but provides technical reason as to why the suggested revision was not incorporated.	Reject a Public Comment	Creates no revisions; resolves Public Comment with a technical substantiation
Create a Committee Input	TC is considering a revision, but does not wish to include at the First Draft stage. Used to generate Public Comments and consideration.	Reject but Hold	Public Comment entered as a Public Input for the TC’s attention during the next cycle. Generally used for new material introduced during the Second Draft stage.



**Terms Used in the Process**

First Draft Meeting (FDM): A meeting of the Technical Committee to consider all Public inputs and Correlating Inputs; where the Committee develops statements and responses to Public Inputs and creates First Revisions. There are few limitations to introducing new material at a First Draft Meeting.

Public Input (PI): An articulable suggestion, idea, or recommendation to add, delete, or change text in a standard that is submitted through NFPA’s electronic submission system

First Revision (FR): Action taken by a Technical Committee at a First Draft Meeting to add, delete, or change text in a standard. An FR may be in response to a Public Input, or may be initiated by the committee during the meeting.

Correlating Committee (CC): A Committee that oversees the work of multiple Technical Committees, for coordination across multiple documents or standards with multiple Technical Committees. Correlating Committees generally provide Correlating Notes to Technical Committees to be addressed at Second Draft, but can also modify or delete First Revisions if necessary.

Second Draft Meeting (SDM): A meeting of the Technical Committee to consider all Public Comments and Correlating Notes.

Public Comment (PC): A response to a First Revision or resubmission of a Public Input, submitted through NFPA’s electronic submission system. This is the first step an individual can take to appeal revision or lack of revision to a standard.

Second Revision (SR): A balloted change to the standard during the Second Draft stage. Second Revisions may be in response to a Public Comment, or may be initiated by the Committee during the meeting.

NITMAM: Notice of Intent to Make a Motion. A NITMAM begins the process of appealing a Technical Committee’s actions to the NFPA Membership at the NFPA Technical Session.

**Substantiation**

All technical committee actions must include a written statement that provides a technical justification for why the committee has taken that action.

Example of Poor Substantiation	Example of Strong Substantiation
The committee felt that this change better clarifies the intent of the section.	Electric immersion heaters are the source of frequent plastic tank ignitions. The committee recognized this with the development of the criteria and intended to exclude the use of immersion heaters in non-metallic tanks.

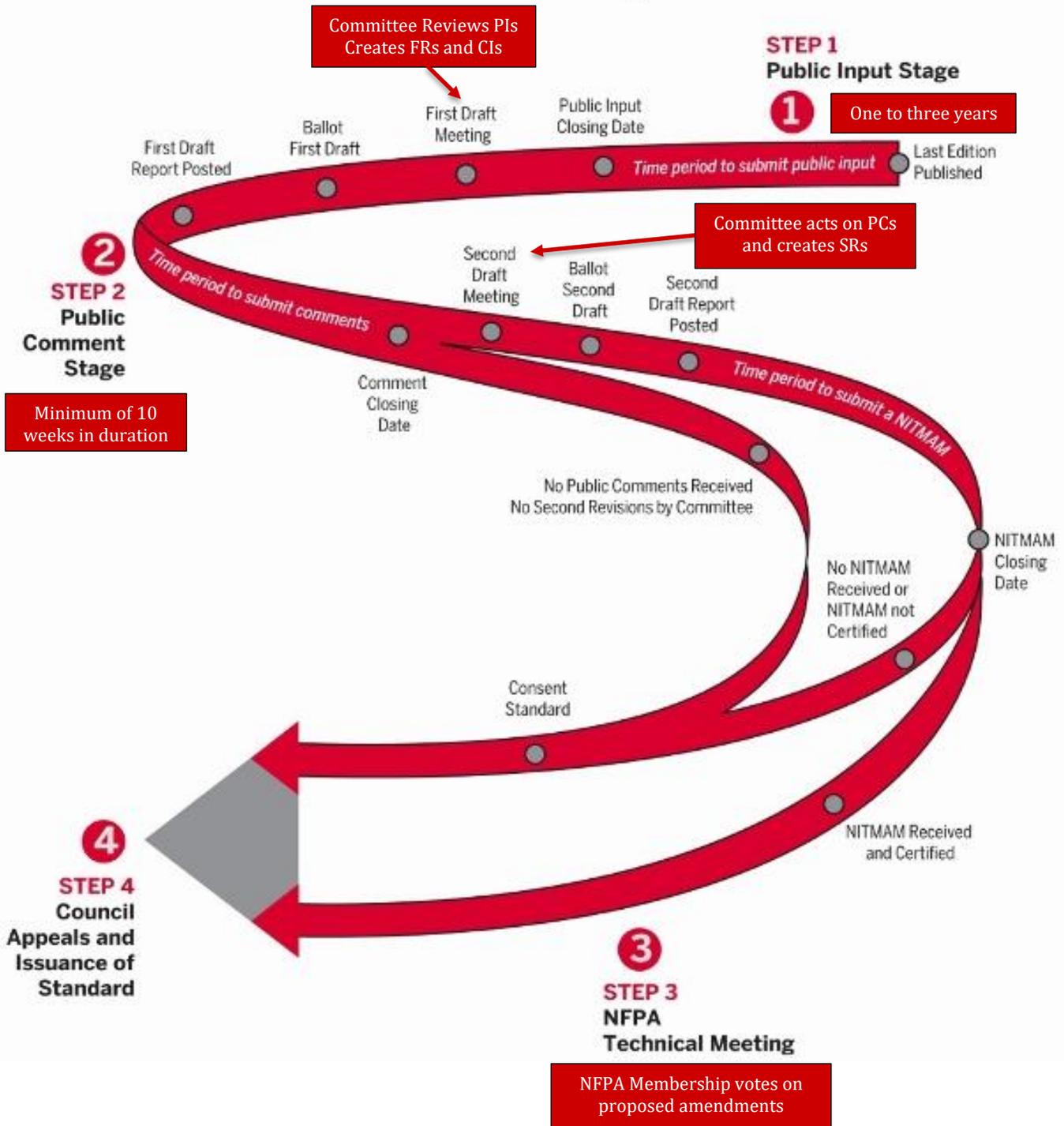
**New Material**

At the First Draft Stage, the Technical Committee is permitted to make revisions on any topic within the scope of the Technical Committee, and scope of the standard.

At the Second Draft Stage, all revisions must be related to items in the First Draft Report. New material submitted as Public Comments may be held until the next cycle via the “Reject but hold” motion, or may be rejected by the Technical Committee.

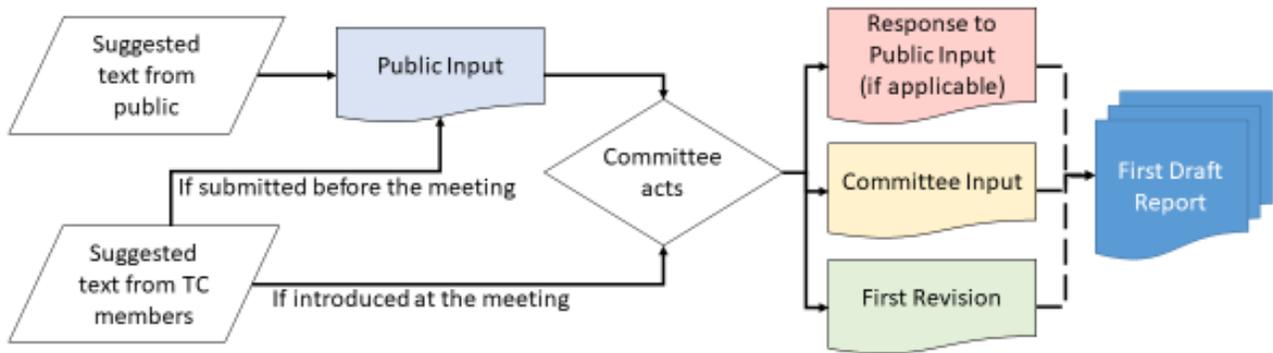


# The Standards Development Process

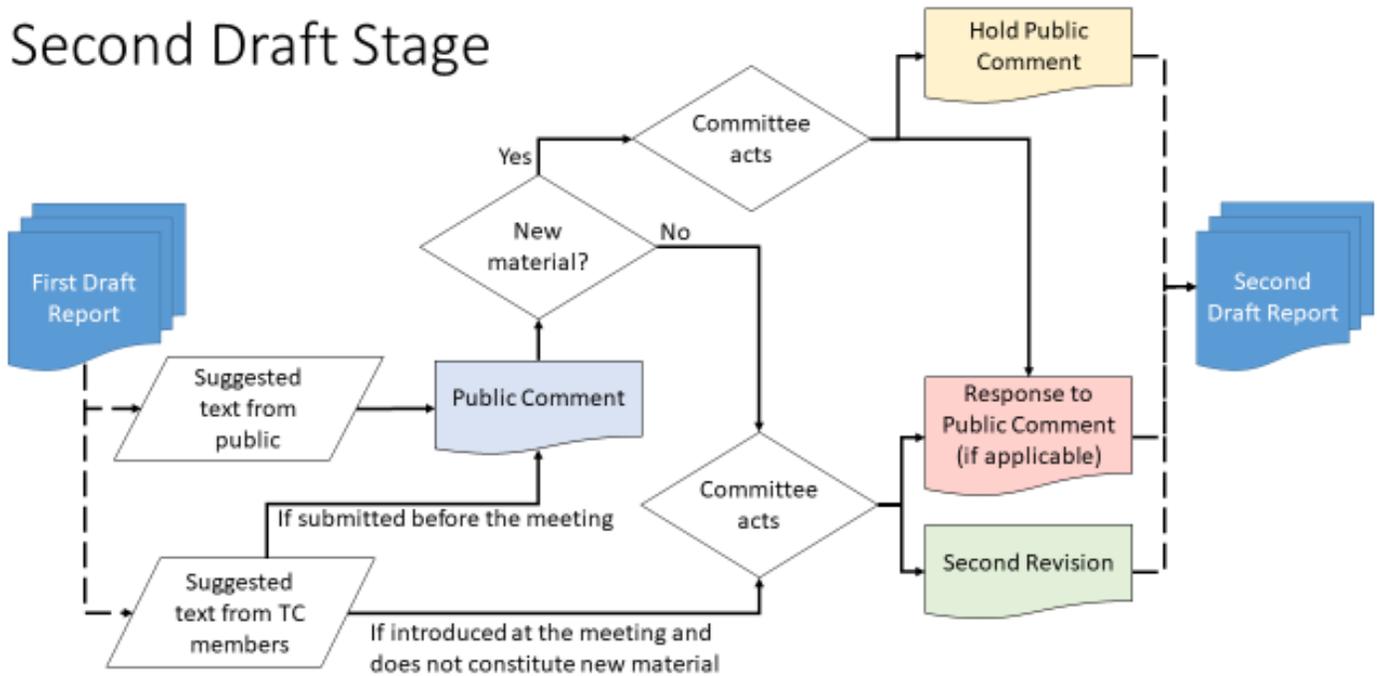




## First Draft Stage



## Second Draft Stage



**NFPA Technical Committee on Liquefied Petroleum Gases**

**NFPA 58 (A2019) First Draft Meeting**

**Tampa, FL**

**October 17-19, 2017**

**MEETING MINUTES**

The following are the minutes from the meeting of the Technical Committee on Liquefied Petroleum Gases held in Tampa, FL on October 17-19, 2017.

**ATTENDANCE:**

<b>Chair</b>	Richard Hoffmann	Hoffman & Feige	SE
<b>Staff Liaison</b>	Barry Chase (acting)	National Fire Protection Association	-
<b>Principals</b>	David Burnell	New Hampshire Public Utilities Commission Rep. US Department of Transportation, Enforcement	E
	Thomas Dunn	Iowa Propane Gas Association	IM
	Mark Fasel	Viega LLC	M
	Richard Fredenburg	State of North Carolina, Dept. of Agriculture & Consumer Services	E
	Steven Gentry	Worthington Industries Rep. Compressed Gas Association	M
	Richard Gilbert	Texas Propane Gas Association	IM
	Richard Kraus	API/Petroleum Safety Consultants	U
	Theodore Lemoff	-	SE
	Jean McDowell	McDowell Owens Engineering Inc.	SE
	David Meyer	Gas Training & Development LLC	SE
	Gerry Misel, Jr.	Georgia Gas Distributors, Inc. Rep. National Propane Gas Association, Transportation	IM
	Frank Mortimer	EMC Insurance Company Rep. Property Casualty Insurers Association of America	I
	April Richardson	Railroad Commission of Texas	E
	Eric Smith	State of Nevada	E
	David Stainbrook	Engineered Controls International LLC	M
	Bruce Swiecicki	National Propane Gas Association	IM
	Randy Warner	Ferrellgas LP Rep. National Propane Gas Association	IM
	Leslie Woodward	Fairview Fittings & Manufacturing Inc. Rep. Canadian Propane Association	IM
	William Young	Superior Energy Systems Ltd.	M

<b>Alternates *voting</b>	Robert Blackwell <i>Alt. to R. Warner</i>	Action Gas Inc. Rep. National Propane Gas Association	IM
	Thomas Crane <i>Alt. to T. Lemoff</i>	Crane Engineering	SE
	Kody Daniel <i>Alt. to F. Mortimer</i>	EMC Insurance Companies Rep. Property Casualty Insurers Association of America	I
	†Erich Wolf <i>Alt. to S. Gentry</i>	Cavagna North America Rep. Compressed Gas Association	M
<b>Guests</b>			
	Alex Ing	National Fire Protection Association	-
	Ed Ferguson	AmeriGas Propane	-
	Jim Kendzel	American Supply Association	-
	Jose A. Morales	Admiral LPG Services Inc.	-
	John Edden	Leran Gas Products	-
	Jim Tidwell	Tidwell Consulting Rep. Fire Equipment Manufacturer's Association	-
	J. R. Nerat	UTC Badger/Kidde Fire	-
†Frank Lane	Manchester Tank	-	

†Attended remotely, via web meeting / teleconference

#### **MINUTES:**

- A. The Chair called the meeting to order at approximately 8:00 am on Tuesday, October 17, 2017
- B. Attendees introduced themselves
- C. Previous meeting minutes (August 4-5, 2015) were approved as submitted
- D. The Chair provided his remarks
- E. NFPA staff presented information regarding the Regulations, Guide for Conduct, Rules of Order, and Revision Cycle Schedule
- F. NFPA 58 First Draft
  - a. The Committee addressed the Public Input and created First Revisions.
    - i. TG on Chapter 15 [Fredenburg] – The Task Group on Chapter 15 gave their report, which included recommended revisions to Chapter 15, based on the submitted Public Input. The task group was subsequently disbanded.
    - ii. TG on Chapters 11 and 12 [Lemoff] – The Task Group on Chapters 11 and 12 gave their report, which included recommended revisions to Chapters 11 and 12, based on the submitted Public Input. The task group was subsequently disbanded.
    - iii. Portable Extinguishers
      1. J.R. Nerat (Guest) gave a presentation on the derivation and meaning of fire extinguisher ratings, as well as the benefits of higher extinguisher flow rates. This was related to Public Input No. 193.
      2. Jim Tidwell (Guest) addressed the committee on the use of extinguisher ratings to specify fire extinguishers, rather than specifying the extinguisher capacity. This was related to Public Input Nos. 170, 172, and 173.
    - iv. Def of “Listed”

- b. The committee created the following task groups to report at the Second Draft Meeting:
  - i. Task Group on Electrical Requirements in Chapter 12
    - 1. This task group is charged with reviewing the available SAE specifications and documentation to determine if any are applicable to the electrical aspects that are associated with the Chapter 12 applications and to determine if these documents exist.
    - 2. Members: To be appointed by the Chair
  - ii. Task Group on Fire Resistance Testing
    - 1. This task group is charged with reviewing the Public Input identified as PI 163 - 169 (attached), submitted by Mr. Marcelo Hirschler, in order to propose appropriate revisions.
    - 2. Members: Woodward (Chair), Hoffman, Swiecicki, Marcelo Hirschler (GBH International; submitter of PI 163 - 169), One representative from the Technical Committee on Fire Tests (to be determined)
  - iii. Task Group on Portable Fire Extinguishers
    - 1. This task group is charged with performing a comprehensive review of the issues associated with the selection of the specific types of extinguishers, sizes, placement which are to be recommended for locations, sites, applications and uses presented by the NFPA 58 standard. This task group is to perform a chapter by chapter review of the standard for specific types of extinguishers that would be applicable for usage at each location. A review of governing specifications is a goal - NFPA 10, NFPA / Life Safety Code and any other NFPA document which has impact on this review.
    - 2. Members: Meyer (Chair), Crane, Smith, Swiecicki, Jim Tidwell (Tidwell Consulting; rep. submitter of PIs 170, 172, and 173), J.R. Nerat (UTC|Badger/Kidde Fire; submitter of PI 193)
  - iv. Task Group on Schedule 10 Pipe and Fittings
    - 1. This task group is charged with reviewing the allowance to use Schedule 10 pipe (see First Revision 104 in the First Draft Report) and proposing appropriate changes, if necessary.
    - 2. Members: Woodward (Chair), Fasel, Swiecicki, Burnell, Hoffmann

G. Other Business

- a. In response to PI 120, the Committee voted to authorize the Chair to submit proposed changes to the annex material associated with the definition of "Listed," which is under the purview of the Standards Council.
- b. TIAs on the Current (2017) Edition
  - i. The Committee reviewed the proposed text of TIA 1350, regarding painting of temperature-sensing elements. The TIA is already in process, with two sponsors from the Committee, and will be balloted after the meeting.
  - ii. The Committee reviewed a metric conversion error in 14.3.2.1 and determined that a TIA to correct the error should be pursued for the current edition. NFPA Staff will work with the Chair to obtain the necessary sponsors, per the Regulations.
  - iii. The Committee reviewed a cross-reference error in 12.4.2.1 and determined that a TIA to correct the error should be pursued for the current edition. NFPA Staff will work with the Chair to obtain the necessary sponsors, per the Regulations.

H. Next Meeting

- a. Second Draft Meeting must occur between June 1, 2018, and November 7, 2018.
  - i. The committee did not select dates, but generally preferred to meet in September. Members need to provide input on the timing of various industry events and conferences.
  - ii. The committee did not reach a consensus on any particular location or region.
- I. The Chair adjourned the meeting at approximately 3:00 pm on Thursday, October 19, 2017.

Respectfully submitted,

Barry Chase, NFPA Staff Liaison

**Public Comment No. 51-NFPA 58-2018 [ New Section after 1.6 ]**

1.6.1 Metric equivalents are shown in parentheses after the U.S. Customary Units.

1.6.2 Metric equivalents in the code are approximate and shall not be used to lessen any provision.

**Statement of Problem and Substantiation for Public Comment**

The Manual of Style includes a requirement "4.4\* Units of Measure. A statement shall be included in Chapter 1 establishing the units of measure. (See 1.6.1.7.)" There have been some proposed changes that would add metric equivalents to the second or third decimal place. That is precision that is inappropriate when the metric equivalent is intended to give the readers not familiar with the established units of measure an idea of the dimension in units more familiar to them rather than an exact metric equivalent.

The content of section 1.6.2 was included in the preamble to chapter one through the 1998 edition of the Code. It was inexplicably removed for the 2001 edition. The previous staff liaison for NFPA 58 expressed that the lack of this statement caused some confrontations when he was asked to explain why they could not use the slightly-smaller metric length. This addition will re-establish the intent for including the metric equivalents.

**Related Item**

• FR 147 • FR 173 • FR 174

**Submitter Information Verification**

**Submitter Full Name:** Richard Fredenburg

**Organization:** State of North Carolina

**Street Address:**

**City:**

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**Submittal Date:** Mon Apr 30 13:11:24 EDT 2018

**Committee:**

**Public Comment No. 50-NFPA 58-2018 [ Section No. 1.6 ]**

1.6 Units and Formulas. (Reserved) Units of measure used in this code shall be the U.S. Customary Units.

**Statement of Problem and Substantiation for Public Comment**

The Manual of Style includes a requirement "4.4\* Units of Measure. A statement shall be included in Chapter 1 establishing the units of measure. (See 1.6.1.7.)" There have been some proposed changes that would add metric equivalents to the second or third decimal place. That is precision that is inappropriate when the metric equivalent is intended to give the readers not familiar with the established units of measure an idea of the dimension in units more familiar to them rather than an exact metric equivalent.

**Related Item**

• FR 147 • FR 173 • FR 174

**Submitter Information Verification**

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**Submittal Date:** Mon Apr 30 13:08:01 EDT 2018

**Committee:**



## Public Comment No. 79-NFPA 58-2018 [ Section No. 2.3.4 ]

### 2.3.4 ASTM Publications.

ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959.

ASTM A47/A47M, *Standard Specification for Ferritic Malleable Iron Castings*, 2014.

ASTM A48, *Standard Specification for Gray Iron Castings*, 2016.

ASTM A53/A53M, *Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless*, 2012.

ASTM A106/A106M, *Standard Specification for Seamless Carbon Steel Pipe for High-Temperature Service*, 2015.

ASTM A213/A213M, *Standard Specification for Seamless Ferritic and Austenitic Alloy-Steel Boiler, Superheater, and Heat-Exchanger Tubes*, 2017.

ASTM A249/A249M, *Standard Specification for Welded Austenitic Steel Boiler, Superheater, Heat-Exchanger, and Condenser Tubes*, 2016a.

ASTM A269/A269M, *Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service*, 2015a.

ASTM A312/A312M, *Standard Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes*, 2017.

ASTM A395/A395M, *Standard Specification for Ferritic Ductile Iron Pressure-Retaining Castings for Use at Elevated Temperatures*, 2014.

ASTM A513, *Standard Specification for Electric-Resistance-Welded Carbon and Alloy Steel Mechanical Tubing*, 2015.

ASTM A536, *Standard Specification for Ductile Iron Castings*, 2014.

ASTM B42, *Standard Specification for Seamless Copper Pipe, Standard Sizes*, 2015.

ASTM B43, *Standard Specification for Seamless Red Brass Pipe, Standard Sizes*, 2018.

ASTM B75/B75M, *Standard Specification for Seamless Copper Tube*, 2011.

ASTM B86, *Standard Specification for Zinc and Zinc-Aluminum (ZA) Alloy Foundry and Die Castings*, 2013.

ASTM B88, *Standard Specification for Seamless Copper Water Tube*, 2016.

ASTM B135, *Standard Specification for Seamless Brass Tube*, 2010.

ASTM B280, *Standard Specification for Seamless Copper Tube for Air Conditioning and Refrigeration Field Service*, 2018.

ASTM D2513, *Standard Specification for Polyethylene (PE) Gas Pressure Pipe, Tubing, and Fittings*, 2016.

ASTM D2683, *Standard Specification for Socket-Type Polyethylene Fittings for Outside Diameter-Controlled Polyethylene Pipe and Tubing*, 2014.

ASTM D3261, *Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing*, 2016.

ASTM E119, *Standard Test Methods for Fire Tests of Building Construction and Materials*, 2012 2018 .

ASTM F1055, *Standard Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene and Crosslinked Polyethylene (PEX) Pipe and Tubing*, 2016A.

ASTM F1733, *Standard Specification for Butt Heat Fusion Polyamide (PA) Plastic Fitting for Polyamide (PA) Plastic Pipe and Tubing*, 2013.

ASTM F1948, *Standard Specification for Metallic Mechanical Fittings for Use on Outside Diameter Controlled Thermoplastic Gas Distribution Pipe and Tubing*, 2015.

ASTM F2145, *Standard Specification for Polyamide 11 (PA11) and Polyamide 12 (PA12) Mechanical Fittings for Use on Outside Diameter Controlled Polyamide 11 and Polyamide 12 Pipe and Tubing*, 2013.

ASTM F2905, *Standard Specification for Field-assembled Anodeless Riser Kits for Use on Outside Diameter Controlled Polyethylene and Polyamide-11 (PA11) Gas Distribution Pipe and Tubing*, 2015.

ASTM F2945, *Standard Specification for Polyamide 11 Gas Pressure Pipe, Tubing, and Fittings*, 2015.

### Statement of Problem and Substantiation for Public Comment

Date update for ASTM E119 - other dates have not been checked

#### Related Item

• pi163

### Submitter Information Verification

**Submitter Full Name:** Marcelo Hirschler

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**Submission Date:** Fri May 04 17:15:53 EDT 2018

**Committee:**

**Public Comment No. 57-NFPA 58-2018 [ Section No. 3.3.6 ]****3.3.6 – Appliance.**

Any device that utilizes a fuel to produce light, heat, power, refrigeration, or air conditioning. [ 54, -2018]

**Statement of Problem and Substantiation for Public Comment**

An engine is not an appliance.

**Related Item**

- FR 91

**Submitter Information Verification**

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**Submittal Date:** Tue May 01 07:55:25 EDT 2018

**Committee:**

**Public Comment No. 29-NFPA 58-2018 [ Section No. 3.3.23.1.1 ]****3.3.23.1.1 \* – Propane LP-Gas Dispenser.**

A type of vehicle fuel dispenser that is equipped for dispensing liquid propane into engine fuel containers permanently installed on over-the-road vehicles.

**Statement of Problem and Substantiation for Public Comment**

The definition of Propane LP-Gas dispenser is very similar to Vehicle Fuel Dispenser and both are not needed as they are the same thing. With this change, revisions are made to Section 6.27.5 to remove the use of the term Propane LP-Gas Dispenser in the code.

**Related Public Comments for This Document****Related Comment****Relationship**

[Public Comment No. 28-NFPA 58-2018 \[Section No. 6.27.5\]](#)

[Public Comment No. 27-NFPA 58-2018 \[Section No. 6.27.5\]](#)

**Related Item**

- CI-141

**Submitter Information Verification**

**Submitter Full Name:** Theodore Lemoff

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**Submission Date:** Mon Mar 26 14:05:42 EDT 2018

**Committee:**

**Public Comment No. 34-NFPA 58-2018 [ Section No. 3.3.25 ]****3.3.25 – Distribution Block.**

The connection point between the fuel line and fuel rail that can also include connection for other devices such as, but not limited to, pressure or temperature sensing.

**Statement of Problem and Substantiation for Public Comment**

The definition of Distribution Block is proposed to be deleted as it is not a definition, rather it informs the reader where it is located, and that it can include devices such as sensors. I would not be opposed to a definition that informs the reader what a distribution block is, but as currently written, it is not a definition.

The NFPA Manual of Style states:

2.3.2.1 A definition shall only describe the term being defined.

**Related Item**

- PI-75

**Submitter Information Verification**

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**Submittal Date:** Wed Apr 18 11:46:40 EDT 2018

**Committee:**

**Public Comment No. 19-NFPA 58-2018 [ Section No. 3.3.30 [Excluding any Sub-Sections] ]**

A short [not exceeding ~~60 in~~ 5 ft. (1.52 m) overall length] fixed piping system component that is fabricated from a flexible material and equipped with connections at both ends.

**Statement of Problem and Substantiation for Public Comment**

Editorial. 60 in. is changed to 5 ft. All other similar dimensions in the Code are in feet.

**Related Item**

• FR-55

**Submitter Information Verification**

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**Submittal Date:** Mon Mar 19 12:59:21 EDT 2018

**Committee:**

**Public Comment No. 11-NFPA 58-2018 [ Section No. 3.3.48 ]****3.3.48 – Manifold ASME Container.**

An ASME container that consists of two or more interconnected containers that are fabricated by the original manufacturer and that are connected by rigid, integral, nonremovable liquid and vapor passages, braced to form a single rigid unit, and certified under ASME *Boiler and Pressure Vessel Code*, Section VIII, as a single pressure vessel.

**Statement of Problem and Substantiation for Public Comment**

The term is no longer used in the Code. In the 2017 it was used only in 12.2.5, which repeated the definition in Chapter 12. As 12.2.5 has been deleted in FR-18 the definition is not needed, and is not allowed per the NFPA Manual of Style, which states:

3.2.4.1.2 Chapter 3 shall contain only definitions for terms used in the document.

**Related Item**

- PI-81

**Submitter Information Verification**

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**Submission Date:** Wed Mar 14 15:16:44 EDT 2018  
**Committee:**

**Public Comment No. 13-NFPA 58-2018 [ Section No. 3.3.67 ]****3.3.67** Prestart Purge Mode.

A process whereby a mechanical or electromechanical device is used to permit fuel flow through the engine supply and return lines, generally on fuel injection systems, to ensure all vapor is removed from the lines- process to remove all vapor engine fuel piping system prior to engine start.

**Statement of Problem and Substantiation for Public Comment**

The definition is revised to simply state what prestart purge mode is. The device used to clear the engine piping is not needed in the definition.

It was proposed to delete this definition, and the committee rejected this deletion as the term is used in the code. While the term is self defining and in the opinion of the submitter is not needed in the Code, a simpler definition is proposed as an alternate to deletion.

**Related Item**

- PI-78

**Submitter Information Verification**

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**Submission Date:** Thu Mar 15 09:29:35 EDT 2018  
**Committee:**


**Public Comment No. 41-NFPA 58-2018 [ Chapter 4 ]**
**Chapter 4** General Requirements

**4.1** Acceptance of Equipment and Systems.

**4.1.1**

Systems or components assembled to make up systems shall be approved as specified in Table 4.1.1.

Table 4.1.1 Containers

<u>Containers Used</u>	<u>Water Capacity</u>		<u>Approval Applies to ...</u>
	<u>gal</u>	<u>m<sup>3</sup></u>	
Cylinders	<120	<0.445	Container valves and connectors - - Manifold valve assemblies - - Regulators and pressure relief devices
ASME containers	≤4000	≤15.2	Container system,* including regulator, or container assembly* and regulator separately
ASME containers	>4000	>15.2	Container valves - Container excess-flow valves, backflow check valves, or - alternate means of providing this protection, such as remotely controlled internal valves - Container gauging devices - Regulators and container pressure relief devices

\*Where necessary to alter or repair such systems or assemblies in the field in order to provide for different operating pressures, change from vapor to liquid withdrawal, or the like. Such changes are permitted to be made by the use of approved components.

**4.1.2**

Where it is necessary to alter or repair such systems or assemblies, approved components shall be used.

**4.1.3**

Acceptance applies to the complete system or to the individual components of which it is comprised as specified in Table 4.1.1.

**4.2** LP-Gas Odorization.

**4.2.1\***

All LP-Gases shall be odorized prior to being loaded into a railcar or cargo tank motor vehicle by the addition of a warning agent of such character that the gases are detectable by a distinct odor to a concentration in air of not over one-fifth the lower limit of flammability.

**4.2.2**

The addition of the odorant shall be documented at the point of odorization.

**4.2.3\***

The presence of the odorant shall be verified by sniff-testing or other means and the results documented prior to final delivery to the end-use customer.

**4.2.4**

Odorization shall not be required if it is harmful in the use or further processing of the LP-Gas or if such odorization will serve no useful purpose as a warning agent in such further use or processing.

**4.3** Notification of Installations.

**4.3.1** Stationary Installations.

Plans for stationary installations utilizing storage containers with aggregate water capacity exceeding 4000 gal (15.2 m<sup>3</sup>) and all rooftop installations of ASME containers shall be submitted to the authority having jurisdiction before the installation is started by the person or company that either installs or contracts to have the containers installed. [See also 6.22.11.1(F).]

**4.3.2** Temporary Installations.

**4.3.2.1**

The authority having jurisdiction shall be notified of temporary installations of the container sizes covered in 4.3.1 before the installation is started.

**4.3.2.2**

Where temporary installations exceed 12 months, approval shall be obtained.

**4.3.3** Railcar to Cargo Tank Transfer.

**4.3.3.1**

Notification of intent to transfer LP-Gas directly from railcar to cargo tank shall be submitted to the authority having jurisdiction before the first transfer.

**4.3.3.2**

The authority having jurisdiction shall have the authority to require inspection of the site or equipment for such transfer prior to the initial transfer.

**4.4\* Qualification of Personnel.****4.4.1**

Persons whose duties fall within the scope of this code shall be provided with training that is consistent with the scope of their job activities and that includes proper handling and emergency response procedures.

**4.4.2**

Persons whose primary duties include transporting LP-Gas, transferring liquid LP-Gas into or out of stationary containers, or making stationary installations shall complete training that includes the following components:

- (1) Safe work practices
- (2) The health and safety hazards of LP-Gas
- (3) Emergency response procedures
- (4) Supervised, on-the-job training
- (5) An assessment of the person's ability to perform the job duties assigned

**4.4.3\***

Refresher training shall be provided at least every 3 years.

**4.4.4**

Initial and subsequent refresher training shall be documented.

**4.5\* Ammonia Contamination.****4.5.1**

LP-Gas stored or used in systems within the scope of this code shall contain less ammonia than is required to turn the color of red litmus paper to blue.

**4.5.2**

A test for ammonia shall be performed on the LP-Gas prior to the initial use or transfer of LP-Gas from a transportation or storage system that has been converted from ammonia service.

**4.6\* Minimum Requirements.**

For any purpose or application addressed within the scope of this code, where the minimum requirements of the code are met, additional features or components of equipment not prohibited by the code shall be permitted to be used.

**4.7 Portable Fire Extinguisher.**

Where portable fire extinguishers are required, they shall comply with the following:

- (1) NFPA 10
- (2) \* Have a minimum capacity of dry chemical with an A:B:C rating, as specified elsewhere in this code
- (3) Shall be permitted to have a minimum flow rate less than 1 lb/sec (0.45 kg/sec)

**4.8 Inspection of Bulk and Industrial Plants.**

4.8.1 All Bulk Plants and Industrial Plants shall be inspected at an interval not to exceed five years from the previous inspection.

4.8.2\* The inspection in 4.8.1 shall be performed by a qualified, independent inspector.

4.8.3\* The inspection shall verify that all components required by this Code are present and operate.

4.8.4 A written inspection report shall be retained by the plant or at a central location and shall be made available to the Authority Having Jurisdiction upon request during normal business hours.

4.8.5 The owner of the equipment at the site shall be responsible for scheduling the inspection.

4.8.6 Existing installations shall comply with this requirement within 2 years of the effective date of this code.

**Statement of Problem and Substantiation for Public Comment**

The committee's statement for resolving PI-28 was "Bulk plant maintenance is covered in Chapter 15. It is designated to the AHJ as part of their responsibility to inspect the plant." It is true that maintenance is covered in Chapter 15. It is not true that inspection of a bulk plant or industrial plant is designated to an AHJ as part of their responsibility anywhere in Chapter 15 or any other part of NFPA 58. Section 1.7 designates enforcement to the AHJ. This could be enforcement after reviewing the inspections in 4.8.4. Chapters 13 and 14 require inspection prior to operation of refrigerated containers and marine terminals, but even these are not designated to the AHJ. There are many instances where the AHJ is authorized to require inspections, such as section 4.3.3, railcar to transport transfers. Even these do not designate the AHJ as responsible for the inspection.

A query to AHJs concerning long intervals between inspections resulted in a reply that, in Oregon, where the bulk plants are limited to a roughly three-year inspection rotation, the AHJ regularly finds valves and safety releases that do not function freely. He attributes these failures to a long interval between inspections. However, their funding does not support inspections on an annual basis, even though this is mandated. Inspections of bulk and industrial plants in a region of North Carolina were limited until recently because the inspector for that region was directed to inspect for a special need addressing a residential tank concern and did not work for an extended time due to medical issues. When a new inspector was hired, the bulk plants that had not been inspected for about three years had a variety of rejections that could be attributed to a lack of inspections, including a failure of site personnel to perform various maintenance activities listed in their maintenance procedures.

There are several states with no active AHJ inspection programs. This was recognized by the committee several years ago when a proposal to require the AHJ to approve plans for bulk plant sites was modified because there were many jurisdictions without an active AHJ. See ROP for 2001 edition, #CP130. Even where we inspect bulk plants on an annual basis, it is not unusual to find places where an ESV has been blocked or wired open or an internal valve has been blocked open, defeating the remote shutdown and, possibly, the thermal shutdown of these safety valves.

**Related Item**

• PI 28

**Submitter Information Verification**

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**Submittal Date:** Thu Apr 26 14:50:17 EDT 2018  
**Committee:**



## Public Comment No. 38-NFPA 58-2018 [ New Section after 4.7 ]

4.8 Inspection of Bulk and Industrial Plants . All Bulk Plants and Industrial Plants shall be inspected by a qualified, independent inspector every 5 years. The inspection shall verify that all components required by the Code are present and operate. A written inspection report shall be retained by the plant or at a central location and shall be made available to the Authority Having Jurisdiction upon request during normal business hours.

### Statement of Problem and Substantiation for Public Comment

This new requirement was proposed at the First Revision stage, and was resolved by the Committee. The statement provided did not address the subject and provided no insight into why the PI was not accepted. The NFPA Regulations Governing Committee Projects states:

4.3.7.3 Responding to the Public and Correlating Input. While Technical Committees are not required to formally accept or reject Public and Correlating Input, the Technical Committee shall, to the extent practicable and in order to assist public submitters and the Correlating Committee in understanding the Technical Committee's reaction to the Input, provide a response.

The committee published a reason for resolution that was, while partially true, irrelevant to the PI. It stated:

Bulk plant maintenance is covered in Chapter 15. It is designated to the AHJ as part of their responsibility to inspect the plant.

The PI would require inspection of bulk propane storage facilities by an independent party, and Chapter 15, Operations and Maintenance do not include requirements for inspection by an independent party. While the Code requires that it be "administered and enforced by the authority having jurisdiction" (NFPA 58: 1.7), reality is that administration and enforcement is far from uniform across jurisdictions. Some states have active enforcement programs, while others have inconsistent enforcement with the rural areas usually with no enforcement other than reaction to incidents.

Since the mid 1980's propane bulk storage plants have been required to have a number of safety devices, included a 10 year retrofit requirement for remotely operated internal valves in all bulk propane storage tanks. Safety devices are a positive step in preventing incidents, but they must be operable to do their job. Anecdotal information from inspections is that it is not unusual to find a safety device "temporarily" defeated by a wire or a block of wood.

Inspectors would be required to be independent of the plant, and could be the Authority Having Jurisdiction, a consultant with sufficient expertise, or in multi-plant propane companies a qualified individual not involved with day to day operations at the bulk plant being inspected. It is believed that a thorough inspection of bulk plant safety devices can be conducted in 2 to 4 hours in most propane bulk storage plants, so the requirement is not onerous. The written report could be a series of check-sheets.

The safety record of propane bulk storage plants is very good, and the BLEVE's of the 1960's and 1970's have not been experienced recently. This revision will help to continue this good record into the future.

### Related Public Comments for This Document

<u>Related Comment</u>	<u>Relationship</u>
Public Comment No. 39-NFPA 58-2018 [New Section after A.4.5]	
<u>Related Item</u>	
• PI-28	

### Submitter Information Verification

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**Submission Date:** Wed Apr 25 10:13:18 EDT 2018  
**Committee:**



## Public Comment No. 73-NFPA 58-2018 [ New Section after 4.7 ]

**4.8 Fire resistance rating. Whenever a fire resistance rating is required in this code it shall be determined in accordance with ASTM E119, Standard Test Methods for Fire Tests of Building Construction and Materials.**

### Statement of Problem and Substantiation for Public Comment

It is important to clarify what test method is to be used to assess the fire resistance rating. The typical test used in the US (included in all codes) for that purpose is ASTM E119. Adding this clarification ensures that there is no ambiguity as to how the fire resistance rating is to be determined. This is important because the term "fire resistance" has been used (incorrectly) by individuals when referring simply to some improvement in a fire property; therefore it is conceivable that incorrect tests could be used.

### Related Public Comments for This Document

<u>Related Comment</u>	<u>Relationship</u>
Public Comment No. 77-NFPA 58-2018 [Section No. 6.8.3.2]	
<u>Related Item</u>	
• pi167	

### Submitter Information Verification

**Submitter Full Name:** Marcelo Hirschler  
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**Submittal Date:** Fri May 04 13:51:57 EDT 2018  
**Committee:**

**Public Comment No. 74-NFPA 58-2018 [ New Section after 4.7 ]****4.9\* Noncombustible Material [NFPA 101, 4.6.13]**

**4.9.1 A material that complies with any of the following shall be considered a noncombustible material:**

**(1)\* A material that, in the form in which it is used and under the conditions anticipated, will not ignite, burn, support combustion, or release flammable vapors when subjected to fire or heat**

**(2) A material that is reported as passing ASTM E136, Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 Degrees**

**(3) A material that is reported as complying with the pass/fail criteria of ASTM E136 when tested in accordance with the test method and procedure in ASTM E2652, Standard Test Method for Behavior of Materials in a Tube Furnace with a Cone-shaped Airflow Stabilizer, at 750 Degrees C [NFPA 101, 4.6.13.1]**

**A.4.9 The provisions of 4.9 do not require inherently noncombustible materials to be tested in order to be classified as noncombustible materials. [NFPA 101, A.4.6.13]**

**A.4.9.1(1) Examples of such materials include steel, concrete, masonry, and glass. [NFPA 101, A.4.6.13.1(1)]**

**(Note that approval of this public comment will require the addition of ASTM E136, Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 Degrees (2016a) and ASTM E2652, Standard Test Method for Behavior of Materials in a Tube Furnace with a Cone-shaped Airflow Stabilizer, at 750 Degrees C (2016) into chapter 2 on referenced standards)**

**(Note also that this public comment includes changes to be added into the annex)**

**Statement of Problem and Substantiation for Public Comment**

Throughout the NFPA system (especially in some of the codes and standards which use noncombustible materials) there has been an approach to add a section clarifying how to assess whether a material is or is not a noncombustible material. This section does not require testing of materials to assess whether they are noncombustible but simply provides a clarification in case there is some discussion as to how to assess whether a material is or is not a noncombustible material. Note that the annex proposed explains that materials that are inherently noncombustible (such as steel, concrete or masonry) clearly do not need to be tested.

**Related Item**

- PI169

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**Submission Date:** Fri May 04 13:57:05 EDT 2018

**Committee:**

**Public Comment No. 33-NFPA 58-2018 [ Section No. 5.2.4.6 ]****5.2.4.6-2**

Cylinders shall be designed and constructed for at least a 240 psig (1.6 MPag) service pressure.

**Statement of Problem and Substantiation for Public Comment**

Paragraph 5.2.4.6 provides needed information on the minimum pressure of cylinders. This relocation moves this important requirement immediately after 5.2.4.1 which requires that cylinder service pressure be in accordance with DOT regulations. As currently located the minimum cylinder service pressure is easily missed.

Determining the required service pressure of a cylinder requires a knowledge of physical chemistry, and is not easy to calculate. The 240 psig service pressure allows for a propane mixture resulting from a propane mixture high in ethane and within the range allowed by ASTM D1835 Standard Specification for Liquefied Petroleum (LP) Gases, and GPA's Liquefied Petroleum Gas Specifications and Test Methods.

**Related Item**

- PI 8

**Submitter Information Verification**

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**Submittal Date:** Tue Apr 17 13:04:05 EDT 2018

**Committee:**


**Public Comment No. 1-NFPA 58-2018 [ Section No. 5.9.4.1(C) ]**

(C)

Containers 2 lb through 4000 gal water capacity shall be fitted with valves and other appurtenances in accordance with 5.9.8.1, Table 5.9.4.1(B) and the following:

- (1) Shutoff, filler, check, and excess-flow valves for ASME containers shall comply with UL 125, *Standard for Flow Control Valves for Anhydrous Ammonia and LP-Gas (Other than Safety Relief)*.
- (2) Shutoff valves used on cylinders shall comply with UL 1769, *Standard for Cylinder Valves*.
- (3) Containers greater than 125 gal through 4000 gal (0.5 m<sup>3</sup> through 15.2 m<sup>3</sup>) water capacity shall be provided with an actuated liquid withdrawal excess-flow valve with a connection not smaller than ¾ in. NPT (19 mm), and the container connection shall not be smaller than ¾ in. NPT (19 mm).
- (4) An actuated liquid withdrawal excess-flow valve shall not be required on container connections equipped for liquid withdrawal with a positive shutoff valve that is located as close to the container as practical ~~in combination~~ and with an excess-flow valve installed in the container connection.
- (5) The actuated liquid withdrawal excess-flow valve shall not be connected for continuous use unless the valve is recommended by the manufacturer for such service.
- (6) An overfilling prevention device shall not be required for engine fuel cylinders used on industrial (and forklift) trucks powered by LP-Gas or for engine fuel cylinders used on vehicles (including floor maintenance machines) having LP-Gas-powered engines mounted on them.
- (7) A filler valve shall incorporate one of the following:
  - (8) Double backflow check valves of the spring-loaded type
  - (9) Manual shutoff valve with an internal backflow check valve of the spring-loaded type
  - (10) Combination single backflow check valve of the spring-loaded type and an overfilling prevention device designed for containers
- (11) Manual shutoff valves in vapor service shall be equipped with one of the following:
  - (12) An orifice between the container contents and the shutoff valve outlet, not exceeding  $\frac{5}{16}$  in. (8 mm) in diameter, and an approved regulator directly attached, or attached with a flexible connector, to the manual shutoff valve outlet
  - (13) An excess-flow valve
- (14) Overfilling prevention devices shall be required on cylinders having 4 lb through 40 lb (1.8 kg through 18 kg) propane capacity for vapor service. (See 5.9.3.)
- (15) Cylinders greater than 40 lb through 100 lb (18 kg through 45 kg) propane capacity filled by volume shall have a fixed maximum liquid level gauge.
- (16) Full internal pressure relief valves or flush-type full internal pressure relief valves shall be installed in multiple function valves that are used with single opening cylinders used in industrial truck service and shall have the springs and guiding mechanism on the container pressure side of the seats, so that the springs and guiding mechanism shall not be exposed to the atmosphere.
- (17) Multiple function valves installed on single opening cylinders used in industrial truck service shall meet the following requirements:
  - (a) Cylinders complying with 5.9.2.14 shall have the full internal or flush-type full internal pressure relief valve exchanged with a replacement multiple function valve that incorporates the full internal or flush-type full internal pressure relief valve as described in 5.9.4.1(C)(11) and 5.9.4.1(C)(12).
  - (b) The multiple function valve with the full internal or flush-type full internal pressure relief valve shall be permitted to have the means to be replaced without removing the multiple function valve from the cylinder.
  - (c) The multiple function valve shall incorporate an excess-flow valve installed inside the container for the liquid or vapor withdrawal service valve outlet.
  - (d) The multiple function valve shall incorporate a weak section on the service valve outlet connection.
  - (e) The multiple function valve shall incorporate an excess-flow valve installed inside the container that shall not restrict the flow to the full internal or flush-type full internal pressure relief valve.
  - (f) The multiple function valve shall be listed.

**Statement of Problem and Substantiation for Public Comment**

PI-174 to make a global change to substitute "and" for "in combination with" throughout the Code was rejected by the committee. The committee stated: "The committee does not agree that the phrase "in combination with" is misleading or confusing in all instances".

The term "in combination with" refers to two valves installed in series at a container. Substituting "and" simplifies the text and prevents misinterpretation. The phrase, "in combination with" has been interpreted to mean that the 2 valves must be combined in a single valve body, which is not the intent.

This, and other, comments are submitted individually so that each use of "in combination with" can be viewed separately.

**Related Public Comments for This Document**

Related Comment

Relationship

**NFPA 58 SECOND DRAFT MEETING AGENDA**

**Page 32 of 148**

[Public Comment No. 2-NFPA 58-2018 \[Section No. 5.9.4.1\(D\)\]](#)

[Public Comment No. 3-NFPA 58-2018 \[Section No. 5.9.4.2\(A\)\]](#)

[Public Comment No. 4-NFPA 58-2018 \[Section No. 5.9.4.2\(D\)\]](#)

[Public Comment No. 5-NFPA 58-2018 \[Section No. 5.9.4.2\(E\)\]](#)

[Public Comment No. 6-NFPA 58-2018 \[Section No. 5.9.4.2\(F\)\]](#)

[Public Comment No. 7-NFPA 58-2018 \[Section No. 5.9.4.2\(H\)\]](#)

[Public Comment No. 8-NFPA 58-2018 \[Section No. 5.9.7.1\]](#)

[Public Comment No. 9-NFPA 58-2018 \[Section No. 6.27.3.9\]](#)

[Public Comment No. 10-NFPA 58-2018 \[Section No. 9.4.4.3\]](#)

**Related Item**

- FR-174

**Submitter Information Verification**

**Submitter Full Name:** Theodore Lemoff

**Organization:** TLemoff Engineering

**Street Address:**

**City:**

**State:**

**Zip:**

**Submission Date:** Wed Mar 14 14:10:06 EDT 2018

**Committee:**



## Public Comment No. 2-NFPA 58-2018 [ Section No. 5.9.4.1(D) ]

### (D)

Containers utilized in stationary service having water capacities greater than 1000 gal (3.8 m<sup>3</sup>) and not exceeding 4000 gal (15.2 m<sup>3</sup>) water capacity and utilizing a liquid withdrawal opening for liquid service shall be equipped with one of the following:

- (1) An internal valve fitted for remote closure and automatic shutoff equipped with thermal activation
- (2) An emergency shutoff valve fitted for remote closure and automatic shutoff equipped with thermal activation, installed in a line downstream close to a positive shutoff valve ~~in combination~~ and with an excess-flow valve installed in the container
- (3) Container openings that are not compatible with internal valves shall be permitted to utilize both an excess-flow valve installed at the container and a valve complying with API 607, *Fire Test for Quarter-Turn Valves and Valves Equipped with Non-Metallic Seats*, with the following features:
  - (4) The valve shall be activated either hydraulically or pneumatically and shall fail in the closed position.
  - (5) The valve shall be equipped for remote closure and equipped with thermal actuation.
- (6) Remote actuation devices required in (1), (2), and (3) shall be located not less than 10 ft (3.1 m) or more than 100 ft (30.5 m) along a path of egress from the liquid transfer point into the container.
- (7) For existing installations, the requirements in (D) shall be complied with by January 1, 2024.

### Statement of Problem and Substantiation for Public Comment

PI-174 to make a global change to substitute "and" for "in combination with" throughout the Code was rejected by the committee. The committee stated; "The committee does not agree that the phrase "in combination with" is misleading or confusing in all instances".

The term "in combination with" refers to two valves installed in series at a container. Substituting "and" simplifies the text and prevents misinterpretation. The phrase, "in combination with" has been interpreted to mean that the 2 valves must be combined in a single valve body, which is not the intent.

This, and other, comments are submitted individually so that each use of "in combination with" can be viewed separately.

### Related Public Comments for This Document

<u>Related Comment</u>	<u>Relationship</u>
<a href="#">Public Comment No. 1-NFPA 58-2018 [Section No. 5.9.4.1(C)]</a>	
<a href="#">Public Comment No. 3-NFPA 58-2018 [Section No. 5.9.4.2(A)]</a>	
<a href="#">Public Comment No. 4-NFPA 58-2018 [Section No. 5.9.4.2(D)]</a>	
<a href="#">Public Comment No. 5-NFPA 58-2018 [Section No. 5.9.4.2(E)]</a>	
<a href="#">Public Comment No. 6-NFPA 58-2018 [Section No. 5.9.4.2(F)]</a>	
<a href="#">Public Comment No. 7-NFPA 58-2018 [Section No. 5.9.4.2(H)]</a>	
<a href="#">Public Comment No. 8-NFPA 58-2018 [Section No. 5.9.7.1]</a>	
<a href="#">Public Comment No. 9-NFPA 58-2018 [Section No. 6.27.3.9]</a>	
<a href="#">Public Comment No. 10-NFPA 58-2018 [Section No. 9.4.4.3]</a>	

#### Related Item

- PI-174

### Submitter Information Verification

**Submitter Full Name:** Theodore Lemoff  
**Organization:** TLemoff Engineering  
**Street Address:**  
**City:**  
**State:**  
**Zip:**  
**Submission Date:** Wed Mar 14 14:16:59 EDT 2018  
**Committee:**



## Public Comment No. 3-NFPA 58-2018 [ Section No. 5.9.4.2(A) ]

(A)

Vapor withdrawal openings shall be equipped with either of the following:

- (1) A positive shutoff valve located as close to the container as practical ~~in combination with~~ and an excess-flow valve installed in the container
- (2) An internal valve

### Statement of Problem and Substantiation for Public Comment

PI-174 to make a global change to substitute "and" for "in combination with" throughout the Code was rejected by the committee. The committee stated; "The committee does not agree that the phrase "in combination with" is misleading or confusing in all instances".

The term "in combination with" refers to two valves installed in series at a container. Substituting "and" simplifies the text and prevents misinterpretation. The phrase, "in combination with" has been interpreted to mean that the 2 valves must be combined in a single valve body, which is not the intent.

This, and other, comments are submitted individually so that each use of "in combination with" can be viewed separately.

### Related Public Comments for This Document

<u>Related Comment</u>	<u>Relationship</u>
<a href="#">Public Comment No. 1-NFPA 58-2018 [Section No. 5.9.4.1(C)]</a>	
<a href="#">Public Comment No. 2-NFPA 58-2018 [Section No. 5.9.4.1(D)]</a>	
<a href="#">Public Comment No. 4-NFPA 58-2018 [Section No. 5.9.4.2(D)]</a>	
<a href="#">Public Comment No. 5-NFPA 58-2018 [Section No. 5.9.4.2(E)]</a>	
<a href="#">Public Comment No. 6-NFPA 58-2018 [Section No. 5.9.4.2(F)]</a>	
<a href="#">Public Comment No. 7-NFPA 58-2018 [Section No. 5.9.4.2(H)]</a>	
<a href="#">Public Comment No. 8-NFPA 58-2018 [Section No. 5.9.7.1]</a>	
<a href="#">Public Comment No. 9-NFPA 58-2018 [Section No. 6.27.3.9]</a>	
<a href="#">Public Comment No. 10-NFPA 58-2018 [Section No. 9.4.4.3]</a>	

#### Related Item

- PI-174

### Submitter Information Verification

**Submitter Full Name:** Theodore Lemoff  
**Organization:** TLemoff Engineernig  
**Street Address:**  
**City:**  
**State:**  
**Zip:**  
**Submittal Date:** Wed Mar 14 14:20:23 EDT 2018  
**Committee:**



## Public Comment No. 4-NFPA 58-2018 [ Section No. 5.9.4.2(D) ]

(D)

Liquid withdrawal openings in existing installations shall be equipped with either of the following by July 1, 2011:

- (1) An internal valve that is fitted for remote closure and automatic shutoff using thermal (fire) actuation where the thermal element is located within 5 ft (1.5 m) of the internal valve
- (2) An emergency shutoff valve that is installed in the line downstream as close as practical to a positive shutoff valve ~~in combination with~~ and an excess-flow valve installed in the container

### Statement of Problem and Substantiation for Public Comment

PI-174 to make a global change to substitute "and" for "in combination with" throughout the Code was rejected by the committee. The committee stated; "The committee does not agree that the phrase "in combination with" is misleading or confusing in all instances".

The term "in combination with" refers to two valves installed in series at a container. Substituting "and" simplifies the text and prevents misinterpretation. The phrase, "in combination with" has been interpreted to mean that the 2 valves must be combined in a single valve body, which is not the intent.

This, and other, comments are submitted individually so that each use of "in combination with" can be viewed separately.

### Related Public Comments for This Document

<u>Related Comment</u>	<u>Relationship</u>
<a href="#">Public Comment No. 1-NFPA 58-2018 [Section No. 5.9.4.1(C)]</a>	
<a href="#">Public Comment No. 2-NFPA 58-2018 [Section No. 5.9.4.1(D)]</a>	
<a href="#">Public Comment No. 3-NFPA 58-2018 [Section No. 5.9.4.2(A)]</a>	
<a href="#">Public Comment No. 5-NFPA 58-2018 [Section No. 5.9.4.2(E)]</a>	
<a href="#">Public Comment No. 6-NFPA 58-2018 [Section No. 5.9.4.2(F)]</a>	
<a href="#">Public Comment No. 7-NFPA 58-2018 [Section No. 5.9.4.2(H)]</a>	
<a href="#">Public Comment No. 8-NFPA 58-2018 [Section No. 5.9.7.1]</a>	
<a href="#">Public Comment No. 9-NFPA 58-2018 [Section No. 6.27.3.9]</a>	
<a href="#">Public Comment No. 10-NFPA 58-2018 [Section No. 9.4.4.3]</a>	

#### Related Item

- PI-174

### Submitter Information Verification

**Submitter Full Name:** Theodore Lemoff  
**Organization:** TLemoff Engineering  
**Street Address:**  
**City:**  
**State:**  
**Zip:**  
**Submittal Date:** Wed Mar 14 14:23:04 EDT 2018  
**Committee:**



## Public Comment No. 5-NFPA 58-2018 [ Section No. 5.9.4.2(E) ]

(E)

Vapor inlet openings shall be equipped with either of the following:

- (1) A positive shutoff valve that is located as close to the container as practical ~~in combination with~~ and either a backflow check valve or an excess-flow valve installed in the container
- (2) An internal valve

### Statement of Problem and Substantiation for Public Comment

PI-174 to make a global change to substitute "and" for "in combination with" throughout the Code was rejected by the committee. The committee stated; "The committee does not agree that the phrase "in combination with" is misleading or confusing in all instances".

The term "in combination with" refers to two valves installed in series at a container. Substituting "and" simplifies the text and prevents misinterpretation. The phrase, "in combination with" has been interpreted to mean that the 2 valves must be combined in a single valve body, which is not the intent.

This, and other, comments are submitted individually so that each use of "in combination with" can be viewed separately.

### Related Public Comments for This Document

<u>Related Comment</u>	<u>Relationship</u>
<a href="#">Public Comment No. 1-NFPA 58-2018 [Section No. 5.9.4.1(C)]</a>	
<a href="#">Public Comment No. 2-NFPA 58-2018 [Section No. 5.9.4.1(D)]</a>	
<a href="#">Public Comment No. 3-NFPA 58-2018 [Section No. 5.9.4.2(A)]</a>	
<a href="#">Public Comment No. 4-NFPA 58-2018 [Section No. 5.9.4.2(D)]</a>	
<a href="#">Public Comment No. 6-NFPA 58-2018 [Section No. 5.9.4.2(F)]</a>	
<a href="#">Public Comment No. 7-NFPA 58-2018 [Section No. 5.9.4.2(H)]</a>	
<a href="#">Public Comment No. 8-NFPA 58-2018 [Section No. 5.9.7.1]</a>	
<a href="#">Public Comment No. 9-NFPA 58-2018 [Section No. 6.27.3.9]</a>	
<a href="#">Public Comment No. 10-NFPA 58-2018 [Section No. 9.4.4.3]</a>	

#### Related Item

- PI-174

### Submitter Information Verification

**Submitter Full Name:** Theodore Lemoff  
**Organization:** TLemoff Engineering  
**Street Address:**  
**City:**  
**State:**  
**Zip:**  
**Submission Date:** Wed Mar 14 14:30:29 EDT 2018  
**Committee:**



## Public Comment No. 6-NFPA 58-2018 [ Section No. 5.9.4.2(F) ]

(F)

Liquid inlet openings in new installations shall be equipped with either of the following:

- (1) An internal valve that is fitted for remote closure and automatic shutoff using thermal (fire) actuation where the thermal element is located within 5 ft (1.5 m) of the internal valve
- (2) A positive shutoff valve that is located as close to the container as practical ~~in combination with~~ and a backflow check valve that is designed for the intended application and is installed in the container

### Statement of Problem and Substantiation for Public Comment

PI-174 to make a global change to substitute "and" for "in combination with" throughout the Code was rejected by the committee. The committee stated; "The committee does not agree that the phrase "in combination with" is misleading or confusing in all instances".

The term "in combination with" refers to two valves installed in series at a container. Substituting "and" simplifies the text and prevents misinterpretation. The phrase, "in combination with" has been interpreted to mean that the 2 valves must be combined in a single valve body, which is not the intent.

This, and other, comments are submitted individually so that each use of "in combination with" can be viewed separately.

### Related Public Comments for This Document

<u>Related Comment</u>	<u>Relationship</u>
<a href="#">Public Comment No. 1-NFPA 58-2018 [Section No. 5.9.4.1(C)]</a>	
<a href="#">Public Comment No. 2-NFPA 58-2018 [Section No. 5.9.4.1(D)]</a>	
<a href="#">Public Comment No. 3-NFPA 58-2018 [Section No. 5.9.4.2(A)]</a>	
<a href="#">Public Comment No. 4-NFPA 58-2018 [Section No. 5.9.4.2(D)]</a>	
<a href="#">Public Comment No. 5-NFPA 58-2018 [Section No. 5.9.4.2(E)]</a>	
<a href="#">Public Comment No. 7-NFPA 58-2018 [Section No. 5.9.4.2(H)]</a>	
<a href="#">Public Comment No. 8-NFPA 58-2018 [Section No. 5.9.7.1]</a>	
<a href="#">Public Comment No. 9-NFPA 58-2018 [Section No. 6.27.3.9]</a>	
<a href="#">Public Comment No. 10-NFPA 58-2018 [Section No. 9.4.4.3]</a>	

#### Related Item

- PI-174

### Submitter Information Verification

**Submitter Full Name:** Theodore Lemoff  
**Organization:** TLemoff Engineering  
**Street Address:**  
**City:**  
**State:**  
**Zip:**  
**Submittal Date:** Wed Mar 14 14:41:09 EDT 2018  
**Committee:**



## Public Comment No. 7-NFPA 58-2018 [ Section No. 5.9.4.2(H) ]

(H)

Liquid inlet openings in existing installations shall be equipped with any of the following by July 1, 2011:

- (1) An internal valve that is fitted for remote closure and automatic shutoff using thermal (fire) actuation where the thermal element is located within 5 ft (1.5 m) of the internal valve
- (2) An emergency shutoff valve that is installed in the line upstream as close as practical to a positive shutoff valve ~~in combination with~~ and an excess-flow valve installed in the container
- (3) A positive shutoff valve that is located as close to the container as practical ~~in combination~~ and with a backflow check valve that is designed for the intended application and is installed in the container
- (4) A backflow check valve that is designed for the intended application and is installed in the line upstream as close as practical to a positive shutoff valve ~~in combination~~ and with an excess-flow valve installed in the container

### Statement of Problem and Substantiation for Public Comment

PI-174 to make a global change to substitute "and" for "in combination with" throughout the Code was rejected by the committee. The committee stated; "The committee does not agree that the phrase "in combination with" is misleading or confusing in all instances".

The term "in combination with" refers to two valves installed in series at a container. Substituting "and" simplifies the text and prevents misinterpretation. The phrase, "in combination with" has been interpreted to mean that the 2 valves must be combined in a single valve body, which is not the intent.

This, and other, comments are submitted individually so that each use of "in combination with" can be viewed separately.

### Related Public Comments for This Document

<u>Related Comment</u>	<u>Relationship</u>
<a href="#">Public Comment No. 1-NFPA 58-2018 [Section No. 5.9.4.1(C)]</a>	
<a href="#">Public Comment No. 2-NFPA 58-2018 [Section No. 5.9.4.1(D)]</a>	
<a href="#">Public Comment No. 3-NFPA 58-2018 [Section No. 5.9.4.2(A)]</a>	
<a href="#">Public Comment No. 4-NFPA 58-2018 [Section No. 5.9.4.2(D)]</a>	
<a href="#">Public Comment No. 5-NFPA 58-2018 [Section No. 5.9.4.2(E)]</a>	
<a href="#">Public Comment No. 6-NFPA 58-2018 [Section No. 5.9.4.2(F)]</a>	
<a href="#">Public Comment No. 8-NFPA 58-2018 [Section No. 5.9.7.1]</a>	
<a href="#">Public Comment No. 9-NFPA 58-2018 [Section No. 6.27.3.9]</a>	
<a href="#">Public Comment No. 10-NFPA 58-2018 [Section No. 9.4.4.3]</a>	

#### Related Item

- PI-174

### Submitter Information Verification

**Submitter Full Name:** Theodore Lemoff  
**Organization:** TLemoff Engineering  
**Street Address:**  
**City:**  
**State:**  
**Zip:**  
**Submission Date:** Wed Mar 14 14:45:36 EDT 2018  
**Committee:**



## Public Comment No. 8-NFPA 58-2018 [ Section No. 5.9.7.1 ]

### 5.9.7.1

Other container openings shall be equipped with any of the following:

- (1) Positive shutoff valve ~~in combination with~~ and either an excess-flow check valve or a backflow check valve
- (2) Internal valve
- (3) Backflow check valve
- (4) Actuated liquid withdrawal excess-flow valve, normally closed and plugged, with provision to allow for external actuation
- (5) Plug, blind flange, or plugged companion flange

### Statement of Problem and Substantiation for Public Comment

PI-174 to make a global change to substitute "and" for "in combination with" throughout the Code was rejected by the committee. The committee stated; "The committee does not agree that the phrase "in combination with" is misleading or confusing in all instances".

The term "in combination with" refers to two valves installed in series at a container. Substituting "and" simplifies the text and prevents misinterpretation. The phrase, "in combination with" has been interpreted to mean that the 2 valves must be combined in a single valve body, which is not the intent.

This, and other, comments are submitted individually so that each use of "in combination with" can be viewed separately.

### Related Public Comments for This Document

<u>Related Comment</u>	<u>Relationship</u>
<a href="#">Public Comment No. 1-NFPA 58-2018 [Section No. 5.9.4.1(C)]</a>	
<a href="#">Public Comment No. 2-NFPA 58-2018 [Section No. 5.9.4.1(D)]</a>	
<a href="#">Public Comment No. 3-NFPA 58-2018 [Section No. 5.9.4.2(A)]</a>	
<a href="#">Public Comment No. 4-NFPA 58-2018 [Section No. 5.9.4.2(D)]</a>	
<a href="#">Public Comment No. 5-NFPA 58-2018 [Section No. 5.9.4.2(E)]</a>	
<a href="#">Public Comment No. 6-NFPA 58-2018 [Section No. 5.9.4.2(F)]</a>	
<a href="#">Public Comment No. 7-NFPA 58-2018 [Section No. 5.9.4.2(H)]</a>	
<a href="#">Public Comment No. 9-NFPA 58-2018 [Section No. 6.27.3.9]</a>	
<a href="#">Public Comment No. 10-NFPA 58-2018 [Section No. 9.4.4.3]</a>	

#### Related Item

- PI-174

### Submitter Information Verification

**Submitter Full Name:** Theodore Lemoff  
**Organization:** TLemoff Engineering  
**Street Address:**  
**City:**  
**State:**  
**Zip:**  
**Submission Date:** Wed Mar 14 14:50:37 EDT 2018  
**Committee:**

**Public Comment No. 43-NFPA 58-2018 [ Section No. 5.9.8.1(H) ]**

(H)- \*

The connection or line that leads to or from any individual opening shall have a flow capacity greater than the rated flow of the excess-flow valve protecting the opening.

**Statement of Problem and Substantiation for Public Comment**

Container openings are often larger than piping downstream. There may be branches from the line, various fittings or devices that cause flow restrictions, or pipe size reductions that render the device at the container opening incapable of protecting the opening. This change indicates that annex information about protecting the container opening is provided to the pipe designer/installer for additional considerations that may need to be made.

**Related Item**

- PI 9

**Submitter Information Verification**

**Submitter Full Name:** Richard Fredenburg

**Organization:** State of North Carolina

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Thu Apr 26 15:13:58 EDT 2018

**Committee:**

**Public Comment No. 12-NFPA 58-2018 [ New Section after 5.14.2.3 ]****TITLE OF NEW CONTENT**

Excess flow check valves shall have a flow capacity in accordance with 5.9.8.1 (H).

**Statement of Problem and Substantiation for Public Comment**

A new paragraph is added to reference 5.9.8.1 (H) for excess flow valve sizing. This was submitted in FR-9 and was not accepted because "The intent of this paragraph is already addressed in 5.9.8.1(H)". The committee's statement is correct; however 5.9.8.1 covers container appurtenances and could easily be overlooked by a reader who looks at the requirements for valves in 5.14.2.2.

By referencing 5.9.8.1 the text is not duplicated and directs any reader to the appropriate requirement for excess flow sizing.

**Related Item**

- PI-9

**Submitter Information Verification**

**Submitter Full Name:** Theodore Lemoff

**Organization:** TLemoff Engineering

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Wed Mar 14 16:20:22 EDT 2018

**Committee:**


**Public Comment No. 35-NFPA 58-2018 [ Section No. 5.20.1.3(C) ]**

(C)

Aluminum shall be used only for cylinders, gaskets, regulators, meters, and indirect electric vaporizers, and components of dispensing systems installed in accordance with 6.27.4.

**Statement of Problem and Substantiation for Public Comment**

It is proposed to allow aluminum piping system components to be installed in or in conjunction with vehicle fuel dispensers. The code has prohibited aluminum from being used for anything other than cylinders, gaskets, regulators, meters, and indirect electric vaporizers, recognizing that aluminum will soften or melt and release propane at fire temperature. Dispensers have safety features that make exposure to fire significantly less likely than piping systems, specifically they are attended when in use, they must be installed outdoors, pump control is located at the dispenser (allowing the attendant to stop flow at the dispenser in the event of a release), excess flow shutoff is required, and the propane container supplying the dispenser has an internal valve with remote shutoff.

**Related Public Comments for This Document**

<u>Related Comment</u>	<u>Relationship</u>
Public Comment No. 36-NFPA 58-2018 [New Section after 6.27.4.3]	

Related Item

- CI=141

**Submitter Information Verification**

**Submitter Full Name:** Theodore Lemoff  
**Organization:** TLemoff Engineering  
**Affiliation:** Blue Moon Filtration  
**Street Address:**  
**City:**  
**State:**  
**Zip:**  
**Submission Date:** Tue Apr 24 09:53:57 EDT 2018  
**Committee:**



## Public Comment No. 104-NFPA 58-2018 [ Section No. 6.4.3 ]

### 6.4.3 Multiple Containers Less Than 125 gal (0.5 m<sup>3</sup>) Individual Water Capacity.

Multiple containers, each having a water capacity less than 125 gal (0.5 m<sup>3</sup>) and installed in an aboveground group as a manifolded single service or as individual services, shall comply with the following:

- (1) Where the aggregate water capacity of all containers in any group is 500 gal (1.9 m<sup>3</sup>) or less, the minimum separation distances required by Table 6.4.1.1 for each container shall be 0 ft (0 m) for each container in the group from an important building or line of adjoining property that can be built upon.
- (2) Where the aggregate water capacity of all containers in the group is greater than 500 gal (1.9 m<sup>3</sup>), the minimum separation distances in Table 6.4.1.1 for each container shall be based on the aggregate capacity.
- (3) There shall be no separation required between individual containers within the group.
- (4) \* For the application of 6.4.3(1) and 6.4.3(2), the number of containers in a group is determined by the number of containers that are less than ~~10- 25~~ ft (3- 7.6 m) ~~from~~ from any other container in the group.

### Additional Proposed Changes

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
GroupsAlongWall.JPG	Two groups of "123s" spaced 10 feet apart.	

### Statement of Problem and Substantiation for Public Comment

The rewording of this complicated requirement is good and should be kept. However, the reduction in separation requirements in (4) has no analysis to support it. There is only a comparison to tanks of a significant size difference. The supporting information in section A.6.4.3(4) is not to scale and misrepresents the separation. See GroupsAlongWall.jpg to see a photograph of container groups spaced 10 feet apart to see what impact this would have on the congestion of containers along a wall.

### Related Public Comments for This Document

<u>Related Comment</u>	<u>Relationship</u>
Public Comment No. 105-NFPA 58-2018 [Section No. A.6.4.3(4)]	
<u>Related Item</u>	
• FR-97	

### Submitter Information Verification

**Submitter Full Name:** Richard Fredenburg  
**Organization:** State of North Carolina  
**Street Address:**  
**City:**  
**State:**  
**Zip:**  
**Submission Date:** Wed May 09 12:02:31 EDT 2018  
**Committee:**



**Public Comment No. 47-NFPA 58-2018 [ New Section after 6.5.4.1 ]**

**6.5.4.2\* Structures partially enclosing containers shall be permitted if designed in accordance with an enclosure analysis.**

**Statement of Problem and Substantiation for Public Comment**

This new paragraph adds the requirement for an enclosure analysis. It is not unreasonable for some installations to have partial enclosures. However, such enclosures must not create a hazard. They even help to mitigate one. A analysis of the enclosure by competent persons with input from emergency responders will demonstrate to the AHJ that the proposed enclosure is acceptable. Determining the format and content of the enclosure analysis was not a trivial effort. Neither was it overly cumbersome. The scant guidance in the annex, A.6.5.4, gave enough direction to find other parts of the code that were appropriate and where precedence was established. From that, a description of the enclosure analysis was developed. A complete description of the enclosure analysis (using terms from the 2017 edition, i.e., fire protection analysis) in use in North Carolina is shown on our web site at [www.ncagr.gov/standard/LP/LPgasConcerns/FireProtectionAnalysis.htm](http://www.ncagr.gov/standard/LP/LPgasConcerns/FireProtectionAnalysis.htm). This proposed annex material provides far more information than the proposed changes to section 6.5.4 and allows for informed considerations and for input from fire-fighting experts.

**Related Item**

- FR 98

**Submitter Information Verification**

**Submitter Full Name:** Richard Fredenburg  
**Organization:** State of North Carolina  
**Street Address:**  
**City:**  
**State:**  
**Zip:**  
**Submittal Date:** Mon Apr 30 10:25:35 EDT 2018  
**Committee:**

**Public Comment No. 37-NFPA 58-2018 [ Section No. 6.5.4.1 ]****6.5.4.1**

Structures such as fire walls, fences, earth or concrete barriers, and other similar structures shall be permitted around or over installed nonrefrigerated containers in accordance with all of the following:

- (1) A 36 in. (0.91 m) minimum clearance shall be provided around the container for inspection and maintenance.
- (2)
- (3) The  
~~container shall not be enclosed for more than 50 percent of its perimeter.~~
- (4) ~~The~~ entire top of the container shall be capable of being wetted by an emergency response hose stream.

**Statement of Problem and Substantiation for Public Comment**

Perimeter is the length of the outline of a two dimensional shape. A cylinder is a three dimensional shape. So, technically we cannot find the perimeter of a cylinder.

**Related Item**

- PI

**Submitter Information Verification**

**Submitter Full Name:** Kevin Eardley

**Organization:** Propane Equipment & Supply

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Tue Apr 24 12:23:59 EDT 2018

**Committee:**



## Public Comment No. 46-NFPA 58-2018 [ Section No. 6.5.4.1 ]

### 6.5.4.1

Structures such as fire walls, fences, earth or concrete barriers, and other similar structures shall not be permitted around or over installed nonrefrigerated containers in accordance with all of the following:

- (1) A 36 in. (0.91 m) minimum clearance shall be provided around the container for inspection and maintenance.
- (2) The container shall not be enclosed for more than 50 percent of its perimeter.
- (3) The entire top of the container shall be capable of being wetted by an emergency response hose stream.

unless specifically allowed.

### Additional Proposed Changes

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
Figure1.jpg	Tank in an enclosure with small clearances	
58_Public_Comment_46_2nd_attachment_Tank_Closed_by_more_than_50_.pdf	Tank Enclosure By More Than 50%	

### Statement of Problem and Substantiation for Public Comment

While the intention of making a positive statement instead of a restrictive statement can be a better approach, the result in this case imposes some restrictions that can be burdensome. It is better to allow a case-by-case analysis, based on some clear guidelines. "Sound," as it appears in the 2017 edition, is removed as it is a meaningless qualifier.

Item (1), 36-inch clearance. The required separation distance has no substantiation. Inspections are often made where there is less than 36 inches clearance. Tanks are often installed with less clearance and are kept in good maintenance. The tank installed in Figure1 has significantly less than 36 inches of clearance and was easily inspected. This installation would not be permitted under the rules established by FR-98, item (1).

Item (2), 50% maximum enclosure. The tank shown in Figure2 has three sides enclosed with some extension of the enclosure beyond the tank. It is not 75% enclosed, but it is clearly more than 50%. This installation was easy to approve when the fire protection analysis was provided. This installation would not be permitted under the requirements established by FR-98, item (2).

Item (3), Wetting the entire top of the container with a hose stream. Who determines if the entire top of the container can be wetted? Not the installer, I hope. They have a conflict of interest. What is a sufficient hose stream? As written, the stream from a very long garden hose could meet the requirement as written. Flow from such a hose could be in the two-to-four gallons per minute range, too meager to be effective, and would likely require the responder to get dangerously close to the fire or leak incident. The proposed new annex material describing the enclosure analysis makes a written statement from the emergency responders, saying that they could apply cooling water to the tank, a key part of the enclosure analysis. This has the effect of 1) involving the emergency responders to become familiar with the installation and 2) having fire-fighting experts involved in the determination of proper cooling-water application.

#### Related Item

- FR 98

### Submitter Information Verification

**Submitter Full Name:** Richard Fredenburg  
**Organization:** State of North Carolina  
**Street Address:**  
**City:**  
**State:**  
**Zip:**  
**Submittal Date:** Mon Apr 30 10:15:33 EDT 2018  
**Committee:**





**Public Comment No. 58-NFPA 58-2018 [ Section No. 6.5.4.1 ]****6.5.4.1**

Structures such as fire walls, fences, earth or concrete barriers, and other similar structures shall be permitted around or over installed nonrefrigerated containers in accordance with all of the following:

- (1) A 36 in. (0.91 m) minimum clearance shall be provided around the container for inspection and maintenance.
- (2) The container shall not be enclosed for more than 50 percent of its perimeter.
- (3) ~~The entire top of the container shall be capable of being wetted by an emergency response hose stream.~~

**Statement of Problem and Substantiation for Public Comment**

Larger containers have lids covering the valve which would make this requirement impossible.

**Related Item**

- FR 98

**Submitter Information Verification**

**Submitter Full Name:** Thomas Deary

**Organization:** Compressed Gas Association

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Tue May 01 07:57:55 EDT 2018

**Committee:**

**Public Comment No. 84-NFPA 58-2018 [ Section No. 6.5.4.1 ]****6.5.4.1**

Structures such as fire walls, fences, earth or concrete barriers, and other similar structures shall be permitted around or over installed nonrefrigerated containers in accordance with all of the following:

- (1) A 36 in. (0.91 m) minimum clearance shall be provided around the container for inspection and maintenance.
- (2) The container shall not be enclosed for more than 50 percent of its perimeter.
- (3) The ~~entire~~ top of the container shall be capable of being wetted by an emergency response hose stream.

**Statement of Problem and Substantiation for Public Comment**

It was pointed out that cylinders and ASME containers may have domes that prevent the "entire" top of the container from being wetted. Therefore, the current code text would be impossible to comply with in the field.

**Related Item**

- FR 98

**Submitter Information Verification**

**Submitter Full Name:** Bruce Swiecicki

**Organization:** National Propane Gas Associati

**Affiliation:** Representing Myself

**Street Address:**

**City:**

**State:**

**Zip:**

**Submission Date:** Mon May 07 00:02:17 EDT 2018

**Committee:**

**Public Comment No. 26-NFPA 58-2018 [ Section No. 6.6.3.3 ]****6.6.3.3**

Combustible materials shall not accumulate or be stored within 10 ft (3.05 m) of a container.

**Statement of Problem and Substantiation for Public Comment**

The metric conversion of 5 ft is changed to (3 m) to be consistent with the other conversions of 10 ft. in the code. The metric conversion was added by staff and while the conversion is appropriate and the "hard" conversion is 3.05 m, the soft conversion of 10 ft is 3 m, which is used throughout the code.

**Related Item**

- PI-174

**Submitter Information Verification**

**Submitter Full Name:** Theodore Lemoff  
**Organization:** TLemoff Engineering  
**Affiliation:** None  
**Street Address:**  
**City:**  
**State:**  
**Zip:**  
**Submittal Date:** Mon Mar 26 13:29:20 EDT 2018  
**Committee:**


**Public Comment No. 99-NFPA 58-2018 [ Section No. 6.7.2.1 ]**
**6.7.2.1\***

If the point of transfer of containers located outdoors in stationary installations is not located at the container, it shall be located in accordance with Table 6.7.2.1.

Table 6.7.2.1 Distance Between Point of Transfer and Exposures

Part	Exposure	Minimum Horizontal Distance	
		ft	m
A	Buildings, <sup>a</sup> mobile homes, recreational vehicles, and modular homes with at least 1-hour fire-rated walls <sup>b</sup>	10 <sup>c</sup>	3.1
B	Buildings <sup>a</sup> with other than at least 1-hour fire-rated walls <sup>b</sup>	25 <sup>c</sup>	7.6 <sup>c</sup>
C	Building wall openings or pits at or below the level of the point of transfer	25 <sup>c</sup>	7.6 <sup>c</sup>
D	Line of adjoining property that can be built upon	25 <sup>c</sup>	7.6 <sup>c</sup>
E	Outdoor places of public assembly, including schoolyards, athletic fields, and playgrounds	50 <sup>c</sup>	15 <sup>c</sup>
F	Public ways, including public streets, highways, thoroughfares, and sidewalks	-	-
	-	(1) From points of transfer for LP-Gas dispensers <u>dispensing systems</u>	10 3.1
	-	(2) From other points of transfer	25 <sup>c</sup> 7.6 <sup>c</sup>
G	Driveways <sup>d</sup>	5	1.5
H	Mainline railroad track centerlines	25	7.6
I	Containers <sup>e</sup> other than those being filled	10	3.1
J	Flammable and Class II combustible liquid <sup>f</sup> dispensers and the fill connections of containers	10 <sup>c</sup>	3.1 <sup>c</sup>
K	Flammable and Class II combustible liquid aboveground containers and filling connections of underground containers	20	6.1
L	Stored or accumulated combustible materials	10	3.1

<sup>a</sup>For the purpose of the table, buildings also include structures such as tents and box trailers at construction sites.

<sup>b</sup>See ASTM E119, *Standard Test Methods for Fire Tests of Building Construction and Materials*, or UL 263, *Standard for Fire Tests of Building Construction and Materials*.

<sup>c</sup>See 6.7.3.4.

<sup>d</sup>Not applicable to driveways and points of transfer at vehicle fuel dispensers.

<sup>e</sup>Not applicable to filling connections at the storage container or to vehicle fuel dispenser units of 4000 gal (15.2 m<sup>3</sup>) water capacity or less when used for filling containers not mounted on vehicles.

<sup>f</sup>NFPA 30 defines these as follows: Class I flammable liquids include those having a flash point below 100°F (37.8°C) and having a vapor pressure not exceeding 40 psia (276 kPa) at 100°F (37.8°C). Class II combustible liquids include those having a flash point at or above 100°F (37.8°C) and below 140°F (60°C).

**Statement of Problem and Substantiation for Public Comment**

FR 117 was made without considering that changing "dispensing systems" to "dispensers" in this instance would result in adverse conditions for skid mounted dispensing systems, which include the storage container. The distance to the point of transfer for the dispenser hose end valve would be 10 feet, but the distance to the point of transfer at the skid mounted storage container next to the dispenser would be 25 ft. per Part F(2)! There is no reason grounded in safety for that disparity and it would effectively eliminate the use of skid mounted dispensing systems. The propane industry installs mostly skid mounted systems these days because they are efficient and compact units that are prefabricated and shipped to the site for "turn-key" operation.

**Related Item**

- FR 117

**Submitter Information Verification**

**Submitter Full Name:** Bruce Swiecicki

**Organization:** National Propane Gas Associati

**Affiliation:** Myself

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Tue May 08 18:54:50 EDT 2018

**Committee:**


**Public Comment No. 77-NFPA 58-2018 [ Section No. 6.8.3.2 ]**
**6.8.3.2**

Support of horizontal ASME containers shall comply with 6.8.3.2(A) through 6.8.3.2(C D).

**(A)**

Horizontal ASME containers with attached supports and designed for permanent installation in stationary service shall be installed in accordance with 6.8.3.2(B).

Table 6.8.3.2(A) Installation of Permanently Installed Horizontal ASME Containers with Attached Supports

<u>Container Size</u>		<u>Attached Support</u>	<u>Height of Container Bottom</u>
<u>gal</u>	<u>m<sup>3</sup></u>		
≥4000	≥15.2	Non-fireproofed steel on flat-topped concrete foundations	6 in. (150 mm) maximum above concrete foundations
≤4000	≤15.2	Non-fireproofed steel on masonry or concrete foundations (300 mm) above the ground	2 in. to 12 in. (51 mm to 300 mm) above concrete foundation
≤4000	≤15.2	Non-fireproofed steel on paved surfaces or concrete pads within 4 in. (100 mm) of the ground	24 in. (610 mm) maximum above paved surface or top of concrete pads
≤4000	≤15.2	Foundations or supports for horizontal LP-Gas containers per 6.8.3.2(B)	24 in. (610 mm) maximum above paved surface

**(B)**

Steel supports shall be protected against fire exposure with a material having a fire resistance rating of at least 2 hours if the height limits specified in Table 6.8.3.2(A) are exceeded.

**(C)**

The test to determine the fire resistance rating shall be ASTM E119, Standard Test Methods for Fire Tests of Building Construction and Materials.

**(D)**

Horizontal ASME containers of 4000 gal (15.2 m<sup>3</sup>) or less, on foundations in their installed condition, shall meet the following conditions:

- Structurally support the containers when subject to deteriorating environmental effects including, but not limited to, ambient temperature of -40°F to 150°F (-40°C to 66°C) or local conditions if outside this range, ultraviolet rays, radiant heat from fires, and moisture
- Be of either noncombustible or self-extinguishing material (per the definition in NFPA 99, 3.3.161)

**Statement of Problem and Substantiation for Public Comment**

The correct test for fire resistance rating is ASTM E119, consistent with the proposed addition of a section in chapter 4.

**Related Public Comments for This Document**

<u>Related Comment</u>	<u>Relationship</u>
Public Comment No. 73-NFPA 58-2018 [New Section after 4.7]	
<u>Related Item</u>	
• FR85	

**Submitter Information Verification**

**Submitter Full Name:** Marcelo Hirschler  
**Organization:** GBH International  
**Street Address:**  
**City:**  
**State:**  
**Zip:**  
**Submission Date:** Fri May 04 17:07:20 EDT 2018  
**Committee:**

**Public Comment No. 106-NFPA 58-2018 [ Section No. 6.9.2.3 ]****6.9.2.3**

Pressure relief devices on the following ASME containers shall be so installed that any gas released is vented upward and away from the container so as to not be deflected toward the container :

- (1) Containers of 125 gal (0.5 m<sup>3</sup>) or more water capacity installed in stationary service
- (2) Portable storage containers
- (3) Portable tanks
- (4) Cargo tanks

**Statement of Problem and Substantiation for Public Comment**

A comment made during the voting on FR-100 referred to "the need to avoid gas impingement upon the container." [Swiecicki's Affirmative with Comment] The phrase was actually "could allow the relief valve to be blocked by an obstruction over the container which could cause the relief valve discharge to deflect back upon the container." [Smith's Negative with Comment] Whatever the phrasing, it was suggested that a performance requirement be added during the second draft phase. The word "impingement (actually, impinge)" is defined as "to strike or dash especially with a sharp collision." This is not the appropriate word to use when the discharge is initially directly away from the container. The word "deflected" is defined as "to turn aside especially from a straight course or fixed direction." This is a clear and defined performance requirement.

**Related Item**

- FR-100

**Submitter Information Verification**

**Submitter Full Name:** Richard Fredenburg  
**Organization:** State of North Carolina  
**Street Address:**  
**City:**  
**State:**  
**Zip:**  
**Submittal Date:** Wed May 09 16:42:20 EDT 2018  
**Committee:**

**Public Comment No. 14-NFPA 58-2018 [ Section No. 6.9.2.3 ]****6.9.2.3**

Pressure relief devices on the following ASME containers shall be so installed that any gas released is vented upward and away from the container:

- (1) Containers of 125 gal (0.5 m<sup>3</sup>) or more water capacity installed in stationary service
- (2) Portable storage containers
- (3) Portable tanks
- (4) Cargo tanks

**Statement of Problem and Substantiation for Public Comment**

Cargo tanks are covered in Chapter 9. While this requirement has been in Chapter 6 for a number of editions, it is improperly located and must be moved. It could be interpreted that the requirement is not applicable to cargo tanks as the scope of Chapter 6 specifically excludes "systems used in the highway transportation of LP-Gas in 6.1.2 (2)

**Related Item**

- PI-246

**Submitter Information Verification**

**Submitter Full Name:** Theodore Lemoff

**Organization:** TLemoff Engineering

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Thu Mar 15 09:43:43 EDT 2018

**Committee:**

**Public Comment No. 20-NFPA 58-2018 [ Section No. 6.10.1.1 ]****6.10.1.1**

First-stage, high-pressure, automatic changeover, integral 2 psi service, integral two-stage, and single-stage regulators where allowed shall be installed in accordance with 6.10.1.1(A) through 6.10.1.1(D).

**(A)**

Regulators connected to single container permanent installations shall be installed with one of the following methods:

- (1) Attached to the vapor service valve using metallic pipe, tubing, fittings, or adapters that do not ~~exceed 60 in~~ exceed 5 ft . ( 4520 mm 1500 mm ) in total length
- (2) Attached to the vapor service valve with a single flexible metallic connector

**(B)**

Regulators connected to cylinders in other than stationary installations shall be installed with one of the following methods:

- (1) Attached to the vapor service valve using metallic pipe, tubing, fittings, or adapters that do not ~~exceed 60 in~~ exceed 5 ft . ( 4520 mm 1500 mm ) in total length
- (2) Attached to the vapor service valve with a single flexible metallic connector
- (3) Attached to the vapor service valve with a single flexible hose connector

**(C)**

Regulators connected to manifolded containers shall be installed with the following methods:

- (1) Installations shall comply with 6.11.3.8.
- (2) The regulator shall be attached with pipe or a single flexible metallic connector to the vapor service manifold piping outlet.
- (3) The connection between the container service valve outlet and the inlet side of the manifold piping shall be installed with one of the following methods:
  - (4) Attached with a metallic fitting
  - (5) Attached with a single flexible metallic connector
  - (6) Attached with a flexible hose connector connected to a cylinder in other than stationary installations
  - (7) Attached with pipe

**(D)**

Regulators installed on vaporizer outlets shall be installed with one of the following methods:

- (1) Attached using metallic pipe, tubing, fittings, or adapters that do not exceed ~~60 in~~ 5 ft . ( 4520 mm 1500mm ) in total length
- (2) Attached with a single flexible metallic connector

**(E)**

Regulators connected to underground or mounded containers shall be permitted to be attached to the vapor service valve with a flexible hose connector providing electrical isolation between the container and metallic piping system that complies with UL 569, *Standard for Pigtailed and Flexible Hose Connectors for LP-Gas*, and is recommended by the manufacturer for underground service.

**Statement of Problem and Substantiation for Public Comment**

Editorial. 60 in. is changed to 5 ft. All other similar dimensions in the Code are in feet. The metric conversion is also changed to be consistent with the other conversions of 5 ft in the code.

**Related Item**

- FR-55

**Submitter Information Verification**

**Submitter Full Name:** Theodore Lemoff

**Organization:** [ Not Specified ]

**Street Address:**

**City:**

**State:**

**Zip:**

**Submission Date:** Mon Mar 19 13:12:07 EDT 2018

**Committee:**

**Public Comment No. 59-NFPA 58-2018 [ Section No. 6.11.2.2 ]****6.11.2.2**

LP-Gas vapor piping systems shall be sized and installed to provide a supply of gas to meet the maximum demand of all appliances- gas utilization equipment using Table 16.1(a) through Table 16.1(p), engineering methods, or sizing tables included in a piping system manufacturer's installation instructions.

**Statement of Problem and Substantiation for Public Comment**

Engines that run on LP Gas are not appliances.

**Related Item**

- FR 103

**Submitter Information Verification**

**Submitter Full Name:** Thomas Deary

**Organization:** Compressed Gas Association

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Tue May 01 08:00:14 EDT 2018

**Committee:**

**Public Comment No. 40-NFPA 58-2018 [ Section No. 6.11.3.3 [Excluding any Sub-Sections] ]**

Metallic piping shall comply with 6.11.3.3(A) through 6.11.3.3(C). [6.11.3.3\(D\)](#)

[\(D\)](#) . Schedule 10 steel piping shall be installed above ground and used for vapor  
[Service only.](#)

**Statement of Problem and Substantiation for Public Comment**

The Task Force appointed for Schedule 10 Piping has met and developed the above proposal. Schedule 10 piping though allowed in other codes, has been limited to above ground use due to corrosion issues. The task force opted to modify the proposal to ensure that Schedule 10 piping is not placed underground by adding a paragraph (D) prohibiting this practice, and also clarified that Press to Connect fittings/piping are for use only in vapor service.

**Related Item**

- FR-104

**Submitter Information Verification**

**Submitter Full Name:** Leslie Woodward

**Organization:** FAIRVIEW

**Affiliation:** Task Group Schedule 10 Piping

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Thu Apr 26 14:24:31 EDT 2018

**Committee:**

**Public Comment No. 71-NFPA 58-2018 [ Section No. 6.13.3 ]****6.13.3 Thermal Activation.****6.13.3.1**

Automatic shutdown of internal valves in liquid service shall be provided using thermal (fire) actuation.

**6.13.3.2**

The thermal ~~sensing element of~~ actuator for the internal valve shall be within 5 ft (1.5 m) of the internal valve.

**6.13.3.3**

~~Temperature sensitive elements of~~ Thermal actuators for internal valves shall not be painted or have any ornamental finishes applied after manufacture.

**6.13.3.4**

Thermal actuators for internal valves shall actuate at a maximum temperature of 250 °F (121 °C).

**Statement of Problem and Substantiation for Public Comment**

Text about temperature sensitive elements was added in the first draft. Voting on that text and subsequent conversations at TS&S have pointed out that, while the text was copied from existing text for ESVs, there are inaccuracies in the text and that these devices are often not attached to the internal valves. This revision makes it clear that the requirement is for the thermal actuating device for the internal valve, wherever it is within five feet of the internal valve. "Thermal" and "actuator" are both in the official dictionary for NFPA 58. Thermal is defined as "of, relating to, or caused by heat." Actuator is defined as "a mechanical device for moving or controlling something." Thus, "thermal actuator" accurately describes the device that causes the internal valve to close when its immediate surroundings get hot.

The addition of 6.13.3.4 specifies the required temperature when the thermal actuator must operate, matching the existing requirement for ESVs.

There was also discussion about the use of plastic tubing as the thermal element. That does not enter into the requirement. It is included here only to say that only tubing that is rated by the manufacturer or a testing agency to "fail" or release pressure by the time it reaches the temperature specified in section 6.14.6 is acceptable for use as a thermal actuator. This clarification may be needed in the annex.

**Related Item**

- FR 144

**Submitter Information Verification**

**Submitter Full Name:** Richard Fredenburg

**Organization:** State of North Carolina

**Street Address:**

**City:**

**State:**

**Zip:**

**Submission Date:** Tue May 01 13:29:57 EDT 2018

**Committee:**

**Public Comment No. 60-NFPA 58-2018 [ Section No. 6.13.3.3 ]****6.13.3.3**

Temperature-sensitive elements of internal valves shall not be painted or have any ornamental finishes applied after manufacture.

**Statement of Problem and Substantiation for Public Comment**

"Ornamental finishes" is an undefined term in NFPA 58 and therefore the AHJ would have problems enforcing this document without a proper definition.

**Related Item**

- FR 144

**Submitter Information Verification**

**Submitter Full Name:** Thomas Deary

**Organization:** Compressed Gas Association

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Tue May 01 08:02:44 EDT 2018

**Committee:**

**Public Comment No. 80-NFPA 58-2018 [ Section No. 6.13.3.3 ]****6.13.3.3**

Temperature-sensitive elements of ~~internal valves~~ installed in accordance with 6.13.3.2 shall not be painted or have any ornamental finishes applied after manufacture.

**Statement of Problem and Substantiation for Public Comment**

Thermal sensitive elements are not always a part of the internal valves but may be adjacent to the valve or are included in the ESV system. NFPA 58 currently does not prohibit the application of paint or ornamental finishes on temperature-sensitive elements installed at internal valves. Such applications may prevent the temperature-sensitive elements from melting at the prescribed temperature, thus potentially preventing the intended function of the elements.

This modification of First Revision No. 144 will reference the code text that requires the thermal sensing element of the internal valve to be within 5 feet of the internal valve. This modification is necessary in order to limit the extent to which the requirement in 6.13.3.3 applies.

In the future, further edits may be necessary to 6.13.3.2 to make the terminology consistent with 6.13.3.3.

**Related Item**

- FR No. 144

**Submitter Information Verification**

**Submitter Full Name:** Bruce Swiecicki

**Organization:** National Propane Gas Associati

**Affiliation:** Representing myself

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Sun May 06 22:35:23 EDT 2018

**Committee:**

**Public Comment No. 82-NFPA 58-2018 [ Section No. 6.15 [Excluding any Sub-Sections] ]**

A hydrostatic relief valve or a device providing pressure-relieving protection shall be installed in each section of piping and hose in which liquid LP-Gas can be isolated between shutoff valves or the closed side of positive shutoff, backflow check valves, so as to relieve the pressure that could develop from the trapped liquid to a safe atmosphere or product-retaining section.

**Statement of Problem and Substantiation for Public Comment**

This modification will clarify that backflow check valves always allow flow in one direction and therefore pressure-relieving protection will not be necessary on the upstream side of the backflow check valve.

In addition, some metal-to-metal backflow check valves will not tolerate a pressure build-up because they allow flow past the seat, which obviates the need for a requirement for a hydrostatic relief valve. This provision should only be applied when the backflow check valve utilizes a "soft seat" that provides positive shutoff, which would allow hydrostatic pressure to build in that pipe segment.

**Related Item**

- FR 107

**Submitter Information Verification**

**Submitter Full Name:** Bruce Swiecicki

**Organization:** National Propane Gas Associati

**Affiliation:** Representing myself

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Sun May 06 23:04:31 EDT 2018

**Committee:**

**Public Comment No. 48-NFPA 58-2018 [ Section No. 6.21.4.2(C) ]**

(C)

All Each means of egress shall be operable or unlocked from inside when the enclosure when occupied is occupied or shall be readily opened without need for tools, key, or combination code .

**Statement of Problem and Substantiation for Public Comment**

A gate does not operate as a gate unless it is unlocked or able to be opened quickly and easily when needed. A gate not easy to open is really part of the fence. The intent for having at least two means of emergency egress is to provide a safe path for escape when an incident may block one path. The methods for providing safe egress are to either immediately unlock egress gates when the enclosure is to be occupied for operation, maintenance, transfer of product, inspection, etc., or to have previously equipped the gates with devices that allow for immediate exit without having to resort to finding keys or entering a combination to open locks. Having to find appropriate tools, fumble for a key, or recall a combination when under stress wastes precious time. A "crash bar" could be one such device as long as security is not compromised. If the gate is to be unlocked, it makes no difference if it is unlocked from the inside or outside.

**Related Item**

- FR 109

**Submitter Information Verification**

**Submitter Full Name:** Richard Fredenburg

**Organization:** State of North Carolina

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Mon Apr 30 11:09:32 EDT 2018

**Committee:**

**Public Comment No. 61-NFPA 58-2018 [ Section No. 6.21.4.2(C) ]**

(C)

All Designated means of egress shall be operable or unlocked from inside the enclosure when occupied.

**Statement of Problem and Substantiation for Public Comment**

Minimum egress code states the minimum means of egress is required but does not state the maximum means of egress.

**Related Item**

- FR 109

**Submitter Information Verification**

**Submitter Full Name:** Thomas Deary

**Organization:** Compressed Gas Association

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Tue May 01 08:06:39 EDT 2018

**Committee:**

**Public Comment No. 62-NFPA 58-2018 [ Section No. 6.22.6.3 ]****6.22.6.3**

The use of cylinders to supply fuel for temporary heating shall be permitted only where a ~~portable appliance~~ equipment for space heating is essential and a permanent heating installation is not practical.

**Statement of Problem and Substantiation for Public Comment**

"Equipment" is a broader term than "appliances" because not all equipment is an appliance.

**Related Item**

- FR 119

**Submitter Information Verification**

**Submitter Full Name:** Thomas Deary

**Organization:** Compressed Gas Association

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Tue May 01 08:08:55 EDT 2018

**Committee:**

**Public Comment No. 63-NFPA 58-2018 [ Section No. 6.22.8.1 ]****6.22.8.1**

Cylinders shall not be used in buildings for temporary emergency heating purposes except when all of the following conditions are met:

- (1) The permanent heating system is temporarily out of service.
- (2) Heat is necessary to prevent damage to the buildings or contents.
- (3) The cylinders and heaters comply with, and are used and transported in accordance with, 6.22.2 through 6.22.4.
- (4) The temporary heating appliance ~~is~~ equipment is not left unattended.
- (5) Air for combustion and ventilation is provided in accordance with NFPA 54.

**Statement of Problem and Substantiation for Public Comment**

"Equipment" is a broader term than "appliances" because not all equipment is an appliance.

**Related Item**

- FR 120

**Submitter Information Verification**

**Submitter Full Name:** Thomas Deary

**Organization:** Compressed Gas Association

**Street Address:**

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**State:**

**Zip:**

**Submittal Date:** Tue May 01 08:39:34 EDT 2018

**Committee:**



## Public Comment No. 81-NFPA 58-2018 [ New Section after 6.27 ]

### TITLE OF NEW CONTENT

#### **6.27.6 Vehicle Fuel Self-Service Dispensers Open To The Public**

**6.27.6.1** Dispensers shall be listed to UL 495 *Power-Operated Dispensing Devices for LP-Gas* .

**6.27.6.2** Dispensers shall be equipped with a Type K15 nozzle in accordance with ISO 19825 *Road Vehicles—Liquefied Petroleum Gas (LPG) Refueling Connector* .

**6.27.6.3** Instructions for safe use and operation of the dispensing system shall be visible to the user.

**6.27.6.4** An emergency shutoff function shall be provided that accomplishes the requirements in 6.27.3.9 and 6.27.3.17 at a single point of operation.

**6.27.6.5** The output pressure of the dispensing system shall not exceed 300 psig.

### **Statement of Problem and Substantiation for Public Comment**

Self-service of flammable vehicle fuels has been widely accepted in the United States for decades. NFPA 30A recognizes self-service dispensing facilities and does not rule out their use for LP-gas facilities.

With the industry efforts to emphasize propane “autogas” vehicles, one main hindrance to expanding that market is the fact that NFPA 58 does not address the possibility of allowing the general public to refuel its own vehicles. This is not an issue in the International Fire Code, which since 2015 has contained text to permit such public refueling to take place.

Requiring the dispenser to be listed to UL 495 in 6.27.6.1 clarifies that there is a specific standard for dispensers, in addition to those more well known for pumps, meters, valves, etc.

In 6.27.6.2, the industry has acknowledged that the use of the ISO K15 refueling nozzle and receptacle will provide safety attributes, the most important aspect is the feature preventing flow of product unless a “positive” connection between the nozzle and the receptacle exists.

The requirement for operating instructions in 6.27.6.3 acknowledges that a “Dispenser” is a single component of a “Dispensing System.” However, the general public must be provided with essential information on how the dispenser should be operated in order to refuel the vehicle safely.

The intent of limiting the outlet pressure to 300 psig is to avoid pressurizing the receiving container to a state that may result in activation of the pressure relief valve on the container.

#### Related Item

- PI No. 139, PI No. 119, CI No. 141

### **Submitter Information Verification**

**Submitter Full Name:** Bruce Swiecicki

**Organization:** National Propane Gas Associati

**Affiliation:** Representing myself

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**Zip:**

**Submittal Date:** Sun May 06 22:47:28 EDT 2018

**Committee:**

**Public Comment No. 100-NFPA 58-2018 [ Section No. 6.27.2.1 ]****6.27.2.1**

Location of dispensers and dispensing systems shall be in accordance with Table 6.7.2.1.

**Statement of Problem and Substantiation for Public Comment**

This section needs "dispensing systems" to remain in the text, which was removed by FR No. 118. Otherwise, there will be no clear provisions that address the placement of skid mounted, packaged dispensing systems.

**Related Item**

- FR 118

**Submitter Information Verification**

**Submitter Full Name:** Bruce Swiecicki

**Organization:** National Propane Gas Associati

**Affiliation:** Myself.

**Street Address:**

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**State:**

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**Submittal Date:** Tue May 08 19:05:52 EDT 2018

**Committee:**

**Public Comment No. 56-NFPA 58-2018 [ Section No. 6.27.3.3 ]****6.27.3.3**

The area where a dispenser or dispensing system is located shall be ventilated for at least 50 percent of its perimeter.

**Statement of Problem and Substantiation for Public Comment**

The addition recognizes that this could be a stand-alone dispenser or a "packaged" dispensing system. These are separately defined items.

**Related Item**

- FR 111

**Submitter Information Verification**

**Submitter Full Name:** Richard Fredenburg

**Organization:** State of North Carolina

**Street Address:**

**City:**

**State:**

**Zip:**

**Submission Date:** Mon Apr 30 15:59:23 EDT 2018

**Committee:**

**Public Comment No. 85-NFPA 58-2018 [ Section No. 6.27.3.3 ]****6.27.3.3**

The area where a dispenser is located shall be naturally ventilated for at least 50 percent of its perimeter.

**Statement of Problem and Substantiation for Public Comment**

The modification will provide clarification that the intent is not to require any mechanical ventilation over and above what natural ventilation provides.

**Related Item**

- FR 111

**Submitter Information Verification**

**Submitter Full Name:** Bruce Swiecicki

**Organization:** National Propane Gas Associati

**Affiliation:** Representing Myself

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Mon May 07 00:13:18 EDT 2018

**Committee:**



## Public Comment No. 9-NFPA 58-2018 [ Section No. 6.27.3.9 ]

### 6.27.3.9

The container liquid withdrawal opening used with vehicle fuel dispensers and dispensing systems shall be equipped with one of the following:

- (1) An internal valve fitted for remote closure and automatic shutoff using thermal (fire) actuation
- (2) A positive shutoff valve that is located as close to the container as practical ~~in combination~~ and with an excess-flow valve installed in the container, plus an emergency shutoff valve that is fitted for remote closure and installed downstream in the line as close as practical to the positive shutoff valve

### Statement of Problem and Substantiation for Public Comment

PI-174 to make a global change to substitute "and" for "in combination with" throughout the Code was rejected by the committee. The committee stated; "The committee does not agree that the phrase "in combination with" is misleading or confusing in all instances".

The term "in combination with" refers to two valves installed in series at a container. Substituting "and" simplifies the text and prevents misinterpretation. The phrase, "in combination with" has been interpreted to mean that the 2 valves must be combined in a single valve body, which is not the intent.

This, and other, comments are submitted individually so that each use of "in combination with" can be viewed separately.

### Related Public Comments for This Document

<u>Related Comment</u>	<u>Relationship</u>
<a href="#">Public Comment No. 1-NFPA 58-2018 [Section No. 5.9.4.1(C)]</a>	
<a href="#">Public Comment No. 2-NFPA 58-2018 [Section No. 5.9.4.1(D)]</a>	
<a href="#">Public Comment No. 3-NFPA 58-2018 [Section No. 5.9.4.2(A)]</a>	
<a href="#">Public Comment No. 4-NFPA 58-2018 [Section No. 5.9.4.2(D)]</a>	
<a href="#">Public Comment No. 5-NFPA 58-2018 [Section No. 5.9.4.2(E)]</a>	
<a href="#">Public Comment No. 6-NFPA 58-2018 [Section No. 5.9.4.2(F)]</a>	
<a href="#">Public Comment No. 7-NFPA 58-2018 [Section No. 5.9.4.2(H)]</a>	
<a href="#">Public Comment No. 8-NFPA 58-2018 [Section No. 5.9.7.1]</a>	
<a href="#">Public Comment No. 10-NFPA 58-2018 [Section No. 9.4.4.3]</a>	

#### Related Item

- PI-174

### Submitter Information Verification

**Submitter Full Name:** Theodore Lemoff  
**Organization:** TLemoff Engineering  
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**City:**  
**State:**  
**Zip:**  
**Submittal Date:** Wed Mar 14 15:01:22 EDT 2018  
**Committee:**



## Public Comment No. 36-NFPA 58-2018 [ New Section after 6.27.4.3 ]

6.26.4.3 Where aluminium piping system components are installed they shall:

(1) Incorporate a temperature-sensitive element in the component, or a supplemental temperature-sensitive element that operates at a maximum temperature of 250°F (121°C) that is connected to actuate the component, is not more than 5 ft (1.5 m) from the component, or

(2) Be installed downstream of a thermal shutoff valve with a temperature-sensitive element in the valve, or a supplemental temperature-sensitive element that operates at a maximum temperature of 250°F (121°C) that is connected to actuate the valve, is not more than 5 ft (1.5 m) from the valve

### Statement of Problem and Substantiation for Public Comment

It is proposed to allow aluminum piping system components to be installed in or in conjunction with vehicle fuel dispensers. The code has prohibited aluminum from being used for anything other than cylinders, gaskets, regulators, meters, and indirect electric vaporizers, recognizing that aluminum will soften or melt and release propane at fire temperature. Dispensers have safety features that make exposure to fire significantly less likely than piping systems, specifically they are attended when in use, they must be installed outdoors, pump control is located at the dispenser (allowing the attendant to stop flow at the dispenser in the event of a release), excess flow shutoff is required, and the propane container supplying the dispenser has an internal valve with remote shutoff.

### Related Public Comments for This Document

<u>Related Comment</u>	<u>Relationship</u>
Public Comment No. 35-NFPA 58-2018 [Section No. 5.20.1.3(C)]	

#### Related Item

- CI-141

### Submitter Information Verification

**Submitter Full Name:** Theodore Lemoff  
**Organization:** TLemoff Engineering  
**Affiliation:** Blue Moon Filtration  
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**City:**  
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**Zip:**  
**Submission Date:** Tue Apr 24 10:01:49 EDT 2018  
**Committee:**



## Public Comment No. 27-NFPA 58-2018 [ Section No. 6.27.5 ]

**6.27.5** – Installation of Propane LP-Gas Dispensers.

**6.27.5.1** –

Propane LP-Gas dispensers shall comply with the requirements for vehicle fuel dispensers.

**6.27.5.2** –

Propane LP-Gas dispensers shall be equipped with low emission transfer systems in accordance with 6.30.5.

### Statement of Problem and Substantiation for Public Comment

Section 6.27.5 is deleted consistent with the deletion of the definition of Propane LP-Gas dispenser. The term is used to describe Vehicle Fuel Dispenser and a second term is not needed. The 2 code paragraphs deleted either mandate compliance with the vehicle fuel dispenser requirements, and require low emission transfer. The section is replaced with the low emission transfer requirement in another comment.

### Related Public Comments for This Document

<u>Related Comment</u>	<u>Relationship</u>
Public Comment No. 28-NFPA 58-2018 [Section No. 6.27.5]	
Public Comment No. 29-NFPA 58-2018 [Section No. 3.3.23.1.1]	

#### Related Item

- CI-141

### Submitter Information Verification

**Submitter Full Name:** Theodore Lemoff  
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**Affiliation:** None  
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**Submittal Date:** Mon Mar 26 13:51:52 EDT 2018  
**Committee:**



## Public Comment No. 28-NFPA 58-2018 [ Section No. 6.27.5 ]

### 6.27.5

– Installation of Propane LP-Gas Dispensers.

#### **6.27.5.1** –

Propane LP-Gas dispensers shall comply with the requirements for vehicle fuel dispensers.

#### **6.27.5.2** –

Propane LP-Gas dispensers

Emission Requirements. Vehicle fuel dispensers shall be equipped with low emission transfer systems in accordance with 6.30.5.

### Statement of Problem and Substantiation for Public Comment

6.27.5 is revised to retain the former 6.27.5.2, consistent with the deletion of the term Propane LP-Gas Dispenser.

### Related Public Comments for This Document

#### Related Comment

[Public Comment No. 27-NFPA 58-2018 \[Section No. 6.27.5\]](#)

[Public Comment No. 29-NFPA 58-2018 \[Section No. 3.3.23.1.1\]](#)

#### Relationship

#### Related Item

• CI-141

### Submitter Information Verification

**Submitter Full Name:** Theodore Lemoff

**Organization:** TLemoff Engineering

**Affiliation:** None

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Mon Mar 26 13:57:30 EDT 2018

**Committee:**

**Public Comment No. 32-NFPA 58-2018 [ New Section after 6.28.3 ]**

Where containers for stationary engines are located outdoors at standalone telecommunications facilities of noncombustible construction less than 1500 ft<sup>2</sup> (140 m<sup>2</sup>), and such containers have a fill valve with an integral manual shutoff valve, the minimum separation distances shall be one-half of the distances specified in Section 6.4.

**Statement of Problem and Substantiation for Public Comment**

Telecommunications facilities are mandated by the FCC to provide hours of backup power for uninterrupted telecommunications services. These facilities are often very small, with limited space. In prior comments and testimony on this section, the space constraints for telecommunications sites were acknowledged. These facilities present a low hazard by nature of their normal design and use:

- These facilities are unoccupied
- These facilities are fenced, locked and secured from public access
- These facilities open and well ventilated
- They are of non-combustible construction
- The engine-generator and tank systems are well maintained
- The engine operation is not continuous and normally very limited.

As there is already broad precedence acknowledging the unique features and requirements of telecommunications facilities within the building and fire codes, a relaxation of separation distances in NFPA 58 for these sites would be appropriate. Many telecommunications sites have been constructed since the adoption of the 2011 LPG code with reduced separation rules. No evidence has been provided to indicate there have been no serious incidents at these sites as a result of the 2011 changes. Finally, it is noted that other occupancies such as restaurants are permitted reduced separation distances, despite much fewer risk mitigating features.

**Related Item**

- In response to FR-112

**Submitter Information Verification**

**Submitter Full Name:** Richard Kluge

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**Street Address:**

**City:**

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**Submittal Date:** Thu Apr 12 12:01:34 EDT 2018

**Committee:**

**Public Comment No. 15-NFPA 58-2018 [ Chapter 7 [Title Only] ]**

LP-Gas Liquid- Transfer

**Statement of Problem and Substantiation for Public Comment**

It is proposed to revise the title to more accurately describe the content of the chapter. A proposal to do this was rejected with the statement that the scope of the chapter applies to the transfer of liquid. While this is true, the content of the chapter covers both liquid transfer and vapor transfer in Section 7.3.

As separate comment has been submitted to revise the scope to reflect the content of the chapter.

**Related Public Comments for This Document**

<u>Related Comment</u>	<u>Relationship</u>
<a href="#">Public Comment No. 16-NFPA 58-2018 [Section No. 7.1.1]</a>	
<u>Related Item</u>	
• PI-98	

**Submitter Information Verification**

**Submitter Full Name:** Theodore Lemoff  
**Organization:** TLemoff Engineering  
**Street Address:**  
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**Zip:**  
**Submission Date:** Thu Mar 15 10:52:55 EDT 2018  
**Committee:**

**Public Comment No. 55-NFPA 58-2018 [ Chapter 7 [Title Only] ]**

LP-Gas Liquid- Transfer

**Statement of Problem and Substantiation for Public Comment**

The stated scope of chapter 7 includes "the venting of LP-Gas to the atmosphere." Venting is a release of vapor. Section 7.3.2 Purging has a statement in 7.3.2.2(B) that "only vapors shall be exhausted to the atmosphere." Hence, there is a transfer within this chapter that is specified as being only vapor. Also contained in the chapter are transfers where vapor is compressed and transferred to facilitate liquid transfer. That makes striking liquid from the chapter title an appropriate action. It also shows that the committee statement, "The scope applies to the transfer of liquid LP-gas," is not technically correct. Besides, where does it hurt to let the chapter title refer to any transfer of LP-Gas, be it liquid, vapor, or both?

**Related Item**

- PI 98

**Submitter Information Verification****Submitter Full Name:** Richard Fredenburg**Organization:** State of North Carolina**Street Address:****City:****State:****Zip:****Submittal Date:** Mon Apr 30 14:03:49 EDT 2018**Committee:**



## Public Comment No. 16-NFPA 58-2018 [ Section No. 7.1.1 ]

### 7.1.1

This chapter applies to ~~transfers~~ :

(1) Transfer of liquid LP-Gas from one container to another wherever this transfer involves connections and disconnections in the transfer system or the venting of LP-Gas to the atmosphere.

(2) Transfers of LP-Gas vapor between containers and from containers to the atmosphere.

### Statement of Problem and Substantiation for Public Comment

The scope of Chapter 7 is revised to include LP-Gas vapor transfer, which is in Section 7.3.

### Related Public Comments for This Document

<u>Related Comment</u>	<u>Relationship</u>
Public Comment No. 15-NFPA 58-2018 [Chapter 7 [Title Only]]	
<u>Related Item</u>	
• PI-98	

### Submitter Information Verification

**Submitter Full Name:** Theodore Lemoff  
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**Submittal Date:** Thu Mar 15 10:59:46 EDT 2018  
**Committee:**

**Public Comment No. 54-NFPA 58-2018 [ Section No. 7.2.2.2 ]****7.2.2.2**

When noncompliance with Section 5.2- ~~and~~ or Section 5.9 is found or a determination is made to not fill per paragraph 7.2.2.8 , the container owner and user shall be notified in writing.

**Statement of Problem and Substantiation for Public Comment**

Section 7.2.2.2 sets the precedent that a written reason for not filling a container must be provided. Neither section 5.2 nor 5.9 states that a defective seal is a reason for noncompliance. Including a reference to the new paragraph 7.2.2.8 continues the precedence. The operator between 5.2 and 5.9 needs to be changed from "and" to "or," as a reason for not filling from either 5.2 or 5.9 is sufficient to make the container noncompliant.

**Related Item**

- FR 121

**Submitter Information Verification**

**Submitter Full Name:** Richard Fredenburg

**Organization:** State of North Carolina

**Street Address:**

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**State:**

**Zip:**

**Submittal Date:** Mon Apr 30 13:54:23 EDT 2018

**Committee:**

**Public Comment No. 64-NFPA 58-2018 [ Section No. 7.2.2.8 ]****7.2.2.8**

If a defect exists is found , the cylinder shall not be filled.

**Statement of Problem and Substantiation for Public Comment**

The defect must be found before any action can be taken.

**Related Item**

- FR 121

**Submitter Information Verification**

**Submitter Full Name:** Thomas Deary

**Organization:** Compressed Gas Association

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**Zip:**

**Submittal Date:** Tue May 01 08:55:10 EDT 2018

**Committee:**

**Public Comment No. 86-NFPA 58-2018 [ Section No. 7.2.2.8 ]****7.2.2.8**

If a defect exists is found , the cylinder shall not be filled.

**Statement of Problem and Substantiation for Public Comment**

The inspections will be done visually and therefore the operator may not be able to detect defects that cannot be seen. It is important to limit this requirement to defects that are found by the operator, and not those which may exist but cannot be seen.

**Related Item**

- FR 121

**Submitter Information Verification**

**Submitter Full Name:** Bruce Swiecicki

**Organization:** National Propane Gas Associati

**Affiliation:** Representing Myself

**Street Address:**

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**Submittal Date:** Mon May 07 00:18:57 EDT 2018

**Committee:**

**Public Comment No. 87-NFPA 58-2018 [ Sections 7.2.4.1, 7.2.4.2 ]****Sections 7.2.4.1, 7.2.4.2****7.2.4.1**

Transfer Hose assemblies shall be observed for leakage or for damage that could impair their integrity before each use.

**7.2.4.2**

Transfer Hose assemblies shall be inspected at least annually.

**Statement of Problem and Substantiation for Public Comment**

The code should be clear that the requirements in this section apply to transfer hoses and assemblies only.

**Related Item**

- FR 123

**Submitter Information Verification**

**Submitter Full Name:** Bruce Swiecicki

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**Affiliation:** Representing myself.

**Street Address:**

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**Submittal Date:** Mon May 07 15:30:16 EDT 2018

**Committee:**



## Public Comment No. 88-NFPA 58-2018 [ Section No. 7.3 ]

### 7.3 Venting LP-Gas to Atmosphere.

#### 7.3.1 General.

LP-Gas in either liquid or vapor form shall not be vented to the atmosphere unless it is vented under the following conditions:

- (1) Venting of LP-Gas shall be permitted where the maximum flow from fixed liquid level, rotary, or slip tube gauges does not exceed that from a No. 54 drill orifice.
- (2) Venting of LP-Gas between shutoff valves before disconnecting the liquid transfer line from the container shall be permitted.
- (3) Venting of LP-Gas, where necessary, shall be permitted to be performed by the use of bleeder valves.
- (4) Venting of LP-Gas shall be permitted for the purposes described in 7.3.1(1) and 7.3.1(2) within structures designed for container filling in accordance with Chapter 10.
- (5) Venting of LP-Gas vapor from listed liquid transfer pumps using such vapor as a source of energy shall be permitted where the rate of discharge does not exceed the discharge from a No. 31 drill size orifice.
- (6) Venting of LP-Gas for purging in accordance with 7.3.3 shall be permitted.
- (7) Venting of LP-Gas shall be permitted for emergencies.
- (8) Venting of compressor liquid traps shall be attended and in accordance with 7.3.3.3.
- (9) Venting of LP-Gas vapor utilized as the pressure source in remote shutdown systems for internal valves and emergency shutoff valves shall be permitted.

#### 7.3.2 – Compressor Liquid Traps. 7.3.2.1 – Venting of

liquid LP-Gas from compressor liquid traps shall comply with written procedures.

#### 7.3.2.2 –

Venting of liquid LP-Gas from compressor liquid traps shall be attended.

#### 7.3.3 – Venting of Containers Containers and Equipment .

##### 7.3.3.1

Venting of gas shall be accomplished in accordance with 7.3.3.2 through 7.3.3.4.

##### 7.3.3.2

Venting of cylinders indoors shall only occur in structures designed and constructed for cylinder filling in accordance with 6.7.1.1 and Chapter 10 and with 7.3.3.2(A) through 7.3.3.2(C).

##### (A)

Piping shall be installed to convey the vented product outdoors at least 3 ft (1 m) above the highest point of any building within 25 ft (7.6 m).

##### (B)

Only vapors shall be exhausted to the atmosphere.

##### (C)

If a vent manifold is used to allow for the venting of more than one cylinder at a time, each connection to the vent manifold shall be equipped with a backflow check valve.

##### 7.3.3.3

Venting of containers and equipment outdoors shall be performed under conditions that result in rapid dispersion of the product being released.

##### 7.3.3.4

If conditions are such that venting into the atmosphere cannot be accomplished safely, LP-Gas shall be burned at a distance of at least 25 ft (7.6 m) from combustibles.

##### 7.3.3.5

Venting of containers and the burning of LP-Gas from containers and equipment shall be attended.

#### 7.3.4\* Purging of Piping.

##### 7.3.4.1

Purging of piping with a design pressure up to 125 psig (0.86 MPag) shall be in accordance with NFPA 54.

##### 7.3.4.2

Purging of piping with a design pressure greater than 125 psig (0.86 MPag) shall be in accordance with NFPA 56.

### Statement of Problem and Substantiation for Public Comment

This modification to FR 124 will bring the requirement into line with other items of 7.3.1, which is the appropriate location where the venting of liquid from compressors should be addressed.

#### Related Item

- FR 124

**Submitter Information Verification**

**Submitter Full Name:** Bruce Swiecicki  
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**Submittal Date:** Mon May 07 15:39:08 EDT 2018  
**Committee:**

**Public Comment No. 23-NFPA 58-2018 [ New Section after 7.3.1 ]****Add a new 7.3.2 to read:**

**7.3.2 Within Structures : Venting of LP-Gas shall be permitted for the purposes described in 7.3.1(1) and 7.3.1(2) within structures designed for container filling in accordance with Chapter 10.**

**Statement of Problem and Substantiation for Public Comment**

A new 7.3.2 is proposed to cover venting of LP-Gas in structures. The content is relocated from 7.3.1 (4). This is submitted in conjunction with a proposal to revise 7.3.1 to cover only venting of LP-Gas outdoors.

**Related Item**

- PI-10

**Submitter Information Verification**

**Submitter Full Name:** Theodore Lemoff

**Organization:** TLemoff Engineerig

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Wed Mar 21 14:56:52 EDT 2018

**Committee:**

**Public Comment No. 22-NFPA 58-2018 [ Section No. 7.3.1 ]****7.3.1-General Outdoors .**

LP-Gas in either liquid or vapor form shall not be vented to the atmosphere unless it is vented under the following conditions:

- (1) ~~Venting of LP-Gas shall be permitted where~~ where the maximum flow from fixed liquid level, rotary, or slip tube gauges does not exceed that from a No. 54 drill orifice.
- (2) ~~Venting of LP-Gas between~~ between shutoff valves before disconnecting the liquid transfer line from the container ~~shall be permitted~~ .
- (3) ~~Venting of LP-Gas,~~ where necessary ~~,~~ shall be permitted to be performed by the use of bleeder valves.
- (4) ~~Venting of LP-Gas shall be permitted for the purposes described in 7.3.1(1) and 7.3.1(2) within structures designed for container filling in accordance with Chapter 10 .~~
- (5) ~~Venting of LP-Gas vapor from listed liquid transfer pumps using such vapor as a source of energy shall be permitted where the rate of discharge does not exceed the discharge from a No. 31 drill size orifice.~~
- (6)
- (7)
- (8) ~~Venting of LP-Gas for~~ for purging in accordance with 7.3.3 ~~shall be permitted~~ .
- (9) ~~Venting of LP-Gas shall be permitted for~~ In emergencies.
- (10) ~~Venting of LP-Gas vapor~~ Where utilized as the pressure source in remote shutdown systems for internal valves and emergency shutoff valves ~~shall be permitted~~ .

**Statement of Problem and Substantiation for Public Comment**

This is similar to PI-10 which was rejected with the reason that the text needed clarification. The comment attempts to clarify the section by separating venting outdoors from venting in structures.

Item 5, discharge from a No. 31 drill size orifice from listed liquid transfer pumps is deleted as it is specific to a type of piston pump that has not been manufactured for approximately 50 years, has no spare parts availability, and is not believed to be currently in use.

Item (4) is relocated to a new 7.3.2 in a separate comment.

**Related Item**

- PI-10

**Submitter Information Verification**

**Submitter Full Name:** Theodore Lemoff

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**Submittal Date:** Wed Mar 21 14:46:04 EDT 2018

**Committee:**

**Public Comment No. 89-NFPA 58-2018 [ Section No. 7.3.4 ]**

7.3.4\* Purging of Piping.

**7.3.4.1**

Purging of piping with a design pressure up to ~~125 psig (0.86 MPag)~~ 50 psig shall be in accordance with NFPA 54.

**7.3.4.2 –**

Purging of

Purging of piping with a design pressure greater than

125 psig (0.86 MPag)

50 psig shall be done in accordance with

NFPA 56

approved procedures . .

**Statement of Problem and Substantiation for Public Comment**

FR No. 125 contains references to NFPA 54 and NFPA 56, both of which exclude propane systems for the conditions stated in the first revision. For example, NFPA 54 only addresses LP-gas systems up to 50 psig (1.1.1.1 (B)). NFPA 56 specifically excludes propane systems from its scope (1.1.2 (6)).

**Related Item**

- FR 125

**Submitter Information Verification**

**Submitter Full Name:** Bruce Swiecicki

**Organization:** National Propane Gas Associati

**Affiliation:** Myself

**Street Address:**

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**Zip:**

**Submittal Date:** Mon May 07 15:56:32 EDT 2018

**Committee:**



Public Comment No. 72-NFPA 58-2018 [ Section No. 8.3.1 ]

8.3.1 General.

Storage of cylinders in buildings shall be in accordance with Table 8.3.1(a) or Table 8.3.1(b) or the requirements of Section 8.3.

Table 8.3.1(a) Maximum Allowable Storage Quantities of LP-Gas in Other Than Industrial, Storage, and Mercantile Occupancies

Occupancy	Assembly	Educational	Day Care	Health Care	Ambulatory Health Care	Detention and Correctional	One- and Two-Family Dwellings	Lodging or Rooming House	Hotel and Dormitory	Apartment	Residential Board and Care
<b>Maximum Allowable Quantity (MAQ):</b>											
Storage (state units: lb, gal, etc.)	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb
<b>MAQ increases for:</b>							Maximum 1 lb cylinders		1 lb cylinder		
Total (including cabinets)	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb
Total for suppression	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb
Total for both cabinets and suppression	0	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb
Attended catered food service per NFPA 58 in 10 oz maximum cylinders	15 lb	15 lb	15 lb	15 lb	15 lb	15 lb	15 lb	15 lb	15 lb	15 lb	15 lb
			15 lb	15 lb	15 lb	15 lb	15 lb	15 lb	15 lb	15 lb	15 lb
Additional 10 oz cylinders w/2-hr fire wall	15 lb	15 lb	15 lb	15 lb	15 lb	15 lb	15 lb	15 lb	15 lb	15 lb	15 lb
Other											
Total (including threshold) for other	20 lb	20 lb	0	5 lb							
	Flame effects per NFPA 160. Additional 20 lb units with 20 ft (6 m) separation.	In labs, not in classrooms. Additional 20 lb units with 20 ft (6 m) separation.		In labs only. Additional 5 lb units with 20 ft separation.							Amounts per dwelling

For SI units, 1 lb = 0.45 kg; 1 oz = 0.028 kg.

Table 8.3.1(b) Maximum Allowable Storage Quantities of LP-Gas in Mercantile, Industrial, and Storage Occupancies

Occupancy	Mercantile	Industrial	Storage
<b>Maximum Allowable Quantity (MAQ):</b> Storage (state units: lb, gal, etc.)	200 lb (1 lb maximum/cylinder)	300 lb	300 lb
<b>MAQ increases for:</b>			
Total (including threshold) for cabinets	200 lb	300 lb	300 lb
Total (including threshold) for suppression	200 lb	300 lb	300 lb
Total (including threshold) for both cabinets and suppression	200 lb	300 lb	300 lb
Total (including threshold) for other (describe)	1000 lb	Additional 300 lb	10,000 lb

<u>Occupancy</u>	<u>Mercantile</u>	<u>Industrial</u>	<u>Storage</u>
	Separation of groups of 200 lb by 50 ft and a sprinkler density of 0.300 gpm (1.1 L/min) over the most remote 2000 ft <sup>2</sup> (18.6 m <sup>2</sup> ) area and 250 gpm (946 L/min) hose stream allowance	300 ft separation	In special rooms or buildings per Chapter 10

For SI units, 1 lb = 0.45 kg; 1 gpm = 3.8 L/min; 1 ft = 0.3 m; 1 ft<sup>2</sup> = 0.09 m<sup>2</sup>.

### Additional Proposed Changes

**File Name**

**Description Approved**

Table\_8.3.1\_edits.docx

### Statement of Problem and Substantiation for Public Comment

Editorial revisions are made in the Table for ease of use, and to be consistent with the MAQ tables in other NFPA documents. MAQ increases are replaced with a MAQ for each occupancy. In addition the phrase "Amounts per dwelling" is deleted as it is confusing. The amount (2 lb) applies to each apartment occupancy.

**Related Item**

- FR-180

### Submitter Information Verification

**Submitter Full Name:** Theodore Lemoff

**Organization:** TLemoff Engineering

**Affiliation:** None

**Street Address:**

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**Submittal Date:** Thu May 03 11:59:51 EDT 2018

**Committee:**

**8.3.1 General.**

Storage of cylinders in buildings shall be in accordance with Table 8.3.1(a) or Table 8.3.1(b) or the requirements of Section 8.3.

**Table 8.3.1(a) Maximum Allowable Storage Quantities of LP-Gas in Other Than Industrial, Storage, and Mercantile Occupancies**

Occupancy	Assembly	Educational	Day Care	Health Care	Ambulatory Health Care	Detention and Correctional	One- and Two-Family Dwellings	Lodging or Rooming House	Hotel and Dormitory	Apartment	Residential Board and Care	Business
<b>Maximum Allowable Quantity (MAQ):</b>												
Storage (state units: lb, gal, etc.)	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb
<b>MAQ increases for:</b>				-	-	-	Maximum 1-lb cylinders		-	1-lb cylinder	-	-
Total MAQ for cylinders stored in cabinets (including cabinets)	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb <sup>a</sup>	2 lb <sup>a</sup>	2 lb	2 lb <sup>a</sup>	2 lb	2 lb
Total MAQ for cylinders protected by suppression	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb <sup>a</sup>	2 lb <sup>a</sup>	2 lb	2 lb <sup>a</sup>	2 lb	2 lb
Total for both cylinders stored in cabinets and protected by suppression	<del>2 lb</del>	2 lb	2 lb	2 lb	2 lb	2 lb	2 lb <sup>a</sup>	2 lb <sup>a</sup>	2 lb	2 lb <sup>a</sup>	2 lb	2 lb
Total for Attended catered food service per NFPA 58 in 10 oz maximum cylinders	15 lb	15 lb	15 lb	15 lb	15 lb	15 lb	15 lb	15 lb	15 lb	15 lb	15 lb	15 lb
-	-	-	<del>15 lb</del>	<del>15 lb</del>	<del>15 lb</del>	<del>15 lb</del>	<del>15 lb</del>	<del>15 lb</del>	<del>15 lb</del>	<del>15 lb</del>	<del>15 lb</del>	<del>15 lb</del>
<b>Additional Total</b>	15 lb	15 lb	15 lb	15 lb	15 lb	15 lb	15 lb	15 lb	15 lb	15 lb	15 lb	15 lb

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Commented [IA1]: Define Cabinet

Occupancy	Assembly	Educational	Day Care	Health Care	Ambulatory Health Care	Detention and Correctional	One- and Two-Family Dwellings	Lodging or Rooming House	Hotel and Dormitory	Apartment	Residential Board and Care	Business
for 10 oz cylinders in storage protected by a w/ 2-hr fire wall												
Other	-	-	-	-	-	-	-	-	-	-	-	-
Total (including threshold) for other MAQ after any exemptions	20 lb	20 lb	0	5 lb								
	Flame effects per NFPA 160. Additional 20 lb units with 20 ft (6 m) separation.	In labs, not in classrooms. Additional 20 lb units with 20 ft (6 m) separation.		In labs only. Additional 5 lb units with 20 ft separation.						Amounts per dwelling		

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For SI units, 1 lb = 0.45 kg; 1 oz = 0.028 kg.

<sup>a</sup> 1 lb maximum cylinder

Table 8.3.1(b) Maximum Allowable Storage Quantities of LP-Gas in Mercantile, Industrial, and Storage Occupancies

Occupancy	Mercantile	Industrial	Storage
<b>Maximum Allowable Quantity (MAQ):</b> Storage (state units: lb, gal, etc.)	200 lb (1 lb maximum/cylinder)	300 lb	300 lb
<b>MAQ increases for:</b>	-	-	-
Total MAQ (including threshold) for cylinders stored in cabinets	200 lb	300 lb	300 lb
Total MAQ (including threshold) for cylinders protected by suppression	200 lb	300 lb	300 lb
Total MAQ (including threshold) for cylinders stored both in cabinets and in cabinets	200 lb	300 lb	300 lb

Occupancy	Mercantile	Industrial	Storage
protected by suppression			
Total MAO after any exemptions above (including threshold for other (describe))	1000 lb Separation of groups of 200 lb by 50 ft and a sprinkler density of 0.300 gpm (1.1 L/min) over the most remote 2000 ft <sup>2</sup> (18.6 m <sup>2</sup> ) area and 250 gpm (946 L/min) hose stream allowance	Additional 300 lb 300 ft separation	10,000 lb In special rooms or buildings per Chapter 10

**Commented [IA2]:** Technically this is unachievable

**Commented [IA3]:** What do these add

For SI units, 1 lb = 0.45 kg; 1 gpm = 3.8 L/min; 1 ft = 0.3 m; 1 ft<sup>2</sup> = 0.09 m<sup>2</sup>.



## Public Comment No. 75-NFPA 58-2018 [ Section No. 8.4.2 ]

### 8.4.2 Protection of Cylinders.

**8.4.2.1**— \* Cylinders at a location open to the public shall be placed on shelves constructed of materials with a flame spread index, in accordance with ASTM E84, Standard Test Method for Surface Burning Characteristics of Building Materials, or ANSI/UL 723, Standard for Test for Surface Burning Characteristics of Building Materials, of less than 25 and shall be of sufficient strength to support the cylinders.

**8.4.2.2** Cylinders at a location open to the public shall be protected by either of the following:

- (1) An enclosure in accordance with 6.21.4.2
- (2) A lockable ventilated enclosure of metal exterior construction

### **8.4.2.2.3** \*

Vehicle barrier protection (VBP) shall be provided where vehicle traffic is expected at the location, except where cylinders are protected in accordance with 8.4.2.1(2).

### Statement of Problem and Substantiation for Public Comment

The information from the annex regarding the fire safety of the shelves is better placed in the body of the standard rather than in the annex, which is not mandatory. Note that ASTM E84 is a suitable test for shelving material as well as for building materials. Note also that an associated annex note is being proposed that clarifies that materials such as steel, aluminum, concrete or gypsum board are known to exhibit a flame spread index of less than 25 when tested to ASTM E84. On the other hand, traditional wood (unless properly treated, for example by coating or impregnation) would typically not comply with these requirements.

### Related Public Comments for This Document

<u>Related Comment</u>	<u>Relationship</u>
Public Comment No. 76-NFPA 58-2018 [New Section after A.8.4.1]	
<u>Related Item</u>	
• PI166	

### Submitter Information Verification

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**Submission Date:** Fri May 04 14:08:32 EDT 2018  
**Committee:**



## Public Comment No. 10-NFPA 58-2018 [ Section No. 9.4.4.3 ]

### 9.4.4.3

Cargo tank openings whose only function is for pump bypass return shall be provided with one of the following:

- (1) A positive shutoff valve capable of being secured in the open position and located as close to the tank as practical ~~in combination with~~ and a steel backflow check valve installed in the tank
- (2) An internal valve with excess-flow protection
- (3) A valve that is specifically recommended and listed by the manufacturer for bypass return service and that meets the requirements of 6.20.2.3

### Statement of Problem and Substantiation for Public Comment

PI-174 to make a global change to substitute "and" for "in combination with" throughout the Code was rejected by the committee. The committee stated; "The committee does not agree that the phrase "in combination with" is misleading or confusing in all instances".

The term "in combination with" refers to two valves installed in series at a container. Substituting "and" simplifies the text and prevents misinterpretation. The phrase, "in combination with" has been interpreted to mean that the 2 valves must be combined in a single valve body, which is not the intent.

This, and other, comments are submitted individually so that each use of "in combination with" can be viewed separately.

### Related Public Comments for This Document

<u>Related Comment</u>	<u>Relationship</u>
<a href="#">Public Comment No. 1-NFPA 58-2018 [Section No. 5.9.4.1(C)]</a>	
<a href="#">Public Comment No. 2-NFPA 58-2018 [Section No. 5.9.4.1(D)]</a>	
<a href="#">Public Comment No. 3-NFPA 58-2018 [Section No. 5.9.4.2(A)]</a>	
<a href="#">Public Comment No. 4-NFPA 58-2018 [Section No. 5.9.4.2(D)]</a>	
<a href="#">Public Comment No. 5-NFPA 58-2018 [Section No. 5.9.4.2(E)]</a>	
<a href="#">Public Comment No. 6-NFPA 58-2018 [Section No. 5.9.4.2(F)]</a>	
<a href="#">Public Comment No. 7-NFPA 58-2018 [Section No. 5.9.4.2(H)]</a>	
<a href="#">Public Comment No. 8-NFPA 58-2018 [Section No. 5.9.7.1]</a>	
<a href="#">Public Comment No. 9-NFPA 58-2018 [Section No. 6.27.3.9]</a>	

#### Related Item

- PI-174

### Submitter Information Verification

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**Submittal Date:** Wed Mar 14 15:07:49 EDT 2018  
**Committee:**

**Public Comment No. 90-NFPA 58-2018 [ Section No. 9.4.8 ]****9.4.8\* Wheel Stops for Cargo Tank Vehicles.**

Each cargo tank vehicle or trailer shall utilize wheel stops, in addition to the parking or hand brake, to prevent ~~movement in either direction~~ movement whenever the cargo tank vehicle is loading, unloading, or parked.

**Statement of Problem and Substantiation for Public Comment**

The phrase "in either direction" is redundant whenever the objective is to prevent the cargo tank vehicle from moving. Professional truck drivers will be able to determine whether a wheel stop needs to be placed in front of, in back of or on both sides of a wheel. It would be useless (and silly) to require a wheel stop to be placed on the front side of a tire if the truck is parked on a rearward slope.

**Related Item**

- FR No. 134

**Submitter Information Verification**

**Submitter Full Name:** Bruce Swiecicki

**Organization:** National Propane Gas Associati

**Affiliation:** Myself

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**State:**

**Zip:**

**Submittal Date:** Mon May 07 16:10:12 EDT 2018

**Committee:**

**Public Comment No. 65-NFPA 58-2018 [ Section No. 11.3.1.4 ]****11.3.1.4**

Containers that have been involved in a fire and show no distortion shall comply with the following:

**(A)**

Cylinders shall be requalified in accordance with CGA C-6, *Standard for Visual Inspection of Steel Compressed Gas Cylinders*, for continued service before being used or reinstalled.

**(B)**

Cylinders shall be requalified by a manufacturer of the type of cylinder or by a repair facility approved by DOT.

**(C)**

ASME or API-ASME containers shall be inspected and requalified in compliance with the requirements of NBBI NB23, *National Board Inspection Code*.

**(D)**

All container appurtenances shall be replaced.

**(E)**

DOT 4E specification (aluminum) cylinders or composite cylinders involved in a fire shall be permanently removed from service.

**Statement of Problem and Substantiation for Public Comment**

Committee Statement should read "This revision clarifies that CGA Publication C-6 applies only to steel cylinders." C-6.3 applies to aluminum cylinders.

**Related Item**

• FR 13

**Submitter Information Verification**

**Submitter Full Name:** Thomas Deary

**Organization:** Compressed Gas Association

**Street Address:**

**City:**

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**Zip:**

**Submittal Date:** Tue May 01 08:57:50 EDT 2018

**Committee:**

**Public Comment No. 52-NFPA 58-2018 [ New Section after 11.4.1.5 ]**

**11.4.1.6 Systems complying with the provisions of 6.30.5 shall have a water-resistant and weather-resistant label placed near the bleeder valve with the following text: "Do not use fixed maximum liquid level gauge at low emission transfer stations."**

**Statement of Problem and Substantiation for Public Comment**

With the addition of provisions for filling cylinders according to low-emission transfer concepts (See FR numbers 113 and 114), and since different containers could be filled at low-emission transfer stations, having the label warning against using the fixed maximum liquid level gauge at low-emission transfer stations is appropriate, no matter what type of container is being filled.

**Related Item**

• FR 40 • FR 113 • FR 114

**Submitter Information Verification**

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**Submission Date:** Mon Apr 30 13:35:33 EDT 2018

**Committee:**

**Public Comment No. 24-NFPA 58-2018 [ Section No. 11.10.1.2 ]****11.10.1.2\***

Piping ~~(including hose)~~ Pipe, tubing, and hoses shall be installed in a manner that protects it from damage due to accidental contact with stationary objects, impact from stones, mud, or ice, or a vehicular accident.

**Statement of Problem and Substantiation for Public Comment**

Editorial. The parenthetical "(including hose)" is deleted and pipe, tubing, and hose are substituted.

**Related Item**

- PI-215

**Submitter Information Verification**

**Submitter Full Name:** Theodore Lemoff

**Organization:** TLemoff Engineering

**Affiliation:** TLemoff Engineering

**Street Address:**

**City:**

**State:**

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**Submittal Date:** Wed Mar 21 15:13:55 EDT 2018

**Committee:**

**Public Comment No. 66-NFPA 58-2018 [ Section No. 11.11.2.2 ]****11.11.2.2**

Universal cylinders shall be permitted to be filled in the vertical position or in the horizontal position ~~when~~ (provided the positioning hole or slot is in the proper orientation) .

**Statement of Problem and Substantiation for Public Comment**

Concurring with ASME B56.11 terminology.

**Related Item**

- FR 54

**Submitter Information Verification**

**Submitter Full Name:** Thomas Deary

**Organization:** Compressed Gas Association

**Street Address:**

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**Submittal Date:** Tue May 01 09:00:58 EDT 2018

**Committee:**

**Public Comment No. 18-NFPA 58-2018 [ Section No. 11.11.3.1 ]****11.11.3.1**

Hose used in vapor service and greater than ~~60 in~~ 5 ft . (1.5 m) in length shall be of stainless steel wire braid construction.

**Statement of Problem and Substantiation for Public Comment**

Editorial. Hose length is changed to feet, rather than inches. In all other locations the dimension of 5 ft is in feet, and not in inches. There is no reason to use 5 ft for everything but hose length.

**Related Item**

- FR-55

**Submitter Information Verification**

**Submitter Full Name:** Theodore Lemoff

**Organization:** [ Not Specified ]

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Mon Mar 19 12:54:36 EDT 2018

**Committee:**

**Public Comment No. 101-NFPA 58-2018 [ New Section after 12.2 ]****12.2 Definitions.****12.2.1 Distribution Block.**

The connection point between the fuel line and fuel rail that can also include connection for other devices such as, but not limited to, pressure or temperature sensing.

**12.2.2 Direct Injection.**

A fuel injection system that delivers LP-Gas fuel through a fuel injector, directly into the combustion chamber at high pressures, as opposed the injection of fuel into the intake manifold air flow stream, upstream of and prior to the intake valve opening.

**12.2.3 Fuel Switching Device.**

A component used in some direct injections systems, which is used to switch between fuels of a bifuel powered vehicle.

**12.2.4 Fuel Rail.**

A manifold, pipe, or duct that connects or retains the fuel injection devices for the purpose of providing fuel supply to each injector.

**12.2.5 Manifold ASME Container.**

An ASME container that consists of two or more interconnected containers that are fabricated by the original manufacturer and that are connected by rigid, integral, nonremovable liquid and vapor passages, braced to form a single rigid unit, and certified under ASME Section VIII as a single pressure vessel.

**12.2.6 Power Supply Bushing.**

A sealed fitting that is installed in a container opening or multifunction valve body that seals conductors passing from the inside to the outside of the pressure vessel for the purposes of supplying electrical signals or operating voltage to electrical/electronic components located inside the pressure containment area of an ASME container.

**12.2.7 Prestart Purge Mode.**

A process whereby a mechanical or electromechanical device is used to permit fuel flow through the engine supply and return lines, generally on fuel injection systems, to ensure all vapor is removed from the lines prior to engine start.

**12.2.8 Purge Valve.**

A mechanical or electromechanical device used to permit fuel flow through the engine supply and return lines, generally on fuel injection systems, to ensure all vapor is removed from the lines prior to engine start.

**12.2.9 Unibody.**

A vehicle with a frame and body that are constructed as a single assembly that does not have a separate frame on which the body is mounted.

**Statement of Problem and Substantiation for Public Comment**

These definitions should stay in Chapter 12 for the simple fact that industry is trying to get this information to AutoGas mechanics. A "stand alone" Chapter 12 is desirable because Autogas mechanics will not need to learn the entire NFPA 58. Allowing them to focus on one chapter and become the experts that the industry needs will advance safety within that segment of the LP-gas industry.

**Related Item**

- FR 18

**Submitter Information Verification**

**Submitter Full Name:** Bruce Swiecicki

**Organization:** National Propane Gas Associati

**Affiliation:** TS&S Chapter 12 Task Force

**Street Address:**

**City:**

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**Submittal Date:** Tue May 08 19:11:27 EDT 2018

**Committee:**

**Public Comment No. 91-NFPA 58-2018 [ Section No. 12.3.1.3(A) ]****(A)\***

Evaluations and testing shall be performed by an ~~accredited~~-approved testing laboratory.

**Statement of Problem and Substantiation for Public Comment**

The term "accredited" is vague and not typically used in the code. The term "approved" is defined and a commonly used term. The annex material for this section can remain, as it addresses a resource that can be used by the code official to approve a testing laboratory.

**Related Item**

• FR 27

**Submitter Information Verification**

**Submitter Full Name:** Bruce Swiecicki

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**Affiliation:** Myself.

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**Submittal Date:** Mon May 07 16:26:28 EDT 2018

**Committee:**

**Public Comment No. 67-NFPA 58-2018 [ Section No. 12.3.2.8.2 ]****12.3.2.8.2**

The label or stamping shall be ~~stamped or attached~~ adjacent to the inlet and outlet openings and designate the vapor or liquid service of the opening.

**Statement of Problem and Substantiation for Public Comment**

The first revision language requires that a label be stamped, which is not practical.

**Related Item**

- FR 155

**Submitter Information Verification**

**Submitter Full Name:** Thomas Deary

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**Submittal Date:** Tue May 01 09:10:03 EDT 2018

**Committee:**

**Public Comment No. 17-NFPA 58-2018 [ Section No. 12.3.5.4 ]****12.3.5.4**

For ASME containers manufactured after January 1, 2020, ~~the fill connection shall be~~ shall have a fill connection of the quick-connect/release Type K15 in accordance with ISO/DIS 19825, *Road vehicles — Liquefied petroleum gas (LPG) refuelling connector*.

**Statement of Problem and Substantiation for Public Comment**

Editorial. A paragraph should not begin with "for".

**Related Item**

- PI-59

**Submitter Information Verification**

**Submitter Full Name:** Theodore Lemoff

**Organization:** [ Not Specified ]

**Street Address:**

**City:**

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**Submittal Date:** Mon Mar 19 11:58:14 EDT 2018

**Committee:**



## Public Comment No. 25-NFPA 58-2018 [ Section No. 12.3.9 ]

### 12.3.9 Fuel Injectors, Fuel Rails, and Distribution Blocks.

#### 12.3.9.1

Fuel injectors, injector rails, and distribution blocks and fuel-switching devices shall comply with the requirements of ECE R67.01, Annex 11.

#### 12.3.9.

~~2 \*~~ –

~~Electrical connections for injectors shall be automotive grade and shall plug into the harness with either a direct connection using the same connector or an adapter.~~

~~12.~~

#### 3

~~.9.3~~

~~\*~~

~~Fuel rails and distribution blocks shall be fabricated from corrosion-resistant materials compatible with LP-Gas and other fluids in the engine compartment and shall be rated for the maximum design pressure within the system.~~

#### 12.3.9.4 –

~~Fuel rails and distribution blocks shall be marked with the model number,~~

~~MAWP~~

~~maximum operating pressure , and manufacturer's name or designation .~~

#### 12.3.9.

~~5–~~

~~Distribution blocks and other components on systems operating at pressures greater than 350 psig (2.4 MPag) shall be designed and rated for their intended pressures and shall incorporate into their design a means for protecting downstream fuel lines and components that are designed for a lower operating pressure, from exposure to pressures in excess of their ratings.~~

~~12.3.9.~~

#### 6 \* –

~~Distribution blocks and other components that are capable of retaining liquid between two positive shutoff valves shall have a means to protect the system from pressures exceeding its rated maximum operating pressure.~~

#### 12.3.9.7 –

~~Fuel-switching devices used on bifuel vehicles shall be designed to prevent the unintended migration of either fuel into the container or piping system of the other fuel.~~

#### 12.3.9.8 –

~~Fuel-switching devices shall be marked with a MAWP that is equal to or greater than that of the systems they are installed in.~~

### Statement of Problem and Substantiation for Public Comment

PI-129 was not accepted with the statement "There are several requirements within this section that deemed to be important for the installer and AHJ to approve an LP-Gas fuel system conversion". Unfortunately the committee did not identify which of the 8 items were needed.

12.3.9.2 is deleted as it is an electrical installation requirement. NFPA 58 does not contain electrical installation requirements, and this subject is outside the scope of NFPA 58. If needed, an automotive electrical standard should be referenced.

12.4.9.4 is revised by (1) substituting "maximum operating pressure" for "MAWP. MAWP is a pressure vessel term, and (2) adding "or designation" to allow a manufacturer to use a logo or name other than the company name.

12.4.9.5 is deleted as it duplicates the requirement in 12.4.9.3 that all components to be rated of the maximum design pressure of the system.

12.4.9.7 and 12.4.9.8 are on fuel switching devices which are not fuel gas rails or distribution blocks and do not belong in this section. If the committee believe that these paragraphs are needed, they could be relocated, possibly to 12.13 Fuel Lockoffs.

#### Related Item

- PI-129

### Submitter Information Verification

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**Submittal Date:** Wed Mar 21 16:00:54 EDT 2018

**Committee:**

**Public Comment No. 94-NFPA 58-2018 [ New Section after 12.3.11.7 ]****TITLE OF NEW CONTENT**

12.3.11.7 Quick-connect fittings shall be rated by the manufacturer for the specific application and use.

**Statement of Problem and Substantiation for Public Comment**

Liquid fuel injection systems have for many years successfully utilized quick connect fittings that are specifically designed for this application. Keeping this text in the code will help clarify for AHJs that this is acceptable practice.

Having this in the code in a positive manner rather than assuming that quick connect fuel line fittings are allowed because they are not dis-allowed is beneficial for autogas mechanics and AHJ's looking for specifics in systems that use much newer technologies than what they may be used to seeing.

**Related Item**

- FR 35

**Submitter Information Verification**

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**Submittal Date:** Mon May 07 17:44:27 EDT 2018

**Committee:**

**Public Comment No. 98-NFPA 58-2018 [ New Section after 12.3.14 ]****TITLE OF NEW CONTENT**

**12.3.15** Evaporative Emissions Control.

**12.3.15.1** LP-Gas system evaporative emissions control devices shall be controlled by the LP-Gas system controller.

**12.3.15.2** LP-Gas system evaporative emissions control devices shall be designed so that all captured vapors are retained and controlled.

**Statement of Problem and Substantiation for Public Comment**

Evaporative emissions controls are very much a part of a propane autogas system. The system may have propane in the components and should be treated as a hazard. Even though evaporative emissions controls are commonly associated with environmental concerns, there is definitely a safety component to these systems as well.

**Related Item**

- FR 80

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**State:**

**Zip:**

**Submittal Date:** Mon May 07 18:50:15 EDT 2018

**Committee:**

**Public Comment No. 95-NFPA 58-2018 [ New Section after 12.3.14.4 ]****TITLE OF NEW CONTENT**

12.3.14.4 Soldered connections shall be sealed with automotive grade shrink insulation.

**Statement of Problem and Substantiation for Public Comment**

This text is necessary to establish the means for protecting soldered connections. It is an improvement over the previous text in 12.4.14.4.

**Related Item**

• FR 71

**Submitter Information Verification**

**Submitter Full Name:** Bruce Swiecicki

**Organization:** National Propane Gas Associati

**Affiliation:** Myself.

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**Submittal Date:** Mon May 07 17:58:04 EDT 2018

**Committee:**



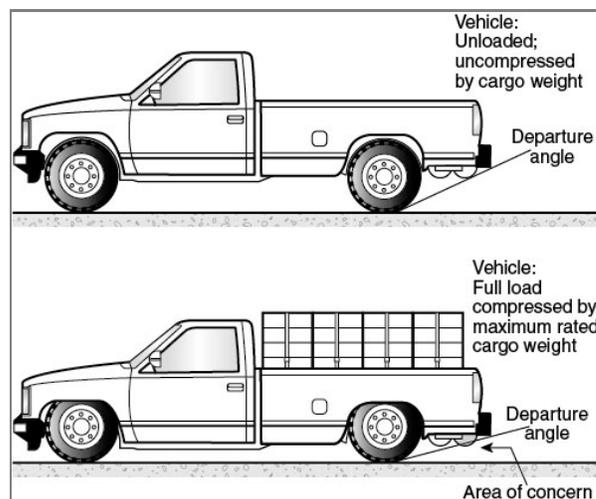
## Public Comment No. 102-NFPA 58-2018 [ Section No. 12.4.8 ]

### 12.4.8 ASME Container Protection.

ASME containers shall comply with the following:

- (1) ASME containers shall be located to minimize the possibility of damage due to external forces.
- (2) If mounted within 10 in. (254 mm) of the engine or the exhaust system, not including the catalytic converter, ASME containers shall be protected with a radiation heat shield located not less than 1 in. (25 mm) from the ASME container.
- (3) Adhesive heat shielding/radiant barriers that are recommended by the manufacturer for automotive application shall be permitted to be affixed to the ASME container.
- (4) Modifications of spare tire wells to accommodate the installation of ASME containers shall be permitted provided the space between the opening created in the tire well and the surface of the ASME container is sealed to prevent the infiltration of water and road debris.
- (5) ASME containers shall not be mounted within 8 in. (203 mm) of a catalytic converter unless thermal protection is provided to maintain the pressure in the container below the MAWP.
- (6) ASME containers shall not project beyond the side of the vehicle.
- (7) No part of an ASME container shall be located above the highest point of the vehicle as received from the manufacturer or ahead of the front axle of a self-propelled vehicle.
- (8) ASME containers located behind the rear axle of a passenger bus with frame and body that are constructed as a single assembly that does not have a separate frame on which the body is installed shall comply with all of the following:
  - (a) The vehicle bumper shall be reinforced by the addition of two 2 in. x 2 in. x 0.25 in. (50 mm x 50 mm x 6.4 mm) hollow square steel members (or equivalent) ~~installed between~~ attached to the existing bumper and the vehicle mounting points.
  - (b) An ASME container mounted behind the rear axle and under the vehicle shall be located as follows:
    - i. A minimum of 4 in. (100 mm) from the differential housing
    - ii. Not less than 12 in. (305 mm) from the rearmost point of the bumper to the ASME container, ASME container valve(s), or any ASME container appurtenance — unless the bumper is reinforced
    - iii. As high as practical without modifying the vehicle structure (see Figure 12.4.8) and in accordance with 12.4.7

Figure 12.4.8 ASME Container Mounted Behind the Rear Axle.



### Statement of Problem and Substantiation for Public Comment

This clarification will modify FR No. 24 by reverting to the intent of the original text, which was to ensure that the reinforcement was structurally sound and would perform effectively.

#### Related Item

- FR 24

### Submitter Information Verification

**Submitter Full Name:** Bruce Swiecicki  
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**Submittal Date:** Wed May 09 09:00:30 EDT 2018

**Committee:**

**Public Comment No. 96-NFPA 58-2018 [ Section No. 12.4.11 ]****12.4.11 Pressure Relief Valve Discharge System.**

The pressure relief valve discharge from an ASME container shall be in accordance with the following:

- (1) It shall be sized for the minimum required flow rate for all relief valves it serves .
- (2) It shall be directed upward or downward within 45 degrees of vertical.
- (3) It shall not directly impinge on the ASME container(s), the exhaust system, or any other part of the vehicle.
- (4) It shall not be directed into the interior of the vehicle.
- (5) Where the pressure relief valve discharge is piped away, the pipe-away system shall have a breakaway adapter in accordance with the following:
  - (a) The breakaway adapter shall have a melting point greater than the melting point of the hose or conduit connected to it for the purpose of redirecting discharged pressure.
  - (b) The adapter either shall be an integral part of the pressure relief valve or shall be a separate adapter attached directly to the pressure relief valve.
  - (c) The pipe-away system shall be permitted to utilize a length of nonmetallic hose or conduit with a melting point less than the pipe-away adapter connected to the pressure relief valve. The hose or conduit shall be permitted to have metallic reinforcement.
  - (d) The nonmetallic hose shall be as short as practical and shall be able to withstand the downstream pressure from the pressure relief valve in the full open position, and the hose shall be fabricated of materials resistant to the action of LP-Gas.
  - (e) Where hose is used to pipe away the pressure relief valve discharge on ASME containers installed on the outside of the vehicle, the breakaway adapter and any attached fitting shall deflect the pressure relief valve discharge upward or downward within 45 degrees of vertical and shall meet the other requirements of 11.8.5.1 without the hose attached, and if an additional fitting is necessary to meet this requirement, it shall have a melting point not less than that of the pipe-away adapter connected to the pressure relief valve or the discharge hose/conduit.
  - (f) The pipe-away system shall have a protective cover to minimize the possibility of the entrance of water or dirt into either the pressure relief valve or its discharge system, and the cover shall not restrict the flow.
  - (g) No portion of the system shall have an internal diameter less than the minimum internal diameter of the recommended breakaway adapter.
  - (h) The breakaway adapter either shall be threaded for direct connection to the pressure relief valve and shall not interfere with the operation of the pressure relief valve, or it shall be an integral part of the pressure relief valve and shall break away without impairing the function of the pressure relief valve.
  - (i) The pipe-away system connections shall be mechanically secured and shall not depend on adhesives or sealing compounds and shall not be routed between a bumper system and the vehicle body.
  - (j) Where a pipe-away system is not required, the pressure relief valve shall have a protective cap or cover to protect it from water or debris.

**Statement of Problem and Substantiation for Public Comment**

The changed text in FR No. 159 does not capture the need to ensure that the discharge system is sized properly. There is a required minimum flow rate for relief valves based on the surface area of the container and the discharge system must be sized properly to provide that relief capacity.

**Related Item**

- FR 72

**Submitter Information Verification**

**Submitter Full Name:** Bruce Swiecicki

**Organization:** National Propane Gas Associati

**Affiliation:** Myself.

**Street Address:**

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**Submittal Date:** Mon May 07 18:26:41 EDT 2018

**Committee:**

**Public Comment No. 68-NFPA 58-2018 [ New Section after 12.8 ]****12.9 Fuel Rails and Distribution Blocks****12.9.1**

Fuel rails and distribution blocks shall be installed so that vibration, rubbing, and abrasion will not damage or affect their operation.

**12.9.2**

Fuel rails and distribution blocks shall be installed in accordance with the manufacturer's recommendations.

**12.9.3**

The mounting position of fuel rails and distribution blocks shall be accessible to connections for service and inspection.

**12.9.4**

Fuel rails shall be mounted so there is no relative movement between the fuel rails and the engine.

**12.9.5**

The use of tie straps or other nonrigid mounting of fuel rails shall not be permitted.

**12.9.6**

Fuel rails shall not be mounted to any portion of the exhaust system.

**12.9.7**

Fuel rails shall be mounted to brackets with fasteners that are stainless steel, plated, or otherwise protect the rail body from corrosion.

**Statement of Problem and Substantiation for Public Comment**

If this section is removed, there is no guidance in NFPA 58 or in any other technical documents regarding fuel rails in propane vehicles.

**Related Item**

- FR 75

**Submitter Information Verification**

**Submitter Full Name:** Thomas Deary

**Organization:** Compressed Gas Association

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**Submittal Date:** Tue May 01 09:13:22 EDT 2018

**Committee:**

**Public Comment No. 97-NFPA 58-2018 [ New Section after 12.9 ]****TITLE OF NEW CONTENT****12.9 Fuel Rails and Distribution Blocks.**

**12.9.1 Fuel rails and distribution blocks shall be installed so that vibration, rubbing, and abrasion will not damage or affect their operation.**

**12.9.2 Fuel rails and distribution blocks shall be installed in accordance with the manufacturer's recommendations.**

**12.9.3 The mounting position of fuel rails and distribution blocks shall be accessible to connections for service and inspection.**

**12.9.4 Fuel rails shall be mounted so there is no relative movement between the fuel rails and the engine.**

**12.9.5 The use of tie straps or other nonrigid mounting of fuel rails shall not be permitted.**

**12.9.6 Fuel rails shall not be mounted to any portion of the exhaust system.**

**12.9.7 Fuel rails shall be mounted to brackets with fasteners that are stainless steel, plated, or otherwise protect the rail body from corrosion.**

**Statement of Problem and Substantiation for Public Comment**

A comment from a major LP-gas engine conversion company: "In coming from the Performance Automotive Aftermarket to the AutoGas conversion market... I don't think that there was anything more unsafe in the Autogas market than what I witnessed was acceptable in mounting fuel rails/injectors and other components in a vehicle. I have seen fuel rails sitting on alternators wearing away so that when the rail failed it would shoot liquid propane into the alternator. of all these proposed changes to NFPA 58 ch 12... I would think that the removal of this code text would be the most detrimental to the Autogas industry as a whole and its future."

This code text should be put back into the code.

**Related Item**

- FR 75

**Submitter Information Verification**

**Submitter Full Name:** Bruce Swiecicki

**Organization:** National Propane Gas Associati

**Affiliation:** Myself

**Street Address:**

**City:**

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**Zip:**

**Submittal Date:** Mon May 07 18:39:37 EDT 2018

**Committee:**

**Public Comment No. 31-NFPA 58-2018 [ Section No. 12.10.3 ]****12.10.3**

Fuel lockoffs shall be ~~mounted~~ installed in accordance with manufacturer's recommendations and shall be installed to prevent movement or damage from vibration.

**Statement of Problem and Substantiation for Public Comment**

Mounted is not used in NFPA 58 to mean installed. Installed is the proper term.

**Related Item**

- FR-24

**Submitter Information Verification**

**Submitter Full Name:** Theodore Lemoff

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**Submittal Date:** Wed Apr 11 11:51:17 EDT 2018

**Committee:**


**Public Comment No. 69-NFPA 58-2018 [ Section No. 13.7.1 ]**
**13.7.1**

Spacing of refrigerated LP-Gas containers designed to operate at greater than 15 psi (103 kPa) from ~~important~~ occupied buildings, storage containers for flammable or combustible liquids or flammable gases, and lines of adjoining property that can be built upon shall be in accordance with Table 13.7.1.

Table 13.7.1 Minimum Distances for LP-Gas Containers That Operate Above 15 psi (103 kPa)

<u>Water Capacity per Container</u>		=	<u>Aboveground Containers</u>	
<u>gal</u>	<u>m<sup>3</sup></u>	=	<u>ft</u>	<u>m</u>
≤70,000	≤265	-	75	23
70,001–90,000	>265–341	-	100	30
90,001–120,000	>341–454	-	125	38
120,001–200,000	>454–757	-	200	61
200,001–1,000,000	>757–3785	-	300	91
>1,000,000	>3785	-	400	122

**Statement of Problem and Substantiation for Public Comment**

"Important building" is not defined and use of this term may be misleading.

Related Item

- FR 130

**Submitter Information Verification**

**Submitter Full Name:** Thomas Deary

**Organization:** Compressed Gas Association

**Street Address:**

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**Submission Date:** Tue May 01 09:17:37 EDT 2018

**Committee:**


**Public Comment No. 70-NFPA 58-2018 [ Section No. 13.7.2 ]**
**13.7.2**

Spacing of refrigerated LP-Gas containers that operate at 15 psi (103 kPa) or less from ~~important~~ occupied buildings, storage containers for flammable or combustible liquids or flammable gases, and lines of adjoining property that can be built upon shall be in accordance with Table 13.7.2.

Table 13.7.2 Minimum Distances for LP-Gas Containers That Operate At 15 psi (103 kPa) or Less

<u>Water Capacity per Container</u>		=	<u>Aboveground Containers</u>	
<u>gal</u>	<u>m<sup>3</sup></u>	=	<u>ft</u>	<u>m</u>
≤70,000	≤265	-	75	25
>70,000	>265	-	100	30

**Statement of Problem and Substantiation for Public Comment**

"Important building" is not defined and use of this term may be misleading.

Related Item

- FR 131

**Submitter Information Verification**

**Submitter Full Name:** Thomas Deary

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**Submission Date:** Tue May 01 09:19:54 EDT 2018

**Committee:**

**Public Comment No. 30-NFPA 58-2018 [ Section No. A.3.3.23.1.1 ]****A.3.3.23.1.1 – Propane LP-Gas Dispenser. –**

Propane LP-Gas systems are specifically designed to fuel over-the-road vehicles utilizing low emission transfer equipment. LP-Gas dispensers are not designed to fill portable cylinders, since fixed maximum liquid level gauges cannot be used in low emission transfer settings.

**Statement of Problem and Substantiation for Public Comment**

With the deletion of the definition in a separate proposal, the explanatory text is no longer needed.

**Related Item**

- CI-141

**Submitter Information Verification**

**Submitter Full Name:** Theodore Lemoff

**Organization:** TLemoff Engineering

**Affiliation:** None

**Street Address:**

**City:**

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**Zip:**

**Submittal Date:** Tue Mar 27 09:29:12 EDT 2018

**Committee:**



## Public Comment No. 39-NFPA 58-2018 [ New Section after A.4.5 ]

### A.4.8

The independent inspector can be the Authority Having Jurisdiction, insurance company, independent consultant, or for a company with multiple plants, an inspector who reports to a central safety or engineering group. The intent of the inspection is to verify that the plant has not been altered since construction, and that any revisions mandated by the Code since have been implemented.

### Statement of Problem and Substantiation for Public Comment

This resubmits a PI that was resolved because a corresponding requirement in Chapter 4 was resolved. The Chapter 4 requirement is resubmitted separately, and assuming it is accepted by the committee this Annex A text is needed.

### Related Public Comments for This Document

<u>Related Comment</u>	<u>Relationship</u>
<u>Public Comment No. 38-NFPA 58-2018 [New Section after 4.7]</u>	
<u>Related Item</u>	
• PI-29	

### Submitter Information Verification

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**Submittal Date:** Wed Apr 25 13:50:32 EDT 2018  
**Committee:**



## Public Comment No. 42-NFPA 58-2018 [ New Section after A.4.7(2) ]

### TITLE OF NEW CONTENT

A.4.8.2 The qualified, independent inspector could be an AHJ, a representative of an insurance company, an independent consultant, an employee from the company home office or safety department and not in the chain of command for the branch office being inspected, or another inspector acceptable to the AHJ.

A.4.8.3 The intent of the inspection is to verify that the safety features of the plant have not been improperly altered since construction, that features for closing safety equipment operate properly, that any revisions mandated by the Code since construction have been implemented, and that any additions comply with the Code.

### Statement of Problem and Substantiation for Public Comment

The committee's statement for resolving PI-28 was "Bulk plant maintenance is covered in Chapter 15. It is designated to the AHJ as part of their responsibility to inspect the plant." It is true that maintenance is covered in Chapter 15. It is not true that inspection of a bulk plant or industrial plant is designated to an AHJ as part of their responsibility anywhere in Chapter 15 or any other part of NFPA 58. Section 1.7 designates enforcement to the AHJ. This could be enforcement after reviewing the inspections in 4.8.4. Chapters 13 and 14 require inspection prior to operation of refrigerated containers and marine terminals, but even these are not designated to the AHJ. There are many instances where the AHJ is authorized to require inspections, such as section 4.3.3, railcar to transport transfers. Even these do not designate the AHJ as responsible for the inspection.

A query to AHJs concerning long intervals between inspections resulted in a reply that, in Oregon, where the bulk plants are limited to a roughly three-year inspection rotation, the AHJ regularly finds valves and safety releases that do not function freely. He attributes these failures to a long interval between inspections. However, their funding does not support inspections on an annual basis, even though this is mandated. Inspections of bulk and industrial plants in a region of North Carolina were limited until recently because the inspector for that region was directed to inspect for a special need addressing a residential tank concern and did not work for an extended time due to medical issues. When a new inspector was hired, the bulk plants that had not been inspected for about three years had a variety of rejections that could be attributed to a lack of inspections, including a failure of site personnel to perform various maintenance activities listed in their maintenance procedures.

There are several states with no active AHJ inspection programs. This was recognized by the committee several years ago when a proposal to require the AHJ to approve plans for bulk plant sites was modified because there were many jurisdictions without an active AHJ. See ROP for 2001 edition, #CP130. Even where we inspect bulk plants on an annual basis, it is not unusual to find places where an ESV has been blocked or wired open or an internal valve has been blocked open, defeating the remote shutdown and, possibly, the thermal shutdown of these safety valves.

#### Related Item

- PI 29

### Submitter Information Verification

**Submitter Full Name:** Richard Fredenburg  
**Organization:** State of North Carolina  
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**City:**  
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**Submittal Date:** Thu Apr 26 14:59:33 EDT 2018  
**Committee:**

**Public Comment No. 44-NFPA 58-2018 [ New Section after A.5.11.5.5 ]**

A.5.9.8.1(H) The opening of a container is to be equipped with a device that stops flow from that opening in case of a pipe break leading to or from that opening. A back-check valve is usually used where flow is only into the container. An excess-flow check valve is often used as a discrete component or as part of an internal valve where flow may be into or out of the container. For piping from the container, the excess-flow capacity is to be determined so that flow is stopped or minimized in case of a pipe break. It needs to be realized that restrictions downstream (pipe reducers, filters, pipe fittings, etc.) may render the container-opening device incapable of stopping flow from a break far downstream. Additional excess-flow check valves may be required when the flow capacity is such reduced. .

**Statement of Problem and Substantiation for Public Comment**

Container openings are often larger than piping downstream. There may be branches from the line, various fittings or devices that cause flow restrictions, or pipe size reductions that render the device at the container opening incapable of protecting the opening. This change provides information about protecting the container opening to the pipe designer/installer for additional considerations that may need to be made.

**Related Item**

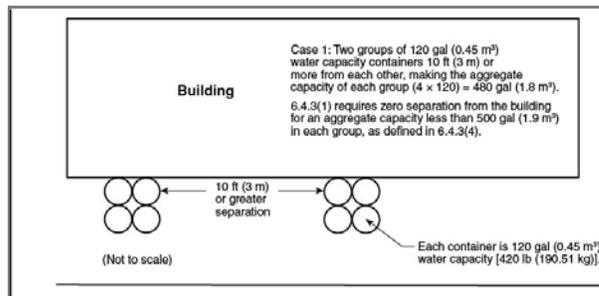
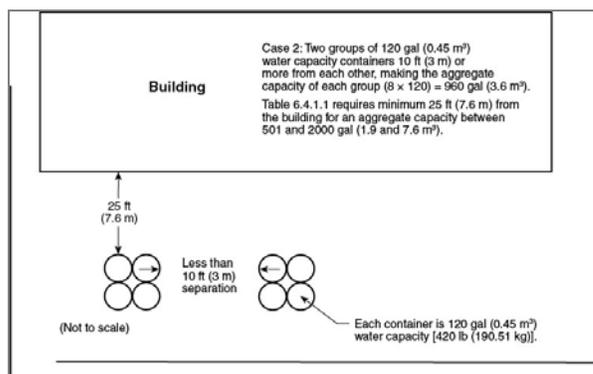
- PI 9

**Submitter Information Verification**

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**Submission Date:** Thu Apr 26 15:19:13 EDT 2018  
**Committee:**


**Public Comment No. 105-NFPA 58-2018 [ Section No. A.6.4.3(4) ]**
**A.6.4.3(4)**

Figure A.6.4.3(4)(a) and Figure A.6.4.3(4)(b) depict the requirements of 6.4.3(4).

**Figure A.6.4.3(4)(a) Separation Between Containers 40- 25 ft (3- 7.6 m) or Greater. [Also change figure to show 25 ft (7.6 m) required separation.]**

**Figure A.6.4.3(4)(b) Separation Between Containers Less Than 40- 25 ft (3- 7.6 m). [Also change figure to show 25 ft (7.6 m) required separation.]**

**Statement of Problem and Substantiation for Public Comment**

The reduction in separation requirements in (4) has no analysis to support it. There is only a comparison to tanks of a significant size difference. The supporting information in section A.6.4.3(4) is not to scale and misrepresents the separation. See GroupsAlongWall.jpg in PC-104 to see a photograph of container groups spaced 10 feet apart to see what impact this would have on the congestion of containers along a wall.

**Related Public Comments for This Document**
**Related Comment**

Public Comment No. 104-NFPA 58-2018 [Section No. 6.4.3]

**Relationship**

This is annex material for section 6.4.3.

**Related Item**

• FR-97

**Submitter Information Verification**

**Submitter Full Name:** Richard Fredenburg

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**Street Address:**

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**Submittal Date:** Wed May 09 12:09:18 EDT 2018

**Committee:**



Public Comment No. 45-NFPA 58-2018 [ New Section after A.6.5.4 ]

**A.6.5.4.2 Suggested Format for the Enclosure Analysis.** The following format for an enclosure analysis could satisfy the code requirement and provide enough information for the authority having jurisdiction to evaluate the request [with applicable code references in brackets]:

- (1) Location of the site – Name and physical address of site.
- (2) Drawing and/or photos - A drawing or photos are not specifically required for the enclosure analysis, but may aid in the understanding of the site and situation by the person reviewing the analysis.
- (3) Evaluation for potential of enclosure to allow pocketing of gas – Determine if the enclosure hinders ventilation or has low points that foster accumulation of gases. Any structure closed for more than 50% of its perimeter will require technical justification that gases will not pocket and will disperse.
- (4) Evaluation of sources of ignition –
  - (5) Demonstrate that there are no electrical sources of ignition or other electrical devices that do not comply with Table 6.25.2.2. The classes are determined by distances or directions, as described below:
    - (6) Class I, Div. 1: 5 feet from filling connections, gauge vent openings, cylinder filling, or in the direct path of pressure relief valve discharges or the interior of a vehicle fuel dispenser cabinet
    - (7) Class I, Div. 2, 15 feet from container connections, pumps, and cylinder filling, 5 – 15 feet from gauge vent openings, up to 18 in. within 20 feet of a vehicle fuel dispenser cabinet
  - (8) Demonstrate that there are no other sources of ignition (spark-producing tools, lit smoking materials, stored or accumulated flammable materials, etc.) present or brought into the area regularly. [6.25.3.3]
  - (9) Description of signs and administrative controls to prevent introduction of sources of ignition may be appropriate.
- (10) Evaluation of releases from the tank and piping – Consideration of the following concerns and how they have been assured to comply. (It is intended that this item be evaluated by someone familiar with propane containers and equipment; not emergency responders.):
  - (11) Relief valve concerns:
    - (12) Is the discharge from the relief valve(s) directed upward and unobstructed to the open air? [6.9.2.3]
    - (13) Is placement of the relief valve relative to a cover over the tank such that the valve discharge cannot be deflected? [6.9.2.3]
    - (14) If piping is used to direct relief valve discharges through the cover, is the discharge opening of the relief valve designed and intended to have discharge piping? (This would depend on manufacturer's design, instruction, and/or valve listing.)
    - (15) If piping from the relief valve has been used, has it been designed so that it does not restrict the flow rate from the relief valve? [6.9.2.14]
  - (16) Other piping concerns: [A.6.5.4]
    - (17) Is piping routed so that a break would not direct the escaping fuel toward the tank?
    - (18) Have other features that would redirect escaping fuel or flames toward the tank been eliminated?
- (19) Evaluation of enclosure to hinder application of cooling water [A.6.5.4] – The local emergency responders (fire department) or fire marshal should provide a written statement that enclosures over or around the tank(s) will not hinder their application of cooling water to the tank(s). (A statement that they can fight a fire at the site is normally not sufficient.)
  - (20) The statement should include:
    - (21) business name and address of the site evaluated
    - (22) date
    - (23) evaluator printed name, signature, and position
    - (24) contact information for the fire marshal, fire chief, or other responsible fire service official.
    - (25) Statement that enclosures will not interfere with application of cooling water to tank(s).
    - (26) Use of the evaluator's organization letterhead would be beneficial but is not required.
  - (27) Consideration by the emergency responders should be given to the:
    - (28) Availability of water for applying to the tank and for fighting other fires on the site
    - (29) Height of the cover and clearance between tank and cover
    - (30) Height of walls near a tank
    - (31) Access directions
    - (32) Any other features deemed important.
- (33) Evaluation of impeding egress of personnel during an emergency – Does the enclosure meet the egress requirements of section 6.21.4.2? Are there impediments other than a fence that could hinder egress?

(34) Documentation details– Include the name of the enclosure analysis submitter and position within the organization, date completed, and contact information.

#### Statement of Problem and Substantiation for Public Comment

Determining the format and content of the enclosure analysis was not a trivial effort. Neither was it overly cumbersome. The scant guidance in the annex, A.6.5.4, gave enough direction to find other parts of the code that were appropriate and where precedence was established. From that, a description of the enclosure analysis was developed. A complete description of the enclosure analysis (using terms from the 2017 edition, i.e., fire protection analysis) in use in North Carolina is shown on our web site at [www.ncagr.gov/standard/LP/LPgasConcerns/FireProtectionAnalysis.htm](http://www.ncagr.gov/standard/LP/LPgasConcerns/FireProtectionAnalysis.htm). This proposed annex material provides far more information than the first revision changes to section 6.5.4 and allows for informed considerations and for input from fire-fighting experts.

#### Related Item

- FR 98

#### Submitter Information Verification

**Submitter Full Name:** Richard Fredenburg

**Organization:** State of North Carolina

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Mon Apr 30 10:08:09 EDT 2018

**Committee:**

**Public Comment No. 49-NFPA 58-2018 [ New Section after A.6.26.7.6 ]**

**A.6.27.3.3 The 50 percent ventilation requirement for dispensers and dispensing systems is intended to be sure that adequate ventilation is provided where either releases are expected or where releases may be expected when a device malfunctions, such as at a low-emission transfer site. Natural ventilation provided by open perimeters meet this intent. Also, enclosures where solid walls are open at the bottom by a gap to allow for natural ventilation could be acceptable to the AHJ. Such a gap should be at least six inches in height and nearly continuous for the length of the wall to allow the wall to be not counted as an enclosure. An area enclosing the transfer point would be expected to have this 50 percent openness, even when very large, as pocketing of escaped gas could occur.**

**Statement of Problem and Substantiation for Public Comment**

The committee's intent was expressed when it resolved Public Input No. 245, saying that specifying a large enclosed area and limiting wall height, was unenforceable. Also, comments during voting on restructuring of the openness requirement asked if a gap at the bottom of a wall could provide for sufficient ventilation. This is a common method to provide ventilation where some protection from the elements is desired at transfer points. This new annex material explains the committee's intent.

**Related Item**

- PI 245

**Submitter Information Verification**

**Submitter Full Name:** Richard Fredenburg

**Organization:** State of North Carolina

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Mon Apr 30 11:51:34 EDT 2018

**Committee:**



## Public Comment No. 76-NFPA 58-2018 [ New Section after A.8.4.1 ]

**A.8.4.2.1 It has been shown that, when tested in accordance with ASTM E84 , Standard Test Method for Surface Burning Characteristics of Building Materials, or ANSI/UL 723, Standard for Test for Surface Burning Characteristics of Building Materials, materials such as steel, concrete, gypsum board and aluminum would meet the requirements of a flame spread index of 25 or less. In contrast, the flame spread indices of some combustible materials can be much higher. Typically, untreated wood products will exhibit a flame spread index ranging between 50 and 200.**

*(Note that the acceptance of this public comment will require reintroduction of ASTM E84 , Standard Test Method for Surface Burning Characteristics of Building Materials and of ANSI/UL 723, Standard for Test for Surface Burning Characteristics of Building Materials into the section on informational references)*

### Statement of Problem and Substantiation for Public Comment

It would be important to clarify that noncombustible materials or materials such as gypsum board and aluminum will not need to be tested to ascertain that they meet the requirements proposed in the new section of the code (PC 75) to which this is the annex note. This information is purely clarification.

### Related Public Comments for This Document

<u>Related Comment</u>	<u>Relationship</u>
Public Comment No. 75-NFPA 58-2018 [Section No. 8.4.2]	
<u>Related Item</u>	
• PI165	

### Submitter Information Verification

**Submitter Full Name:** Marcelo Hirschler  
**Organization:** GBH International  
**Street Address:**  
**City:**  
**State:**  
**Zip:**  
**Submission Date:** Fri May 04 14:16:26 EDT 2018  
**Committee:**

**Public Comment No. 53-NFPA 58-2018 [ Section No. A.9.4.8 ]****A.9.4.8**

Wheel stops are intended to prevent or restrict movement caused by gravity, from impact by vehicles, and from improper actions by drivers, such as when the driver attempts to move the vehicle before a delivery or transfer hose has been disconnected. A wheel stop might consist of a chock block, curb, or parking barrier at the parking point or other means to prevent the cargo tank vehicle from unintended movement. A wheel stop is not a substitute for an operable parking brake. Use of a single wheel stop placed between wheels on tandem axles could be appropriate if the gap between the tire and the stop does not allow enough momentum to build up to roll over the stop.

**Statement of Problem and Substantiation for Public Comment**

Some votes cast during the first revision indicated that there is no need for a wheel stop on the uphill side of a tire, as gravity will keep a truck from rolling uphill. The original public input was not a suggestion that drivers don't possess the common sense to determine the effects of gravity. It was to recognize that gravity is not the only concern when placing wheel stops. A vehicle could impact the bobtail or transport and a wheel stop might be a factor in preventing it from moving. They also serve as a reminder when their resistance is encountered that maybe not all preparations for movement have been completed. Plus, how is wheel stop placement determined when the truck is parked on level ground? Two stops must be used.

**Related Item**

- FR 134

**Submitter Information Verification**

**Submitter Full Name:** Richard Fredenburg

**Organization:** State of North Carolina

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Mon Apr 30 13:45:56 EDT 2018

**Committee:**



Public Comment No. 83-NFPA 58-2018 [ Section No. B.1.2 ]

**B.1.2 Approximate Properties of Commercial LP-Gases.**

The principal properties of commercial propane and commercial butane are shown in Table B.1.2(a) and Table B.1.2(b). Reasonably accurate property values for propane-butane mixtures can be obtained by computation, applying the percentages by weight of each in the mixture to the values for the property desired to be obtained. Slightly more accurate results for vapor pressure are obtained by using the percentages by volume. Very accurate results can be obtained using data and methods explained in petroleum and chemical engineering data books.

Table B.1.2(a) Approximate Properties of LP-Gases (English)

<u>Property</u>	<u>CommercialPropane</u>	<u>CommercialButane</u>
Vapor pressure in psi (absolute pressure) at:	-	-
70°F445	<u>127 32</u>	<u>17</u>
100°F248	<u>196 52</u>	<u>37</u>
105°F233	<u>210 56</u>	<u>41</u>
130°F345	<u>287</u>	<u>84</u>
-	-	-
<u>69</u>		
Specific gravity of liquid at 60°F	0.504	0.582
Initial boiling point at 14.7 psia, °F	-44	31
Weight per gallon of liquid at 60°F, lb	4.20	4.81
Specific heat of liquid, Btu/lb at 60°F	0.630	0.549
Cubic feet of vapor per gallon at 60°F	36.38	31.26
Cubic feet of vapor per pound at 60°F	8.66	6.51
Specific gravity of vapor (air = 1) at 60°F	1.50	2.01
Ignition temperature in air, °F	920-1,120	900-1,000
Maximum flame temperature in air, °F	3,595	3,615
Limits of flammability in air, percent of vapor in air-gas mixture:	-	-
Lower	2.15	1.55
Upper	9.60	8.60
Latent heat of vaporization at boiling point:	-	-
Btu per pound	184	167
Btu per gallon	773	808
Total heating values after vaporization:	-	-
Btu per cubic foot	2,488	3,280
Btu per pound	21,548	21,221
Btu per gallon	91,502	102,032

Table B.1.2(b) Approximate Properties of LP-Gases (Metric)

<u>Property</u>	<u>CommercialPropane</u>	<u>CommercialButane</u>
Vapor pressure in kPa (absolute pressure) at:	-	-
20°C4	<u>,000 895</u>	<u>220 103</u>
40°C	<u>1,570 482</u>	<u>360 285</u>
45°C	<u>1,760 672</u>	<u>385 345</u>
55°C	<u>2 1,170 980</u>	<u>580 462</u>
Specific gravity of liquid at 15.56°C	0.504	0.582
Initial boiling point at 1.00 atm pressure, °C	-42	-1
Weight per cubic meter of liquid at 15.56°C, kg	504	582
Specific heat of liquid at 15.56°C, kJ/kg	1.464	1.276
Cubic meter of vapor per liter of liquid at 15.56°C	0.271	0.235
Cubic meter of vapor per kilogram of liquid at 15.56°C	0.539	0.410
Specific gravity of vapor (air = 1) at 15.56°C	1.50	2.01
Ignition temperature in air, °C	493-549	482-538
Maximum flame temperature in air, °C	1,980	2,008
Limits of flammability in air, percent of vapor in air-gas mixture:	-	-
Lower	2.15	1.55
Upper	9.60	8.60
Latent heat of vaporization at boiling point:	-	-
Kilojoules per kilogram	428	388
Kilojoules per liter	216	226
Total heating value after vaporization:	-	-
Kilojoules per cubic meter	92,430	121,280
Kilojoules per kilogram	49,920	49,140
Kilojoules per liter	25,140	28,100

**Additional Proposed Changes**

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
Attachment_for_Comment_on_PI_No_116.docx	Revised Table B.1.2	

**Statement of Problem and Substantiation for Public Comment**

This proposal will reintroduce the gauge pressure values that appeared in the 1998 edition of NFPA 58. It is necessary to use gauge pressure values instead of absolute pressure because gauge pressure is measured in the field and these tables are intended to be used by field technicians.

**Related Item**

- PI 116

**Submitter Information Verification**

**Submitter Full Name:** Bruce Swiecicki  
**Organization:** National Propane Gas Associati  
**Affiliation:** National Propane Gas Association  
**Street Address:**  
**City:**  
**State:**  
**Zip:**  
**Submittal Date:** Sun May 06 23:41:11 EDT 2018  
**Committee:**

## **Tbpt-1817 “Absolute Pressure vs. Gauge Pressure”**

### **Proposal:**

Make the following change to NFPA 58:

Substitute the following two tables for the current Table B.1.2(a) and Table B.1.2(b).

**Table B-1.2 (English) Approximate Properties of LP-Gases**

	<b>Commercial Propane</b>	<b>Commercial Butane</b>
Vapor pressure in psig at		
70°F	127	17
100°F	196	37
105°F	210	41
130°F	287	69

**Table B-1.2 (Metric) Approximate Properties of LP-Gases**

	<b>Commercial Propane</b>	<b>Commercial Butane</b>
Vapor pressure in kPa at		
20°C	895	103
40°C	1482	285
45°C	1672	345
55°C	1980	462

### **Substantiation:**

This proposal will reintroduce the gauge pressure values that appeared in the 1998 edition of NFPA 58. It is necessary to use gauge pressure values instead of absolute pressure because gauge pressure is measured in the field and these tables are intended to be used by field technicians.

**Public Comment No. 78-NFPA 58-2018 [ Section No. N.1.2.4 ]****N.1.2.4** ASTM Publications.

ASTM International, 100 Barr Harbor Drive, P.O. Box C700, Conshohocken, PA 19428-2959.

ASTM A47/A47M, *Standard Specification for Ferritic Malleable Iron Castings*, 1999 (2014) .

ASTM A395/A395M, *Standard Specification for Ferritic Ductile Iron Pressure-Retaining Castings for Use at Elevated Temperatures*, 1999 (2014) .

ASTM B88, *Standard Specification for Seamless Copper Water Tube*, 2016.

ASTM B280, *Standard Specification for Seamless Copper Tube for Air Conditioning and Refrigeration Field Service*, 2016 2018 .

ASTM D638, *Standard Test Method for Tensile Properties of Plastics*, 2014.

ASTM D1835, *Standard Specification for Liquefied Petroleum (LP) Gases*, 2016.

ASTM D5305, *Standard Test Method for Determination of Ethyl Mercaptan in LP-Gas Vapor*, 2012.

ASTM E84, *Standard Test Method for Surface Burning Characteristics of Building Materials*, 2017 2018 .

**Statement of Problem and Substantiation for Public Comment**

date updates

**Related Item**

- PI164

**Submitter Information Verification**

**Submitter Full Name:** Marcelo Hirschler

**Organization:** GBH International

**Street Address:**

**City:**

**State:**

**Zip:**

**Submission Date:** Fri May 04 17:12:22 EDT 2018

**Committee:**

**Committee Input No. 141-NFPA 58-2017 [ Section No. 3.3.21.1.1 ]****3.3.21.1.1 \* – Propane LP-Gas Dispenser.**

A type of vehicle fuel dispenser that is equipped for dispensing liquid propane into engine fuel containers permanently installed on over-the-road vehicles.

**Submitter Information Verification**

**Submitter Full Name:** Barry Chase

**Committee:**

**Submission Date:** Thu Oct 19 14:13:23 EDT 2017

**Committee Statement and Meeting Notes**

**Committee Statement:** The committee is seeking public comment on deleting the definition. This term is similar to the definition of vehicle fuel dispensers, and input is requested on the need for both.

**Response Message:** CI-141-NFPA 58-2017

**Ballot Results**

This item has not been balloted

**Committee Input No. 165-NFPA 58-2017 [ Section No. 5.2.8.3(C) ]****(C)**

Stationary ASME containers shall be marked with the following information:

- (1) Service for which the container is designed (e.g., underground, aboveground, or both)
- (2) Name and address of container supplier or trade name of container
- (3) Water capacity of container in pounds or U.S. gallons
- (4) MAWP in pounds per square inch
- (5) Wording that reads "This container shall not contain a product that has a vapor pressure in excess of \_\_\_ psig at 100°F" (*see Table 5.2.4.2*)
- (6) Outside surface area in square feet
- (7) Year of manufacture
- (8) Shell thickness and head thickness
- (9) OL (overall length), OD (outside diameter), and HD (head design)
- (10) Manufacturer's unique serial number
- (11) ASME Code symbol
- (12) Minimum design metal temperature \_\_\_ °F at MAWP \_\_\_ psi
- (13) Type of construction "W"
- (14) Degree of radiography "RT-\_\_\_"

**Submitter Information Verification**

**Submitter Full Name:** Barry Chase

**Committee:**

**Submission Date:** Wed Oct 25 15:46:18 EDT 2017

**Committee Statement and Meeting Notes**

**Committee Statement:** This revision specifies that the manufacturer's serial number must be unique for each container. Containers from the same manufacturer have been found in the field with duplicate serial numbers.

**Response Message:** CI-165-NFPA 58-2017

**Ballot Results**

 This item has not been balloted

**Committee Input No. 166-NFPA 58-2017 [ Section No. 11.3.4(B) ]****(B)**

ASME containers shall be marked with the following information:

- (1) Service for which the container is designed (e.g., underground, aboveground, or both)
- (2) Name and address of container supplier or trade name of container
- (3) Water capacity of container in pounds or U.S. gallons (kg or m<sup>3</sup>)
- (4) MAWP in pounds per square inch (psig) (MPag)
- (5) Wording that reads "This container shall not contain a product that has a vapor pressure in excess of 215 psig (1.5 MPag) at 100°F (38°C)" (see *Table 5.2.4.2*)
- (6) Outside surface area in square feet (m<sup>2</sup>)
- (7) Year of manufacture
- (8) Shell thickness and head thickness
- (9) OL (overall length), OD (outside diameter), and HD (head design)
- (10) Manufacturer's unique serial number
- (11) ASME Code symbol
- (12) Minimum design metal temperature: \_\_\_°F at MAWP \_\_\_ psig (\_\_\_ °C at MAWP \_\_\_ MPag)
- (13) Type of construction: "W"
- (14) Degree of radiography: "RT-\_\_\_"

**Submitter Information Verification**

**Submitter Full Name:** Barry Chase

**Committee:**

**Submittal Date:** Wed Oct 25 15:49:28 EDT 2017

**Committee Statement and Meeting Notes**

**Committee Statement:** This revision specifies that the manufacturer's serial number must be unique for each container. Containers from the same manufacturer have been found in the field with duplicate serial numbers.

**Response Message:** CI-166-NFPA 58-2017

**Ballot Results**

 This item has not been balloted

**Committee Input No. 33-NFPA 58-2017 [ Section No. 12.4.11.5 ]****12.4.11.5**

Joints in the tubing shall be made ~~by means of a flare joint, compression fitting, or other approved fitting~~ in accordance with the recommendations of the system manufacturer.

**Submitter Information Verification**

**Submitter Full Name:** Barry Chase

**Committee:**

**Submittal Date:** Tue Oct 17 16:24:00 EDT 2017

**Committee Statement and Meeting Notes**

**Committee Statement:** The committee seeks input on appropriate methods for joining tubing, given the service conditions that the tubing will be subjected to, including vibration, extreme temperatures, and road salt or other corrosive media. The question of whether the fuel system manufacturer should be responsible for providing recommendations is open for discussion.

**Response Message:** CI-33-NFPA 58-2017

**Ballot Results**

 This item has not been balloted

## **TG #2 Report**

### **NFPA 58 Task Force Review of Public Inputs 163 to 169**

#### Three Major Groupings

##### **One**

Public Input No. 167 Add a Section 4.8 stating Fire Resistance Ratings shall meet requirements of ASTM E119 (associated PC73 )

There are several locations throughout NFPA 58 where a 'fire resistance rating' is referred to, but no test is specified. Fire Testing to ASTM E119 is already in the code and is the methodology predominately used in the USA. Paragraphs where the term 'fire resistance rating' is cited are: 6.5.1.2, 6.5.3.10, 6.8.3.3(b), 6.8.4.5, 10.3.13. It is the belief of the Task Force that ASTM E119 is the proper methodology for testing fire resistance and tests can be performed in both the vertical and horizontal orientation thereby not limiting the usefulness of the testing procedure. The task force recommends adopting this change.

##### **Two**

Public Input No. 168 & 169 Adding NFPA 101 definition of Non-combustible Material to the code and referencing this in paragraph 6.8.3.3(D) (associate PC74)

Proposed New section 4.9 takes material from NFPA 101 for the definition of non-combustible material. NFPA 101 is how one would determine if something was non-combustible or not. The addition of this language and the reference to it in 6.8.3.3(D) re: installing Horizontal ASME containers does not infer that an individual must do the test, but if a material is being challenged as combustible versus non-combustible, the language in new 4.9 would be the methodology one would follow. The language in paragraph 6.5.3.3 and its associated annex material is about 'combustible' material and not a definition of 'non-combustible' material. It is the belief of the Task Force that the addition of the non-combustible definition of NFPA 58 is warranted.

##### **Three**

Public Input No 163,164, 165, 166 Remove annex material A.8.4.2.1 re: flame resistance/fire safety of shelves and place into body of the code and move the ASTM E84 test reference in the annex to paragraph 2.35. (associated PC75, PC76)

ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials is cited in A 8.4.2.1 for ensuring a low flame spread index for exchange cylinder cabinet shelving. The proposed change would take this language and place it into the body of the code thereby making it mandatory. This would ensure that shelving for cylinder exchange cabinets met the low flame spread index threshold of 25, and for example, untreated wood would not be used as a shelving material. Some materials, such

as steel and aluminum have flame spread indices that are inherently lower than 25. The Task force agrees with the general proposal but would additionally propose adding annex material to list inherently low flame-resistant materials that should be readily accepted by AHJ's. An associated annex note is recommended also.

## **TG #3 Report**

### **Task:**

This task group is charged with performing a comprehensive review of the issues associated with the selection of the specific types of extinguishers, sizes, placement which are to be recommended for locations, sites, applications and uses presented by the NFPA 58 standard. This task group is to perform a chapter by chapter review of the standard for specific types of extinguishers that would be applicable for usage at each location. A review of governing specifications is a goal - NFPA 10, NFPA / Life Safety Code and any other NFPA document which has impact on this review.

### **Public Inputs to Address:**

170, 172, 173, Submitter: Jim Tidwell  
193, Submitter: J.R. Nerat

### **Activities:**

We have held 7 tele-conferences and GoTo meetings to discuss the NFPA 10, and 58, Int'l Fire Code, and 29 CFR 1910.110 requirements for portable fire extinguishers (PFEs).

In May of 2018 all of the Task Group Members and Ed Ferguson, attended a live demonstration sponsored by Deputy Chief/Fire Marshal Darrin Bramwell, at the Eagan, MN Fire Training Center. Demonstrations included attempts to extinguish incipient fires in the vicinity of an 18-cylinder exchange cabinet, utilizing both low- and high-flow extinguishers.

The presenter was J. R. Nerat and all committee members were given the opportunity to use fire extinguishers, however, only Bruce Swiecicki seized the opportunity. The equipment and props for these live demonstrations were provided by Badger and AmeriGas. Tom Crane and two videographers from Crane Engineering captured video of our activities. It is our intent to use portions of this video footage for discussion at the upcoming committee meeting. NOTE: The video will not be provided for use of any type beyond the Task Group's presentation.

We are currently discussing our recommendations for changes to the next edition of NFPA 58 and intend to offer a presentation, as well as to provide a recommendation at or before the upcoming NFPA 58 Technical Committee meeting.

Respectfully submitted,  
David W. Meyer

## **TG #4 Report**

The Task Force appointed for Schedule 10 Piping has met and developed the above proposal. Schedule 10 piping though allowed in other codes, has been limited to above ground use due to corrosion issues. The task force opted to modify the proposal to ensure that Schedule 10 piping is not placed underground by adding a paragraph (D) prohibiting this practice, and also clarified that Press to Connect fittings/piping are for use only in vapor service.

## **TG #5 Report**

### **NFPA 58 TASK GROUP ON DIELECTRIC FITTINGS CHARGE**

“Task Group Scope - The task group will review the attached materials and other materials that they deem relevant to determine if any changes are required to NFPA 58. The task group will report at or before the Second Draft meeting on any potential changes to NFPA

58 through Second Revisions or TIA(s)”.

The NFPA 58, Task Group on Dielectric Fittings reviewed the requirements of NFPA 58, Liquefied Petroleum Gas Code, as it relates to Dielectric Fittings, inclusive of the following, for the determination of changes, modifications or additions that may be warranted.

Code Section(s):

6.8.6.1 (L)

6.11.3.16

Annex(s):

A.6.8.6.1 (I)

A.6.8.6.1 (L)

K.2.3

### **FINDINGS**

The consensus of the Task Group, responding members, in the 22 June 2018 discussion, is that no change(s) in the code inclusive of the Annex(s), as written, are warranted. Further that Dielectric Fittings are neither electrical apparatus, nor intended to function as an electrical connection nor as protection from lightning or overcurrent otherwise. Their intended purpose addresses electrical isolation of underground metallic piping and/or tubing from the aboveground fixed building piping that conveys LP Gas from a container. The installation is required to be above ground and exterior of the building and may be at the container as well. The sole purpose is to combat corrosion. The installation may be in conjunction with cathodic protection.

### **TASK GROUP MEMBERS:**

JEAN MCDOWELL – CHAIR

ERIC BENSTOCK

DAVE BURNELL – VICE CHAIR

KEN KIRN

DAVID STAINBROOK

RICHARD GILBERT

RICHARD FREDENBURG

TED LEMOFF